

# Survey of Superconductive Materials and Critical Evaluation of Selected Properties

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This publication includes all data on superconductive materials intercepted through March 1975. Data on the bulk elements have been critically evaluated, and values on alloys, compounds, and other forms have been selected and condensed to indicate the probable value and spread of values observed. Proven non-superconductors have been noted. Conflict in data values has been noted. All data have been keyed to the literature in one or more of the tables. Special subdivisions are presented for superconductive materials with organic constituents and for those based on semiconductive materials. The properties presented are superconductive critical temperature, critical magnetic fields, material state and composition including crystal-structure type where noted, a key to thin-film forms, and the presence of thermodynamic data (generally the electronic specific heat,  $\gamma$ , and Debye  $\theta$ ). High-magnetic-field superconductors are noted with listing of  $H_{c1}$ ,  $H_{c2}$ ,  $H_{cs}$ , and  $H_{ci}$  plus the temperature of observation  $T_{obs}$ .

**Key words:** Bibliography; composition; critical fields; critical temperature; crystallographic data; low temperature; superconductive materials; superconductivity.

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## 1. Introduction

The world knowledge of superconductive materials has become voluminous and complex in the last fifteen years, driven by both scientific curiosity and technological application and anticipation of greater general practical usage. This survey attempts to cover all known superconductive materials, including special forms such as very thin films deposited at very low temperatures and finely subdivided superconductors such as those dispersed in glass. The coverage has been comprehensive and either notes conflicting findings or includes them in the references. The user would be wise to explore the first few references to a material that has been multiply studied. A single reference implies a single measurement.

All data previously compiled and published in General Electric Corporate Research and Development reports MB-36 (August 1959), 61-RL-2744M (June 1961), 63-RL-3252 M (March 1963); Progress in Cryogenics IV, 160-231 (1964) (also published in "New Materials and Methods of Investigating Metals and Alloys," Editor I. I. Kornilov, Baikov Institute of Metallurgy, Moscow, 1966, pp. 1-98); National Bureau of Standards Technical Notes 408 (September 1966), 482 (May 1969), 724 (June 1972), 825 (April 1974), and subsequent additional data collected by the Superconductive Materials Data Center have been included.

Much of the world literature was covered through various translation paths including the author's limited skills. Errors introduced inadvertently through translation and all others are greatly regretted by the author, and hopefully readers will point these out to be corrected in the future.

## 2. General Properties of Superconductors<sup>1</sup>

The historically first observed and most distinctive property of a superconductive body is the near total

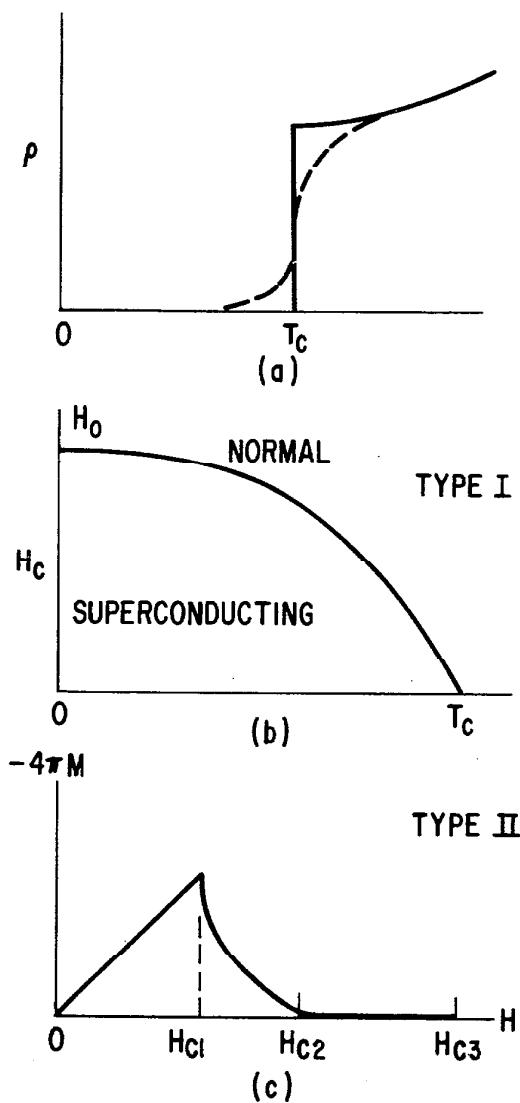


FIGURE 1. Physical properties of superconductors. (a) Resistivity versus temperature for a pure and perfect lattice (solid line). Impure and/or imperfect lattice (dashed line). (b) Magnetic field-temperature dependence for Type I or "soft" superconductor. (c) Schematic magnetization curve for "hard" or Type II superconductor.

<sup>1</sup> The physics, chemistry, and metallurgy of superconductors is a complex and sometimes subtle subject. Therefore, readers are referred to the many texts and review articles listed in section 8 for complete and additional information. "Superconductivity" by E. A. Lynton (Methuen and Co., London; John Wiley and Co., New York) is a brief and useful introduction. For additional general information see "Superconducting Materials" by E. M. Savitskii, V. V. Baron, Yu. V. Efimov, M. I. Bychkova, and L. F. Myzenkova (Plenum Press, New York-London, 1973); an updated translation of "Metallovedenie Sverkhprovodimykh Materialov" (Nauka Press, Moscow, 1969); "The Science and Technology of Superconductivity" Vol. 1 and 2, edited by W. D. Gregory, W. N. Mathews, Jr., and E. A. Edelsack (Plenum, New York-London, 1973) and "The Effect of Metallurgical Variables on Superconducting Properties", J. D. Livingston and H. W. Schadler in *Prog. Materials Sci.* (G.B.), Vol. 12, No. 3, 185-274 (1964). For theoretical aspects start with "Superconductivity", Vols. 1 and 2, edited by R. D. Parks, (Marcel Dekker, New York, 1969).

loss of resistance at a critical temperature  $T_c$  characteristic of each material. Figure 1 illustrates schematically, two types of possible transitions. The sharp vertical discontinuity is indicative of that found for a single crystal of a very pure element or one of a few well annealed alloy compositions. The broad transition, illustrated by broken lines, is typical of the transition shape seen for materials which are inhomogeneous or contain unusual strain distributions. The temperature interval, over which the transition between the normal and superconductive states takes place, may be of the order of as little as  $2 \times 10^{-5}$  K or several K in width, depending upon the material state. The narrow transition width was observed in 99.9999% purity gallium single crystals.

Careful testing of the resistivity limit for superconductors has shown that it is less than  $4 \times 10^{-25}$  ohm-m, while the lowest normal state resistivity observed in metals is of the order of  $10^{-15}$  ohm-m. Comparison of the resistivity of a superconductive body to that of copper at room temperature reveals that the superconductive body is at least  $10^{17}$  times less resistive.

A Type I superconductive body, as exemplified by many pure metals, exhibits perfect diamagnetism (the Meissner state) below  $T_c$  and excludes a magnetic field up to some critical field  $H_c$ , whereupon it reverts to the normal state as shown in the  $H-T$  diagram of figure 1.

The discovery of the high-magnetic-field large-current-carrying capability of  $\text{Nb}_3\text{Sn}$  and other compounds and alloys has led to an extensive study of their physical properties. In brief, a high magnetic field superconductor, or Type II superconductor, passes from the perfect diamagnetic state at low magnetic fields to a mixed state and finally to a sheath state before attaining the normal resistive state of the metal. The magnetization of a typical high-field superconductor is shown in figure 1. The magnetic field values separating the four stages are given as  $H_{c1}$ ,  $H_{c2}$ , and  $H_{c3}$ . The superconductive state below  $H_{c1}$  is perfectly diamagnetic and identical to the state of most pure metals of Type I. Between  $H_{c1}$  and  $H_{c2}$  a "mixed state" is found in which magnetic flux penetrates the superconductor in a nonuniform manner. Specifically, a lattice array of supercurrent vortices is formed, the magnetic flux contained within each vortex cell being equal to the magnetic flux quantum ( $\sim 2 \times 10^{-7}$  gauss cm $^2$ ). At  $H_{c2}$  the fluxon density has become so great as to drive the interior volume of the material completely normal. Between  $H_{c2}$  and  $H_{c3}$  the superconductor has a sheath of current-carrying superconductive material at its surface, and above  $H_{c3}$  the normal state exists throughout the material. With careful measurement, it is possible to determine  $H_{c1}$ ,  $H_{c2}$ , and  $H_{c3}$ . Table 5 contains data on high field superconductive materials.

A more complete representation of the states present in a high field superconductor is given in figure 2 with

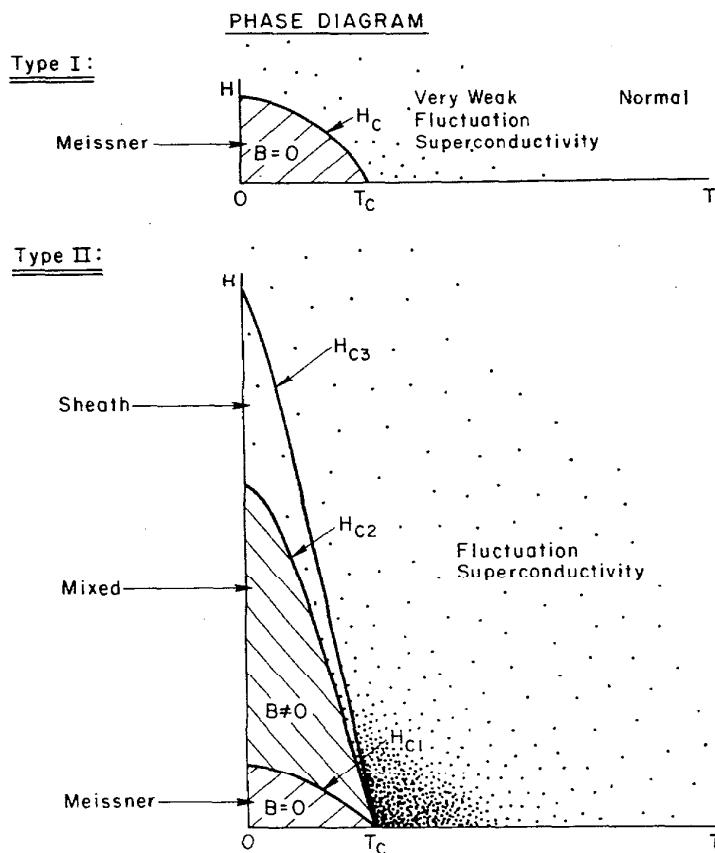


FIGURE 2.  $H$ - $T$  phase diagram representation of Type I and Type II superconductors with locations for fluctuation superconductivity indicated. (R. R. Hake, personal communication and J. Applied Phys. 40, 5148 (1969). "The Thermodynamics of Type I and Type II Superconductors.")

the additional phenomenon called fluctuation superconductivity. The latter phenomenon is evidenced in several physical properties above the appropriate critical fields and critical temperatures.

High field superconductive phenomena are also related to specimen dimension and configuration. For instance, the Type I superconductor, Hg, has entirely different magnetization behavior in high magnetic fields when contained in the very fine set of filamentary tunnels in an unprocessed Vycor glass. The great majority of superconductive materials are Type II. Most, but not all, elements in very pure form are Type I.

A further complication exists in the description of superconductive materials. In some instances a transition from Type II behavior to Type I behavior occurs as temperature is increased between absolute zero and  $T_c$ .

This survey has included the parameters  $T_c$ ,  $H_c$ ,  $H_{c1}$ ,  $H_{c2}$ ,  $H_{c3}$ , and has noted the crystal structure by code or crystal system. The values of  $H_c$  are sometimes noted to be taken at a specific temperature below  $T_c$  and denoted  $T_{\text{obs}}$ .  $H_0$  is  $H_c$  extrapolated to 0 K. Methods of

extrapolation are critical in the case of high-magnetic-field parameters  $H_{c1}$ ,  $H_{c2}$ , and  $H_{c3}$ .

Suggestions have been made to include additional parameters which are beyond the scope of this effort, for instance,  $(dH_c/dT)|_{T_c}$ ,  $(2\Delta T/kT_c)$ ,  $J_cH$ , the thermal conductivity, and normal state resistivity. For details, see the section by G. D. Cody on Superconductivity in the Report of Meeting, 28 June 1971, of the Ad Hoc Panel on Electrical Properties of Solids of The Numerical Data Advisory Board, Division of Chemistry and Chemical Technology, National Research Council.

### 3. Metallurgical and Solid-State Aspects of Superconductive Materials

The sensitivity of superconductive properties to the material state is most pronounced and has been used on occasion in the reverse to study and specify the detailed state of alloys. The mechanical state, the homogeneity, and the presence of impurity atoms and other electron-scattering centers are all capable of controlling the critical temperature, critical field, and the

current-carrying capabilities in high magnetic fields. Well-annealed specimens usually show sharper transitions than those that are strained or inhomogeneous. This sensitivity to mechanical state underlies a general problem in the tabulation of properties of superconductive materials. The occasional divergent values of the critical temperature and of the critical fields quoted for a Type II superconductor may lie in the variation in sample preparation. Critical temperatures of materials studied early in the history of superconductivity must be evaluated in light of the probable metallurgical state of the material as well as the availability of less-pure starting elements. It has been noted that recent work has given extended consideration to the metallurgical aspects of sample preparation.

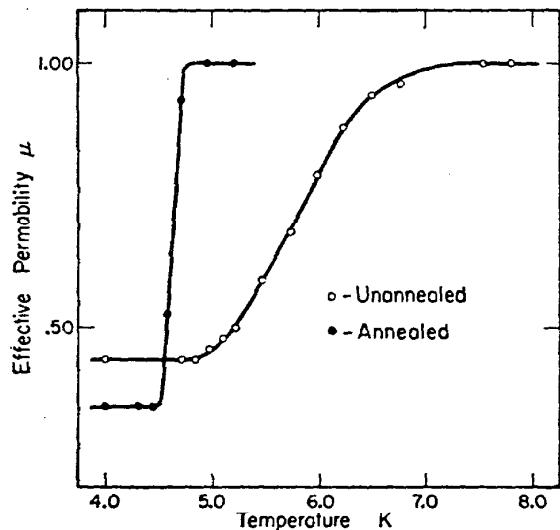


FIGURE 3(a). Transition curves for  $Nb_{0.9}Cr_{0.1}$  alloy specimen before and after annealing. (After Hulm and Blaughter.)

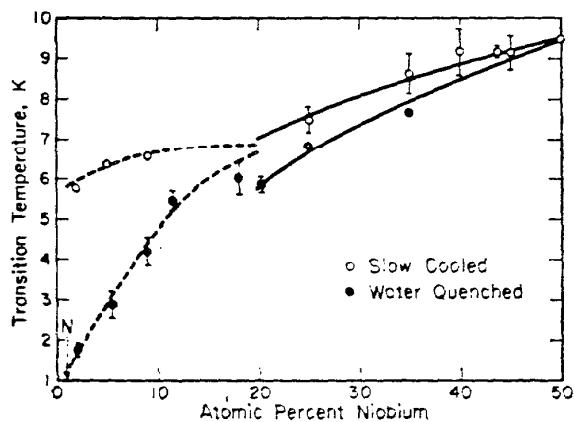


FIGURE 3(b). Transition temperature vs. composition for  $Ti_{1-x}Nb_{0.5}$  alloys prepared by slow cooling or water quench. (After Hulm and Blaughter.)

Figure 3(a) illustrates the effect of preparation history on the shape of the effective permeability curve through  $T_c$  of a  $Nb_{0.9}Cr_{0.1}$  alloy before and after annealing, while figure 3(b) shows the  $Ti_{1-x}Nb_{0.5}$  alloy series  $T_c$  versus composition for slow cooling and for a water quench (after Blaughter and Hulm, Phys. Rev. **123**, 1569 (1961)).

#### 4. How to Use the Data Tables

Properties of the superconductive elements are covered in table 1(a) for bulk values, 1(b) for thin-film preparations, and 1(c) for high-pressure modifications and metastable forms prepared by the application of high pressure.

All metallic and inorganic materials including the elements are listed and referenced in table 2 except that superconductive materials with organic and related constituents and the semiconductive superconductors are cited and the reader is referred to tables 3 or 4 for specialized data.

Tables 1 through 4 contain references to "HF" signifying that magnetic-field data  $H_{c1}$ ,  $H_{c2}$ , or  $H_{c3}$  are reported in table 5 with appropriate references to the literature.

Tables 2 through 5 list the bulk material values for alloy systems first, then results of special studies such as pressure or dispersal in porous media, and finally, thin-film data with notations of temperature of deposition and film thickness in Angstroms ( $\text{\AA}$ ).

The probable error limits are given for most of the bulk elements in table 1(a) and are derived from all the values collected in the data set as summarized in table 2. All collected references are presented in table 2. The procedure to determine error limits included the assembly of all acquired data on an element. Where possible, a selection was made of data obtained on samples with recorded high purity. If a sufficient number of values were available, the standard deviation was determined and listed. Error limits in a few instances were increased over the standard deviation if the element was known to be difficult of purification. Where a single value has been recorded it is listed without error limits and the significant digits published by the author are given.

In tables 2 through 5, a single reference usually implies a single parameter determination, and this value is quoted with the significant figures presented by the author. Many authors have considered the probable error in their measurements, and it is recommended that the source be consulted when possible. In heavily studied materials such as Nb and  $Nb_3Sn$ , ranges of critical temperatures and critical magnetic fields have evolved dependent upon composition, impurities, mechanical state, and other preparation variables. The first entry of a series in the respective table indicates a measured value that is thought to be the most probable value for a pure annealed element or a clean alloy of appropriate stoichiometry with an optimum anneal.

Tables 2-4 contain data on negative experiments in the column headed " $T_n$ ", which is the temperature in K down to which the material has been checked specifically for a superconductive transition without success. If a material has been found to be ferrimagnetic, antiferromagnetic, or ferromagnetic it has not been included in this survey.

All compositions are denoted on an atomic basis; i.e., one atomic weight of A and one of B to form the AB composition. Exceptions are carefully noted. Solid solutions or a range of compositions may be denoted as  $A_{1-x}B_x$  or  $A_xB_yC_{1-x-y}$ , or by the actual atomic fraction range such as  $A_{1-0.4}B_{0-0.6}$ . The critical temperature or magnetic fields may then be denoted either by a range of values or a maximum value (Max.).

A continuing point of difficulty lies in the method of selecting  $T_c$  from an experimental transition measurement whether it be the change in effective permeability, resistance, optical reflectivity, electron diffraction signal, specific heat or ultrasonic absorption. Most authors choose the midpoint of the curve (fig. 1(a)), but in the search for very high  $T_c$  materials often the "onset" temperature is chosen as the critical temperature. Some authors quote the width of the transition, and where a single alloy and single reference is given a range in  $T_c$  denotes the upper and lower limits to the transition.

Table 3 contains those special superconductive materials containing organic constituents. Most of the entries are layered compounds with an intercalated organic substance. These special materials exhibit both two- and three-dimensional superconductivity and have highly anisotropic high magnetic field properties.

In some instances a single line in a table will summarize the discoveries and measurements of two or three full research papers. It is therefore probable and reasonable for the researcher to explore the original references to obtain a full background of the abstracted data.

In section 8 of this survey the reader is directed to references to extensive reviews on, for instance:

Practical superconducting materials

Superconductivity in ultra-thin films

Brillouin zone effects in . . .

The superconductive energy gap

Pressure effects in superconductors

and many other reviews with special emphasis—for instance, a review of the alloy system  $Nb_3Sn$ .

For problems in solders for low-temperature research, the paper by W. H. Warren, Jr. and W. G. Bader (Rev. Sci. Instruments **40**, 180 (1969)) is most useful. Their data are included in tables 2 and 5 under ref. [1917].

## 5. Symbols and Abbreviations (Relating to Tables 1 to 5)

$T_n$  The lowest temperature to which a material has been tested with negative results for a transition to the superconductive state.

|                  |  |
|------------------|--|
| HF               | In $H_o$ column denotes data and/or references given on magnetic properties, $H_{c1}$ , $H_{c2}$ , $H_{c3}$ , in table 5.  |
| ▽                | Given in front of reference number, it denotes a thin-film study.  |
| #                | After a reference number indicates electronic specific heat, Debye theta or related parameter values are given in the reference. See end of table 1(a) for general references to these data.   |
| n                | Denotes the number of carriers per cubic centimeter in semiconductors that exhibit a superconductive state at very low temperature.  |
| $T'_c$ ( . . . ) | Denotes incremental changes in $T_c$ from $T_c$ of the pure metal. For example, $T'_c (+0.05)$ denotes that two or more measurements have been made by adding a small amount of alloying element to a metal to form a dilute alloy (or mixture) and in so doing $T_c$ has been raised by 0.05 K. $T'_c (-0.03 + 0.14)$ denotes an initial decrease and then an increase to 0.14 K over the pure metal. |
| P                | Denotes pressure (quoted in kbar; may be rounded units of atm or other unit).  |
| ppm              | Parts per million.   |
| $T_{obs}$        | Denotes temperature of observation of $H_c$ , $H_{c1}$ , $H_{c2}$ , and $H_{c3}$ .   |
| oersted          | Is equivalent to 79.57 amperes/meter.  |
| RRR              | Denotes "residual resistivity ratio" and is used only as an indicator of sample purity. In most cases it is the room temperature resistivity divided by the resistivity at 4.2 K. The original reference should be consulted for details.  |
| Å                | Denotes $10^{-10}$ m or $10^{-8}$ cm or one Angstrom unit.   |
| Max.             | Indicates that the value given is the maximum value of 3 or more measured values of a variable.  |

## Crystallographic System Abbreviations

|       |              |
|-------|--------------|
| CUB   | Cubic        |
| TET   | Tetragonal   |
| HEX   | Hexagonal    |
| ORTHO | Orthorhombic |

MONO Monoclinic

RHOMB Rhombohedral (sometimes described in hexagonal format)

TRI Triclinic

*Crystal Structure Types*

The "Strukturbericht" types are described in W. B. Pearson, *Handbook of Lattice Spacings and Structures of Metals* (Pergamon, New York, 1958), p. 79, also Vol. II (Pergamon, New York, 1967) p. 3.

| "Struktur-bericht" |                    | Type   | "Struktur-bericht" | Example                          | Class                     |
|--------------------|--------------------|--|--------------------|----------------------------------|---------------------------|
| A1                 | Cu                 | Cubic, face centered   | C16                | CuAl <sub>2</sub>                | Tetragonal, body centered |
| A2                 | W                  | Cubic, body centered   | C18                | FeS <sub>2</sub>                 | Orthorhombic              |
| A3                 | Mg                 | Hexagonal, close packed  | C22                | Fe <sub>2</sub> P                | Trigonal                  |
| A4                 | Diamond            | Cubic, face centered   | C23                | PbCl <sub>2</sub>                | Orthorhombic              |
| A5                 | White Sn           | Tetragonal, body centered  | C32                | AlB <sub>2</sub>                 | Hexagonal                 |
| A6                 | In                 | Tetragonal, body centered<br>(face centered tetragonal cell<br>usually used) | C36                | MgNi <sub>2</sub>                | Hexagonal                 |
| A7                 | As                 | Rhombohedral   | C37                | Co <sub>2</sub> Si               | Orthorhombic              |
| A8                 | Se                 | Trigonal   | C49                | ZrSi <sub>2</sub>                | Orthorhombic              |
| A10                | Hg                 | Rhombohedral   | C54                | TiSi <sub>2</sub>                | Orthorhombic              |
| A12                | $\alpha$ Mn        | Cubic, body centered   | C <sub>c</sub>     | Si <sub>2</sub> Th               | Tetragonal, body centered |
| A13                | $\beta$ -Mn        | Cubic  | D0 <sub>3</sub>    | BiF <sub>3</sub>                 | Cubic, face centered      |
| A15                | " $\beta$ -W"      | Cubic  | D0 <sub>11</sub>   | Fe <sub>3</sub> C                | Orthorhombic              |
| B1                 | NaCl               | Cubic, face centered   | D0 <sub>18</sub>   | Na <sub>3</sub> As               | Hexagonal                 |
| B2                 | CsCl               | Cubic  | D0 <sub>19</sub>   | Ni <sub>3</sub> Sn               | Hexagonal                 |
| B3                 | ZnS                | Cubic  | D0 <sub>20</sub>   | NiAl <sub>3</sub>                | Orthorhombic              |
| B4                 | ZnS                | Hexagonal  | D0 <sub>22</sub>   | TiAl <sub>3</sub>                | Tetragonal                |
| B8 <sub>1</sub>    | NiAs               | Hexagonal  | D0 <sub>e</sub>    | NiP <sub>3</sub>                 | Tetragonal, body centered |
| B8 <sub>2</sub>    | Ni <sub>2</sub> In | Hexagonal  | D1 <sub>3</sub>    | Al <sub>4</sub> Ba               | Tetragonal, body centered |
| B10                | PbO                | Tetragonal   | D1 <sub>c</sub>    | PtSn <sub>4</sub>                | Orthorhombic              |
| B11                | $\gamma$ -CuTi     | Tetragonal   | D2 <sub>1</sub>    | CaB <sub>6</sub>                 | Cubic                     |
| B17                | PtS                | Tetragonal   | D2 <sub>3</sub>    | NaZn <sub>13</sub>               | Cubic                     |
| B18                | CuS                | Hexagonal  | D2 <sub>c</sub>    | MnU <sub>6</sub>                 | Tetragonal, body centered |
| B20                | FeSi               | Cubic  | D2 <sub>d</sub>    | CaZn <sub>5</sub>                | Hexagonal                 |
| B27                | FeB                | Orthorhombic   | D5 <sub>2</sub>    | La <sub>2</sub> O <sub>3</sub>   | Trigonal                  |
| B31                | MnP                | Orthorhombic   | D5 <sub>8</sub>    | Sb <sub>2</sub> S <sub>3</sub>   | Orthorhombic              |
| B32                | NaTl               | Cubic, face centered   | D5 <sub>c</sub>    | Pu <sub>2</sub> C <sub>3</sub>   | Cubic                     |
| B34                | PdS                | Tetragonal   | D7 <sub>3</sub>    | Th <sub>3</sub> P <sub>4</sub>   | Cubic, body centered      |
| B <sub>f</sub>     | $\delta$ -CrB      | Orthorhombic   | D7 <sub>b</sub>    | Ta <sub>3</sub> B <sub>4</sub>   | Orthorhombic              |
| B <sub>g</sub>     | MoB                | Tetragonal   | D8 <sub>1</sub>    | Fe <sub>3</sub> Zn <sub>10</sub> | Cubic, body centered      |
| B <sub>h</sub>     | WC                 | Hexagonal  | D8 <sub>2</sub>    | Cu <sub>5</sub> Zn <sub>8</sub>  | Cubic, body centered      |
| B <sub>i</sub>     | $\gamma'$ -MoC     | Hexagonal  | D8 <sub>3</sub>    | Cu <sub>9</sub> Al <sub>4</sub>  | Cubic                     |
| C1                 | CaF <sub>2</sub>   | Cubic, face centered   | D8 <sub>8</sub>    | Mn <sub>5</sub> Si <sub>3</sub>  | Hexagonal                 |
| C1 <sub>b</sub>    | MgAgAs             | Cubic  | D8 <sub>m</sub>    | Fe <sub>3</sub> W <sub>3</sub> C | Tetragonal                |
| C2                 | FeS <sub>2</sub>   | Cubic  | D10 <sub>2</sub>   | Fe <sub>3</sub> Th <sub>7</sub>  | Hexagonal                 |
| C6                 | CdI <sub>2</sub>   | Trigonal   | E2 <sub>1</sub>    | CaTiO <sub>3</sub>               | Cubic                     |
| C11 <sub>b</sub>   | MoSi <sub>2</sub>  | Tetragonal, body centered  | E9 <sub>3</sub>    | Al <sub>2</sub> MgO <sub>4</sub> | Cubic, face centered      |
| C12                | CaSi <sub>2</sub>  | Rhombohedral   | H1 <sub>1</sub>    | Al <sub>2</sub> MgO <sub>4</sub> | Cubic, face centered      |
| C14                | MgZn <sub>2</sub>  | Hexagonal  | L1 <sub>0</sub>    | CuAu                             | Tetragonal                |
| C15                | Cu <sub>2</sub> Mg | Cubic, face centered   | L1 <sub>2</sub>    | Cu <sub>3</sub> Au               | Cubic                     |
| C15 <sub>b</sub>   | AuBe <sub>5</sub>  | Cubic  | L2 <sub>1</sub>    | Cu <sub>2</sub> AlMn             | Cubic                     |
|                    |                    |  | L <sub>2b</sub>    | ThH <sub>2</sub>                 | Tetragonal, body centered |
|                    |                    |  | L <sub>3</sub> '   | Fe <sub>2</sub> N                | Hexagonal                 |

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TABLE 1(a). Properties of the Superconductive Elements (See Table 2 for References, Crystal Structure Data, and Parameters of Non-Superconductive Elements where Tested)

| Element         | $T_c$ (K)           | $H_o$ (oersted)      | $\theta_D$ (K) <sup>b</sup> | $\gamma$ ( $\text{mJmol}^{-1}\text{K}^{-1}$ ) <sup>b</sup> |
|-----------------|---------------------|----------------------|-----------------------------|--|
| Al              | $1.175 \pm 0.002$   | $104.9 \pm 0.3$      | 420                         | 1.35   |
| Be              | 0.026               |                      |                             | 0.21   |
| Cd              | $0.517 \pm 0.002$   | $28 \pm 1$           | 209                         | 0.69   |
| Ga              | $1.083 \pm 0.001$   | $59.2 \pm 0.3$       | 325                         | 0.60   |
| Ga ( $\beta$ )  | 5.9, 6.2            | 560                  |                             |  |
| Ga ( $\gamma$ ) | 7                   | 950, HF <sup>a</sup> |                             |  |
| Ga ( $\Delta$ ) | 7.85                | 815, HF              |                             |  |
| Hf              | 0.128               |                      |                             |  |
| Hg ( $\alpha$ ) | $4.154 \pm 0.001$   | $411 \pm 2$          | 87, 71.9                    | 1.81   |
| Hg ( $\beta$ )  | 3.949               | 339                  | 93                          | 1.37   |
| In              | $3.408 \pm 0.001$   | $281.5 \pm 2$        | 109                         | 1.672  |
| Ir              | $0.1125 \pm 0.001$  | $16 \pm 0.05$        | 425                         | 3.19   |
| La ( $\alpha$ ) | $4.88 \pm 0.02$     | $800 \pm 10$         | 151                         | 9.8  |
| La ( $\beta$ )  | $6.00 \pm 0.1$      | 1096, 1600           | 139                         | 11.3   |
| Lu              | 0.1                 | <400                 |                             |  |
| Mo              | $0.915 \pm 0.005$   | $96 \pm 3$           | 460                         | 1.83   |
| Nb              | $9.25 \pm 0.02$     | $2060 \pm 50$ , HF   | 276                         | 7.80   |
| Os              | $0.66 \pm 0.03$     | 70                   | 500                         | 2.35   |
| Pa              | 1.4                 |                      |                             |  |
| Pb              | $7.196 \pm 0.006$   | $803 \pm 1$          | 96                          | 3.1  |
| Re              | $1.697 \pm 0.006$   | $200 \pm 5$          | 415                         | 2.35   |
| Ru              | $0.49 \pm 0.015$    | $69 \pm 2$           | 580                         | 2.8  |
| Sn              | $3.722 \pm 0.001$   | $305 \pm 2$          | 195                         | 1.78   |
| Ta              | $4.47 \pm 0.04$     | $829 \pm 6$          | 258                         | 6.15   |
| Tc              | $7.8 \pm 0.1$       | 1410, HF             | 411                         | 6.28   |
| Th              | $1.38 \pm 0.02$     | $160 \pm 3$          | 165                         | 4.32   |
| Ti              | $0.40 \pm 0.04$     | 56                   | 415                         | 3.3  |
| Tl              | $2.38 \pm 0.04$     | $178 \pm 5$          | 78.5                        | 1.47   |
| V               | $5.40 \pm 0.05$     | 1408                 | 383                         | 9.82   |
| W               | $0.0154 \pm 0.0005$ | $1.15 \pm 0.03$      | 383                         | 0.90   |
| Zn              | $0.850 \pm 0.01$    | $54 \pm 0.3$         | 310                         | 0.66   |
| Zr              | $0.61 \pm 0.15$     | 47                   | 290                         | 2.77   |
| Zr ( $\omega$ ) | 0.65, 0.95          |                      |                             |  |

<sup>a</sup> HF denotes high field superconductive properties. See Table 5.

<sup>b</sup> For a complete data set, see Phillips, N.E., Critical Reviews in Solid State Sciences 2, 467-554 (1972), "Low Temperature Heat Capacity of Metals." Also Mendelsohn, K., in Cryophysics (Interscience, New York, 1960), p. 178, Gschneidner, K.A. Jr., in Solid State Physics 16, 275-426 (1964), Parkinson, D.H., Rep. Progr. Phys. 21, 226 (1958) and Heiniger, F., Bucher, E., and Muller, J. "Low Temperature Specific Heat of Transition Metals and Alloys" Phys. kondens. Materie 5, 243-284 (1966).

TABLE 1(b). Range of Critical Temperatures Observed for Superconductive Elements in Thin Films Condensed Usually at Low Temperatures (See Table 2 for Data and References and Table 5 for "HF" High Field Magnetic Property Data)

| Element | T <sub>c</sub> Range (K)   | H <sub>o</sub> (oersted) | Element                               | T <sub>c</sub> Range(K)    | Pressure (kbar) <sup>b</sup> |
|---------|--|--------------------------|---------------------------------------|----------------------------|------------------------------|
| Al      | 1.15~5.7   | HF <sup>a</sup>          | As                                    | 0.31-0.5                   | 220-140                      |
| Ba      | 3.0  | HF                       |                                       | 0.2-0.25                   | ~140-100                     |
| Be      | 5-9.75<br>(with KCl) 6.5-10.6<br>(with zinc etio-porphyrin) 10.2 | HF<br>HF                 | Ba II<br>III<br>IV                    | ~1-1.8<br>1.8-5<br>4.5-5.4 | ~55-85<br>~85-144<br>144-190 |
| Bi      | 6.17, 6.13-2.3, ~5-~2  |                          | Bi II                                 | 3.9                        | 25-27                        |
| Ca      | 4.2  | HF                       | III                                   | 6.55, 7.25                 | ~37, 27-28                   |
| Cd      | 0.79-0.91<br>(Disordered)<br>(Ordered) 0.53-0.59                 |                          | IV                                    | 7.0, 8.7-6.0               | 43, 43-62                    |
| Ga      | 2.5-8.5  | HF                       | V                                     | 6.7, 8.3                   | 68, 81                       |
| In      | 3.43-4.65  | HF                       | VI                                    | 8.55                       | 90, 92-101                   |
| La      | 3.55 4.9, 5.0-6.74   |                          | VII(?)                                | 8.2                        | 30                           |
| Mg      | 5.5  | HF                       | Ce                                    | 1.7                        | 50                           |
| Mo      | 3.3-3.8, 4-6.7   |                          | Cs V                                  | ~1.5                       | >125                         |
| Nb      | 6.3-10.1   |                          | Ga II                                 | 6.38                       | ≥35                          |
| Pb      | ~2-7.5   |                          | II'                                   | 7.5                        | ≥35 then P removed           |
| Re      | 1.7-~7   |                          | Ge                                    | 5.35                       | 115                          |
| Sn      | 3.5-~6   |                          | Ta                                    | ~5.5-11.93                 | 0-~140                       |
| Sr      | 3.6  | HF                       | Lu                                    | ~0.6-~0.018                | 145-80                       |
| Ta      | <1.7-4.51  | HF                       | P                                     | 5.8                        | 170                          |
| Tc      | 4.6-7.70   |                          | Pb II                                 | 3.55                       | 160                          |
| Ti      | 1.3 Max  |                          | Re II                                 | 2.3 Max.                   | "Plastic" compression        |
| Tl      | 2.33-2.96  |                          | Sb(Prepared 120 kbar, held below 77K) | 2.6-2.7                    |                              |
| V       | 1.8-6.02   |                          | Sb III                                | 3.55-3.40                  | 85 -~150                     |
| W       | <1.0-4.1   |                          | Se II                                 | 6.75, 6.95                 | ~130                         |
| Zn      | 0.77-1.70, ~1.9  |                          | Si                                    | 6.7-7.1                    | 120-130                      |

<sup>a</sup>HF denotes high magnetic field superconductive properties in Table 5.

TABLE 1(c). Elements Exhibiting Superconductivity Under or After Application of High Pressure (See Table 2 for References, Table 5 for "HF" High Magnetic Field Properties)

| Element                               | T <sub>c</sub> Range(K) | Pressure (kbar) <sup>b</sup> |
|---------------------------------------|-------------------------|------------------------------|
| As                                    | 0.31-0.5                | 220-140                      |
| Ba II                                 | ~1-1.8                  | ~55-85                       |
| Bi II                                 | 3.9                     | 25-27                        |
| III                                   | 6.55, 7.25              | ~37, 27-28                   |
| IV                                    | 7.0, 8.7-6.0            | 43, 43-62                    |
| V                                     | 6.7, 8.3                | 68, 81                       |
| VI                                    | 8.55                    | 90, 92-101                   |
| VII(?)                                | 8.2                     | 30                           |
| Ce                                    | 1.7                     | 50                           |
| Cs V                                  | ~1.5                    | >125                         |
| Ga II                                 | 6.38                    | ≥35                          |
| II'                                   | 7.5                     | ≥35 then P removed           |
| Ge                                    | 5.35                    | 115                          |
| Ta                                    | ~5.5-11.93              | 0-~140                       |
| Lu                                    | ~0.6-~0.018             | 145-80                       |
| P                                     | 5.8                     | 170                          |
| Pb II                                 | 3.55                    | 160                          |
| Re II                                 | 2.3 Max.                | "Plastic" compression        |
| Sb(Prepared 120 kbar, held below 77K) | 2.6-2.7                 |                              |
| Sb III                                | 3.55-3.40               | 85 -~150                     |
| Se II                                 | 6.75, 6.95              | ~130                         |
| Si                                    | 6.7-7.1                 | 120-130                      |

TABLE 1(c) (Cont'd). Elements Exhibiting  
Superconductivity Under  
or After Application of  
High Pressure

| Element                     | T <sub>c</sub> Range (K) | Pressure (kbar) <sup>b</sup> |
|-----------------------------|--------------------------|------------------------------|
| Sn II                       | 5.2-4.85                 | 125-160                      |
| III                         | 5.30                     | 113                          |
| Te II                       | 2.05                     | 43                           |
|                             | 3.4                      | 50                           |
| III                         | 4.28-4.15                | 68-80                        |
| IV                          | 4.3-3.3                  | 80-100                       |
| ( )                         | 3.3-2.8                  | 100-260                      |
| Tl (cubic form)             | 1.45                     | 35                           |
| (hexagonal form)            | 1.95                     | 35                           |
| U                           | 2.4-0.4                  | 10-85                        |
| Y                           | 2.3-1.7-2.5              | 110-125-160                  |
| Zr                          |                          |                              |
| (omega form,<br>metastable) | 1-1.7                    | 60-~130                      |

<sup>b</sup>1 kbar = 10<sup>8</sup> newton/meter<sup>2</sup> = 0.987 katm

TABLE 2. Properties of Superconductive Materials (including proven non-superconductors)

Note: "HF" Signifies high magnetic field data in Table 5.

| Material  | $T_c$ (K)                           | $H_o$<br>(oersted) | Crystal<br>Structure | $T_n$ (K) | Refs.                    |
|---|-------------------------------------|--------------------|----------------------|-----------|--------------------------|
| Ag (99.999%)  |                                     |                    | A1                   | 0.002     | 1617 1830 270            |
| Ag (proximity effect)   |                                     |                    |                      |           | 1633                     |
| $Ag_{3.3}Al$ ; $Ag_3Al$   |                                     |                    | Like A13             | 0.34      | 486 084                  |
| $Ag_{0.70-0.60}Al_{0.30-0.40}$                                      | 0.11-0.135-0.09                     |                    | HEX                  |           | 1617                     |
| $Ag_{0.167}Al_{0.833}$  | 0.88 (Quench)<br>0.84-0.86 (Anneal) |                    | HF                   |           | 1413 1766                |
| $Ag_{0.002}Al_{0.998}$  | 1.128                               |                    |                      |           | 1895                     |
| $Ag_{0-0.101}Al_{1-0.9}$  | $T_c'(-0.25)$                       |                    | HF                   |           | 1846                     |
| $Ag_{0-0.002}Al_y$  | $T_c'(-0.0543)$                     |                    |                      |           | 319 320 <sup>v</sup> 235 |
| $Ag_{1-0}Al_{0-1}Th_2$  | 2.2-0.1                             |                    | C16                  |           | 1377                     |
| $Ag_xAl_yZn_{1-x-y}$  | 0.5-0.845                           |                    |                      |           | 624                      |
| $Ag_{0.91}As_{0.09}$  |                                     |                    |                      | 1.32      | 084                      |
| $Ag_7BF_4O_8$   | 0.15                                |                    | CUB                  |           | 605                      |
| $Ag_5Ba$  |                                     |                    | D2 <sub>d</sub>      | 0.34      | 486                      |
| $Ag_2Be$  |                                     |                    |                      | 1.28      | 011                      |
| $AgBe_2$  |                                     |                    |                      | 1.4       | 1769                     |
| $Ag_{0.01-0.05}Be_{0.99-0.95}$<br>(arc melt)                        |                                     |                    |                      | 0.45      | 1057                     |
| $Ag_{0-1}Be_{13}Re_{1-0}$   | <9.9                                |                    |                      |           | 1769                     |
| AgBi  |                                     |                    |                      | 1.32      | 084                      |
| $Ag_2Bi$  |                                     |                    |                      | 1.28      | 011                      |
| AgBi  |                                     |                    |                      | 1.28      | 011                      |
| $AgBi_2$  | 3.0-2.78                            |                    |                      |           | 606                      |
| $Ag_{0.15}Bi_{0.85}$ (Deposited at 4K)                              | 5.3, 5.1                            |                    |                      |           | <sup>v</sup> 1867        |
| $Ag_5Cd_8$  |                                     |                    |                      | 1.28      | 084                      |
| $Ag_{0.6}Cd_{0.4}$  |                                     |                    | A1                   | 0.014     | 1617                     |
| $Ag_{0.05}Cd_{0.95}$ (weight fraction)                              |                                     |                    |                      | 1.3       | 1917                     |
| $Ag_{\sim 0.4}Cd_{\sim 0.21}Cu_{\sim 0.18}Ni_{0.0001}Zn_{\sim 0.2}$ | 0.0644                              | 6.2<br>(at 0.033K) |                      |           | 1864                     |
| $Ag_{0.04}Cd_{0.784}Cu_{0.01}Zn_{0.166}$<br>(weight fraction)       |                                     |                    |                      | 1.3       | 1917                     |
| $Ag_{0.035}Cd_{0.01}Sn_{0.955}$<br>(weight fraction)                | 3.65                                |                    | HF                   |           | 1917                     |
| $Ag_{0.05}Cd_{0.784}Zn_{0.166}$<br>(weight fraction)                |                                     |                    |                      | 1.3       | 1917                     |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Ref                     |
|---|------------|-----------------|-------------------|-----------|-------------------------|
| $\text{AgCl}_2$   |            |                 |                   | 1.9       | 699                     |
| $\text{Ag}_4\text{Cu}_9$  |            |                 |                   | 1.28      | 684                     |
| $\text{Ag}_{0.56}\text{Cu}_{0.22}\text{Sn}_{0.5}\text{Zn}_{0.17}$ |            |                 |                   | ~0.033    | 1864                    |
| $\text{Ag}_{0.4}D_x\text{Pd}_{1-0.6}$ (Implanted)                 | 10-16-3    |                 |                   |           | 1401 1985               |
| $\text{Ag}_{0.16}D_{0.47}\text{Pd}_{0.84}$                        | 15.3 max.  |                 |                   |           | 1901                    |
| $\text{Ag}_{0.2}D_x\text{Pd}_{0.8}$                               | ~16 max.   |                 |                   |           | 1985                    |
| $\text{Ag}_2\text{I}$   | 0.066      | 2.5             |                   |           | 651#                    |
| $\text{Ag}_7\text{F}_2\text{HO}_8$                                | 1.0-1.5    |                 |                   |           | 1146 605                |
| $\text{Ag}_7\text{F}_{0.25}\text{N}_{0.75}\text{O}_{10.25}$       | 1.04       |                 |                   |           | 1146 605                |
| $\text{Ag}_7\text{F}_8\text{O}_8$                                 | 0.3        |                 | CUB               |           | 605                     |
| $\text{Ag}_{0.95-0.82}\text{Ga}_{0.05-0.19}$                      |            |                 |                   | 1.4       | 533                     |
| $\text{Ag}_{0.8-0.3}\text{Ga}_{0.2-0.7}$                          | 6.5-8      |                 |                   |           | 533                     |
| $\text{Ag}_{0.29-0.02}\text{Ga}_{0.71-0.98}$                      |            |                 |                   | 1.4       | 533                     |
| $\text{Ag}_x\text{Ga}_y\text{In}_{0.10}$                          | 6.5-8      |                 |                   |           | 533                     |
| $\text{Ag}_x\text{Ga}_y\text{S}_{0.10}$                           | 4.2        |                 |                   |           | 533                     |
| $\text{Ag}_x\text{Ga}_y\text{Zn}_{0.10}$                          | 6.5-8      |                 |                   |           | 533                     |
| $\text{Ag}_4\text{Ge}$  | 0.85       |                 | HEX               |           | 487                     |
| $\text{Ag}_{0.45}\text{Ge}_{0.55}$ (200-600Å)<br>Deposit ~4K      | 1.2, 1.5   |                 |                   |           | ▽ 1082 ▽ 1179<br>▽ 1729 |
| $\text{Ag}_{0.5}\text{Ge}_{0.5}$                                  |            |                 |                   | 1.5       | 1729                    |
| $\text{Ag}_{0.4}H_{0.8}\text{Pd}_{1-0.6}$<br>(H implanted)        | 8.6-15.6-8 |                 |                   |           | 1901                    |
| $\text{Ag}_{0.3}H_x\text{Pd}_{0.7}$ (H implanted)                 | ~16        |                 |                   |           | 1985                    |
| $\text{Ag}_{0.438}\text{Hg}_{0.562}$                              | 0.64       |                 | D8 <sub>2</sub>   |           | 489 084<br>258          |
| $\text{Ag}_{0.7}\text{Hg}_{0.3}$                                  |            |                 | CUB               | 0.33      | 259                     |
| $\text{Ag}_{0.55}\text{Hg}_{0.45}$                                |            |                 | HEX               | 1.08      | 258                     |
| $\text{Ag}_{0.85}\text{In}_{0.15}$                                |            |                 | Al                | 0.014     | 1617                    |
| $\text{Ag}_3\text{In}$  |            |                 |                   | 1.4       | 533                     |
| $\text{Ag}_2\text{In}$  | 2.11       |                 | C16               |           | 1317 229                |
| $\text{Ag}_{0.12}\text{In}_{0.88}$ (1000-240Å)                    | 4.69-4.57  |                 |                   |           | ▽ 1899                  |
| $\text{Ag}_x\text{In}_{1-x}$ (whiskers)                           |            |                 |                   |           | 1780                    |
| AgInTe (See Table 4)  |            |                 |                   |           |                         |
| AgLa  | 0.92-0.96  |                 |                   |           | 697                     |
| AgLa(0.5 kbar)  | 1.2        |                 | B2                |           | 697                     |
| AgLu  |            |                 | B2                | 0.33      | 658                     |
| AgMg  |            |                 | B2                | 1.02      | 270 011                 |
| AgMnSnTe (See Table 4)  |            |                 |                   |           |                         |

TABLE 2 (Contd.). Properties of Superconductive Materials

| Material   | $T_c$ (K)                 | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.                   |
|--|---------------------------|-----------------|-------------------|-----------|-------------------------|
| $\text{AgMo}_4\text{S}_5$  | 8.3; (11.5 with Cu plate) |                 |                   |           | 1193#                   |
| $\text{AgMo}_4\text{S}_5$ (0-19 kbar)                                    | 7.7-6.4                   |                 |                   |           | 614                     |
| $\text{Ag}_{1.2}\text{Mo}_{4.8}\text{S}_6$                               | 8.9                       |                 | RHOMB             |           | 1163                    |
| $\text{Ag}_7\text{NO}_{11}$  | 1.04                      | 57              | CUB               |           | 605                     |
| $\text{AgNb}_3$  | 8.28?                     |                 |                   |           | 181                     |
| $\text{Ag}_2\text{O}$  |                           |                 |                   | 120       | 011                     |
| $\text{Ag}_{0.0-0.12}\text{Pb}_{1-0.88}$                                 | $T_c'(-0.4)$              |                 |                   |           | $\nabla$ 1386           |
| $\text{Ag}_{0.1}\text{Pb}_{0.9}$ (condensed at 4K)                       | 5.88<br>6.94 (Annealed)   |                 |                   |           | $\nabla$ 1491           |
| $\text{Ag}_{0.9-0}\text{Pb}_{0.1-1}$ (Weight fraction)                   | 7.2 Max.                  |                 |                   |           | 088 085<br>111          |
| $\text{Ag}_{0.15}\text{Pb}_{0.975}\text{Sn}_{0.01}$<br>(Weight fraction) | 7.25                      |                 | HF                |           | 1917                    |
| $\text{Ag}_x\text{Pd}_{1-x}$   |                           |                 | A1                | 1.00      | 037 572#                |
| $\text{Ag}_2\text{Pd}_3\text{S}$   | 1.13                      |                 | A13               |           | 1221                    |
| $\text{Ag}_{1-0}\text{Pd}_{0-1}\text{Th}_2$                              | 2.1-2.3-1.1-<br>1.3-0.7   |                 | C16               |           | 1377                    |
| $\text{Ag}_x\text{Pt}_{1-x}$   |                           |                 |                   | 1.00      | 037                     |
| $\text{Ag}_{0.05}\text{Rh}_{0.04}\text{Ti}_{0.91}$                       | 1.95                      |                 |                   |           | 1060                    |
| $\text{Ag}_2\text{S}$  |                           |                 |                   | 1.28      | 011                     |
| $\text{Ag}_3\text{Sb}$   |                           |                 |                   | 1.28      | 084                     |
| $\text{Ag}_{0.865}\text{Sb}_{0.135}$                                     |                           |                 |                   | 1.26      | 084                     |
| $\text{AgSb}$  |                           |                 |                   | 1.90      | 099                     |
| $\text{Ag}_{0.88-0.84}\text{Sb}_{0.12-0.16}$                             | 0.02-0.06                 |                 | HEX               |           | 1617                    |
| $\text{Ag}_2\text{Se}$   |                           |                 |                   | 1.28      | 011                     |
| $\text{AgSi}_2$  |                           |                 |                   | 1.4       | 533 585                 |
| $\text{Ag}_{0.84-0.77}\text{Sn}_{0.16-0.23}$                             | 0.025-0.107               |                 | HEX               |           | 1617 630#               |
| $\text{Ag}_{0.92}\text{Sn}_{0.8}$  |                           |                 |                   | 1.26      | 084                     |
| $\text{Ag}_3\text{Sn}$   |                           |                 |                   | 1.36      | 085 381<br>$\nabla$ 693 |
| $\text{Ag}_? \text{Sn}_?$  | 3.3-3.7                   |                 |                   |           | 086 088                 |
| $\text{Ag}_5\text{Sn}$   |                           |                 | A3                | 0.34      | 486                     |
| $\text{Ag}_{0.7-0}\text{Sn}_{0.3-1}$ (Weight fraction)                   | $\sim 1.5-3.71$           |                 |                   |           | 088                     |
| $\text{Ag}_x\text{Sn}_{1-x}$   | 2.0-3.8                   |                 |                   |           | $\nabla$ 693            |
| $\text{AgSnTe}$ (See Table 4)  |                           |                 |                   |           |                         |
| $\text{Ag}_5\text{Sr}$   |                           |                 | D2 <sub>d</sub>   | 0.34      | 486                     |
| $\text{AgTe}$  |                           |                 |                   | 1.28      | 011 427                 |
| $\text{AgTe}_3$  | 2.6                       |                 | CUB               |           | 487                     |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)        | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|---|---------------------------|--------------------------|-------------------|--------------------|---|
| AgTh <sub>2</sub>                               | 2.19                      |                          | C16               |                    | 1377 173  |
| Ag <sub>0.98-0.96</sub> Tl <sub>0.02-0.04</sub> |                           |                          |                   | 1.26               | 084   |
| Ag <sub>0.94</sub> Tl <sub>0.06</sub>           | 2.32                      |                          |                   |                    | 084   |
| AgTl(Eutectic)                                  | 2.67                      |                          |                   |                    | 085   |
| Ag <sub>0.1</sub> Tl <sub>0.9</sub>             | 3.57<br>2.40 (Annealed)   |                          |                   |                    | ▽1900 071   |
| AgY   |                           |                          | B2                | 0.33               | 658 260   |
| Ag <sub>5</sub> Zn <sub>8</sub>                 |                           |                          |                   | 1.28               | 084   |
| AgZn <sub>3</sub>                               |                           |                          |                   | 1.28               | 084   |
| AgZn  |                           |                          | "γ"               | 1.30               | 1009  |
| Ag <sub>x</sub> Zn <sub>1-x</sub>               | 0.5-0.845                 |                          |                   |                    | 624   |
| Ag <sub>0.005</sub> Zn <sub>0.995</sub>         | 0.763                     |                          |                   |                    | 1506#   |
| Ag <sub>0-0.057</sub> Zr <sub>1-0.943</sub>     |                           |                          | A3                |                    | 572#  |
| Al(99.999%)                                     | 1.175                     | 104.8                    |                   |                    | 762# 1794<br>1895 1746<br>1846 435#   |
| Al(plus pressure study)                         | 1.179                     | 104.9                    |                   |                    | 1004#<br>1571#  |
| Al(RRR=4100±500)                                | 1.176                     |                          |                   |                    | 1895  |
| Al  | 1.17                      | 104                      |                   |                    | 024#<br>639   |
| Al(98.999%)                                     | 1.187                     |                          |                   |                    | 755 1061#<br>219 320  |
| Al  | 1.18                      | 104.8                    |                   |                    | 1507 791<br>1118# 1507<br>1357 1267   |
| Al  | 1.19                      |                          |                   |                    | 856#  |
| Al  | 1.20                      | 99, 106                  |                   |                    | 148 001#<br>390   |
| Al(>98%)  | 1.14                      | 94                       |                   |                    | 336#<br>337   |
| Al(Cold worked)                                 | T <sub>c</sub> ' (-0.028) |                          |                   |                    | 746   |
| Al(Particles 90-160 Å)                          | 1.81-1.3                  |                          |                   |                    | 1627  |
| Al(Fe, Cr, Mn added)                            |                           |                          |                   |                    | 436   |
| Al(920-38 Å)                                    | 1.24-2.47                 | HF                       |                   |                    | ▽1634<br>▽1419  |
| Al(<50 Å)                                       | 4.6 Max.                  |                          |                   |                    | ▽1648   |
| Al(Various thicknesses)                         | 1.15....3.7               |                          |                   |                    | ▽1714 ▽888<br>▽757 ▽1782<br>▽619 ▽ 758<br>▽595 ▽ 596<br>▽828 ▽1134<br>▽1194 ▽1259<br>▽1302 ▽1460<br>▽1544 ▽1615 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                         | $T_c$ (K)                                 | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.                     |
|----------------------------------|---|-----------------|-------------------|-----------|---------------------------|
| Al(<160Å)                        | 5.7 Max.                                  |                 |                   |           | ▽837 ▽1545                |
| Al(~12-30-60Å)                   | 3.0-4.6-3.8                               |                 |                   |           | ▽837                      |
| Al(Granular, 25-1000Å)           | ~1.3-3.74                                 | HF              |                   |           | ▽937 ▽1294<br>▽1573 ▽1502 |
| Al(Deposited 78K, 790Å)          | 1.904                                     |                 |                   |           | ▽1880                     |
| Al(Deposited 4.2K)               | 1.4-2.2-3.3                               |                 |                   |           | ▽1739                     |
| Al(Pressure 0-14 kbar)           | 2.1-1.7                                   |                 |                   |           | ▽826                      |
| Al(<100Å)                        | 2.45                                      |                 |                   |           | ▽1062                     |
| 3.0(oxidized)                    |   |                 |                   |           |                           |
| Al(See Table 3)                  |   |                 |                   |           |                           |
| $Al_{0.9}As_{0.05}Ga_{0.05}Nb_3$ | 19.2 Max.                                 |                 |                   |           | 939                       |
| $Al_{1-x}As_xNb_3$               | 18.52 (Decreases)                         |                 |                   |           | 939                       |
| $Al_{1-x}As_xV_3$                | 10.6-3.0                                  |                 | A15+CUB           |           | 1015                      |
| $Al_2Au$                         | 0.095-0.074                               |                 | C1                |           | 1011 486 037<br>866#      |
| $AlAu_4$                         | 0.4-0.7                                   |                 | A13               |           | 486                       |
| $Al_{0.15}Au_{0.85}$             |   |                 | A1                | 0.014     | 1617                      |
| $Al_{0.1-0.5}Au_{0.9-0.5}V_3$    |   |                 | A15, CUB          | 1.2       | 1015                      |
| $Al_{0.2}B_5Mo_{1.8}$            | 5.7, 4.9-2.7                              |                 | C32               |           | 767                       |
| $Al_{1-y}B_yNb_3$                | 18-19.1-18.5(aged)<br>16.3-17-11(as cast) |                 | A15               |           | 1360                      |
| $Al_{0.95}B_{0.05}Nb_3$          | 19.1(aged)                                |                 | A15               |           | 1360                      |
| $Al_{0.3}Be_{0.7}$               | 6.5                                       |                 |                   |           | ▽674                      |
| $Al_{0.1}Be_{0.9}$               | 7.2                                       |                 |                   |           | ▽674                      |
| $Al_{0.1-0.5}Be_{0.9-0.5}$       | 7.2-6.3                                   |                 |                   |           | ▽1903                     |
| $AlBe_{13}$                      |   |                 |                   | 1.4       | 1769                      |
| $Al_{1-y}Be_yNb_3$               | 17.3-19.6-13(aged)<br>16.5-18-13(as cast) |                 | A15               |           | 1360                      |
| $Al_{0.95}Be_{0.05}Nb_3$         | 19.6                                      |                 | A15               |           | 1360                      |
| $Al_{0-1}Be_{13}Re_{1-0}$        | <9.9                                      |                 |                   |           | 1769                      |
| $Al_4C_3$                        |   |                 |                   | 1.38      | 558                       |
| $Al_2CCr_3$                      |   |                 | HEX,<br>H-phase   | -1.2      | 496 497                   |
| $Al_CCr_2$                       |   |                 | HEX,<br>H-phase   | 1.1       | 632                       |
| $Al_CLa_3$                       |   |                 | CUB               | 1.02      | 1564                      |
| $Al_2CMo_3$                      | 10.0, 9.2                                 | HF              | A13               |           | 496 497 571<br>632 966    |
| $Al_2CNb_3$                      |   |                 | HEX,<br>H-phase   | 4.2       | 496 497                   |
| $Al_2CTa_3$                      |   |                 | HEX,<br>H-phase   | 4.2       | 496 497                   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Materials   | $T_c$ (K)                | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.                         |
|---|--------------------------|-----------------|-------------------|-----------|-------------------------------|
| $\text{Al}_2\text{C}\text{Ti}_3$  |                          |                 | HEX,<br>H-phase   | 4.2       | 496 497                       |
| $\text{Al C Ti}_3$  |                          |                 |                   | 1.15      | 711                           |
| $\text{Al}_2\text{C V}_3$   |                          |                 | HEX,<br>H-phase   | 4.2       | 496 497                       |
| $\text{Al C V}_2$   |                          |                 | HEX,<br>H-phase   | 1.1       | 632                           |
| $\text{Al C Y}_3$   |                          |                 |                   | 1.15      | 711                           |
| $\text{Al}_2\text{Ca}$  |                          |                 | C15               | 1.02      | 270 427                       |
| $\text{Al}_4\text{Ca}$  |                          |                 | $D_{13}$          | 1.02      | 270 427                       |
| $\text{Al}_2\text{CaSi}$  | 5.8                      |                 |                   |           | 427                           |
| $\text{Al}_2\text{Ce}$  |                          |                 | C15               | 0.34      | 655                           |
| $\text{Al}_2\text{Ce}_{0.005}\text{La}_{1-0.995}$                                     | 3.305-1.745<br>3.27-1.15 | HF              |                   |           | 1424# 953<br>1676#            |
| $\text{AlCe}_{0-0.017}\text{La}_3$  | 6.0-1                    | HF              | $DO_{19}$         |           | 1887#                         |
| $\text{Al}_{0.996}\text{Co}_{0.004}$  | $T_c'(-0.24)$            |                 |                   |           | 1507                          |
| $\text{Al}_{0.107-0.119}\text{Co}_{0.088-0.61}$<br>$\text{Fe}_{0.81-0.27}$            |                          |                 |                   | 1.4       | 514#                          |
| $\text{Al}_{13}\text{Co}_{0-0.16}\text{Os}_{4-3.84}$                                  | 5.5-1.3                  |                 | MONO              |           | 1431                          |
| $\text{Al}_{0.3-0.05}\text{Cr}_{0.7-0.95}$  |                          |                 | CUB               | 1.4       | 514#                          |
| $\text{Al}_{0-0.3}\text{Cr}_{1-0.7}$  |                          |                 |                   |           | 572#                          |
| $\text{AlCr}_{0-0.0016}$  | $T_c'(-0.33)$            |                 |                   |           | 598 673<br>1507 1357          |
| $\text{Al}_{0.09-0.11}\text{Cr}_{0.05-0.85}$<br>$\text{Fe}_{0.05-0.87}$               |                          |                 | CUB               | 1.4       | 514#                          |
| $\text{AlCr}_{0.3}\text{Nb}_{2.7}$  | 14.1                     |                 |                   |           | 1976                          |
| $\text{Al}_{0.1-0.13}\text{Cr}_{0.09-0.84}$<br>$\text{V}_{0.05-0.78}$                 |                          |                 | CUB               | 1.4       | 514#                          |
| $\text{Al}_{2.06}\text{Cu}$   | 0.65                     |                 | C16               |           | 1377 270 229                  |
| $\text{Al}_4\text{Cu}_9$  |                          |                 |                   | 1.28      | 084                           |
| $\text{Al}_{0.992}\text{Cu}_{0.008}$ (Rapid quench)<br>(Ultrarapid quench)            | 1.48-2.95                |                 |                   | 1.48      | 1640<br>1640                  |
| $\text{AlCu}(\text{Layers}, 750\text{\AA})$   | 2.6-3.45                 |                 |                   |           | $\nabla_{1134}$               |
| $\text{AlCuZr}$   |                          |                 | C15               | 1.02      | 270                           |
| $\text{Al}_{0.997}\text{Er}_{0.003}$ (Deposit N <sub>2</sub><br>Temp., 260\text{\AA}) | 1.658                    |                 |                   |           | $\nabla_{1651} \nabla_{1621}$ |
| $\text{AlFe}_{0-0.0002}$  | $T_c'(-0.04)$            |                 |                   |           | 598 637 572#                  |
| $\text{Al}_{0.998}\text{Fe}_{0.002}$  | $T_c'(-0.25)$            |                 |                   |           | 1507                          |
| $\text{Al}_{1-x}\text{Fe}_x$  | $T_c'(-0.055)$           |                 |                   |           | 1357                          |
| $\text{Al}_{0.999}\text{Fe}_{0.001}$  | 1.50                     |                 |                   |           | 976#                          |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Materials  | T <sub>c</sub> (K)                            | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                  |
|--|---|--------------------------|-------------------|--------------------|------------------------|
| Al-Fe <sub>3</sub> O <sub>4</sub> (5000Å)                                    |   | HF                       |                   |                    | ▼1451                  |
| Al <sub>13</sub> Fe <sub>0-0.08</sub> Os <sub>4-3.92</sub>                   | 5.5-<1  |                          | MONO              |                    | 1431                   |
| Al <sub>1-x</sub> Ga <sub>x</sub> Nb <sub>3</sub>                            | 18.3-18.7-16.1<br>(Annealed)                  |                          | A15               |                    | 1072 311 939           |
| Al <sub>1-0.7</sub> Ga <sub>0-0.3</sub> Nb <sub>3</sub>                      | 18-17.7-17.9<br>(Annealed)<br>(As cast lower) |                          |                   |                    | 1404                   |
| Al <sub>0.9</sub> Ga <sub>0.1</sub> Nb <sub>3</sub>                          | 17.7(Aannealed)                               |                          |                   |                    | 1976                   |
| Al <sub>0.85-0.05</sub> Ga <sub>0.15-0.95</sub><br>Nb <sub>3</sub> (20,000Å) | 16.3-16.5-14.6                                |                          | A15               |                    | ▼1954                  |
| Al <sub>0.5</sub> Ga <sub>0.5</sub> Nb <sub>3</sub>                          | 19.0  | HF                       |                   |                    | 1339                   |
| Al <sub>1-0</sub> Ga <sub>0-1</sub> V <sub>3</sub>                           | 11.5-9-12.0<br>(Ga <sub>0.4-1</sub> )         |                          | Mixed phases      |                    | 1369                   |
| Al <sub>1-x</sub> Ga <sub>x</sub> V <sub>3</sub>                             | 14.5-5.5                                      |                          | A15               |                    | 890                    |
| Al <sub>0.5</sub> Ga <sub>0.5</sub> V <sub>3</sub>                           | 12.9  |                          | A15               |                    | 1073                   |
| Al <sub>0.3</sub> Ga <sub>0.7</sub> V <sub>3</sub>                           | 13.9  |                          | A15               |                    | 1073                   |
| Al <sub>0.1</sub> Ga <sub>0.9</sub> V <sub>3</sub>                           | 13.9<br>14.9(Aannealed)                       |                          | A15               |                    | 1073                   |
| Al <sub>0-0.4</sub> Ga <sub>1-0.6</sub> V <sub>3</sub>                       | 13.9-11.5<br>(Many anneals)                   |                          | A15               |                    | 1832                   |
| Al <sub>0-0.13</sub> Ga <sub>0.13-0.32</sub><br>V <sub>0.68-0.72</sub>       | >14.5-<6                                      | HF                       | A15               |                    | 1720                   |
| Al <sub>3-2.94</sub> Gd <sub>0-0.06</sub> La                                 | 2.05-6.16                                     | HF                       | DO <sub>19</sub>  |                    | 018 048                |
| Al <sub>2</sub> Gd <sub>0-0.006</sub> La <sub>1-0.994</sub>                  | 3.237-0.5                                     | HF                       | C15               |                    | 953 1111<br>1425# 1262 |
| Al <sub>2</sub> Gd <sub>0,002</sub> La <sub>0.998</sub><br>(0-18 kbar)       | 2.45-2.1                                      |                          |                   |                    | 1924                   |
| AlGd <sub>0-0.009</sub> La <sub>3-2.991</sub>                                | 6.0-<1  | HF                       | DO <sub>19</sub>  |                    | 1887 1170<br>1364      |
| Al <sub>0.33</sub> Ge <sub>0.67</sub>  | 1.75  |                          |                   |                    | 427                    |
| Al <sub>1-0.998</sub> Ge <sub>0-0.002</sub>                                  | T <sub>c</sub> '(-0.003+0.002)                |                          |                   |                    | 319 320 746            |
| AlGe <sub>0.026</sub>  | T <sub>c</sub> '(+0.005)                      |                          |                   |                    | 746                    |
| Al <sub>0.964</sub> Ge <sub>0.036</sub> (Deposited 77K)                      | 2.74  |                          |                   |                    | ▼1622                  |
| Al <sub>0.9</sub> Ge <sub>0.1</sub>  | 6.45  |                          |                   |                    | ▼1528                  |
| AlGe(Deposited 77K)  | 5.5<br>2.4(Aannealed)                         |                          |                   |                    | ▼1120                  |
| Al <sub>1-x</sub> Ge <sub>x</sub>  | 2.6-3.48, 3.6                                 |                          | CUB               |                    | ▼1622                  |
| Al <sub>0.65</sub> Ge <sub>0.35</sub> Hf <sub>3y</sub> Nb <sub>3(1-y)</sub>  | 18.5-3.8-4.6(as cast)<br>20.1-4.0-6.2         |                          |                   |                    | 885                    |
| Al <sub>0.65</sub> Ge <sub>0.35</sub> Hf <sub>3-0</sub> Nb <sub>0-3</sub>    | ~3-6-4-20                                     |                          |                   |                    | 1173                   |
| Al <sub>1-0.65</sub> Ge <sub>0-0.35</sub> Nb <sub>3</sub>                    | 18.8-20.2-19.9                                |                          |                   |                    | 1749                   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                                    | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                                       |
|---|---|--------------------------|-------------------|--------------------|---|
| Al <sub>0.825-0.7</sub> Ge <sub>0.175-0.3</sub> Nb <sub>3</sub>                         | 20-20.75-19.3<br>(Annealed)                           |                          |                   |                    | 1819  |
| Al <sub>0.77</sub> Ge <sub>~0.23</sub> Nb <sub>3</sub> (Long anneals)                   | 20.75<br>21.05(Onset)                                 |                          | A15               |                    | 1819  |
| Al <sub>1-0</sub> Ge <sub>0-1</sub> Nb <sub>3</sub>                                     | 16.5-20-5.5   |                          |                   |                    | 1731 1812<br>1755 1705<br>1976 1072<br>1404 |
| AlGeNb <sub>3</sub> (Irradiated)  | 19.5-19.2   |                          | A15               |                    | 1660  |
| Al <sub>0.9</sub> Ge <sub>0.1</sub> Nb <sub>3</sub>                                     | 18.9  |                          |                   |                    | 1976  |
| Al <sub>0.8</sub> Ge <sub>0.2</sub> Nb <sub>3</sub>                                     | 20.05<br>19.2-17.8                                    | HF                       | A15               |                    | 823 1976<br>704 1821                        |
| Al <sub>0.75</sub> Ge <sub>0.25</sub> Nb <sub>3</sub>                                   | 20.2, 20.1  |                          | A15               |                    | 885 1823                                    |
| Al <sub>0.66</sub> Ge <sub>0.22</sub> Nb <sub>3.10</sub>                                | 20.29   |                          | A15               |                    | 1446  |
| Al <sub>0.75</sub> Ge <sub>0.25</sub> Nb <sub>3</sub>                                   | 20.7-18   | HF                       |                   |                    | 876 859 1164<br>1590 789 1731               |
| Al <sub>0.75</sub> Ge <sub>0.25</sub> Nb <sub>3.8</sub>                                 | 20.34   |                          |                   |                    | 1966  |
| Al <sub>0.61-0.75</sub> Ge <sub>0.39-0.25</sub> Nb <sub>4.03-3.43</sub>                 | 20.34-19  |                          |                   |                    | 1966  |
| Al <sub>0.70-0.75</sub> Ge <sub>0.20-0.25</sub> Nb <sub>3</sub>                         | 21.0  |                          | A15               |                    | 1019  |
| Al <sub>0.76</sub> Ge <sub>0.38</sub> Nb <sub>2.86</sub>                                | 20.1-19.6   | HF                       |                   |                    | 896   |
| Al <sub>0.57-0.65</sub> Ge <sub>0.35-0.23</sub> Nb <sub>3-3.2</sub>                     | 20.1  | HF                       | A15               |                    | 885 787<br>1483                             |
| Al <sub>0.72</sub> Ge <sub>0.24</sub> Nb <sub>3.04</sub>                                | 20.0  |                          |                   |                    | 1821  |
| Al <sub>0.64</sub> Ge <sub>0.2</sub> Nb <sub>3.16</sub>                                 | 20.7  | HF                       |                   |                    | 1339  |
| Al <sub>0.5</sub> Ge <sub>0.5</sub> Nb <sub>3</sub>                                     | 12.6  |                          | A15               |                    | 311   |
| Al <sub>1-x</sub> Ge <sub>x</sub> Nb <sub>3</sub> (P study)                             |   |                          |                   |                    | 1079  |
| Al <sub>1-x</sub> Ge <sub>x</sub> Nb <sub>3</sub> (~1000-30,000 Å)                      | <9->19  |                          |                   |                    | ▽1471 ▽1276                                 |
| Al <sub>0.15-0.95</sub> Ge <sub>0.85-0.05</sub> Nb <sub>3</sub> (~20,000 Å)             | 13-16.7-15.7  |                          |                   |                    | ▽1954                                       |
| Al <sub>x</sub> Ge <sub>1-x</sub> Nb <sub>3</sub> (4000 Å)                              | 4.2-11.4  | HF                       |                   |                    | ▽708 ▽1483                                  |
| Al <sub>0.8</sub> Ge <sub>0.2</sub> Nb <sub>3</sub> (2000 Å; 5000 Å)                    | 17.4-16.6, 10.7,<br>16.0                              | HF                       |                   |                    | ▽1525 ▽708<br>▽1174                         |
| Al <sub>0-1</sub> Ge <sub>0-1</sub> Nb <sub>3</sub> Sn <sub>1-0</sub> (Ternary diagram) | 18.1-16.5-7.1   |                          |                   |                    | 1812  |
| Al <sub>0.85-0.7</sub> Ge <sub>0.15-0.3</sub> Nb <sub>1-0.96</sub> Ta <sub>0-0.04</sub> | 18.5-11   |                          |                   |                    | 1360  |
| Al <sub>1-0.6</sub> Ge <sub>0-0.4</sub> Nb <sub>2.85</sub> Ta <sub>0.15</sub>           | 16.5-18-15 (As cast)<br>19.5-20.5-18.5 (aged)         |                          |                   |                    | 1360  |
| Al <sub>0.85</sub> Ge <sub>0.15</sub> Nb <sub>2.85</sub> Ta <sub>0.15</sub>             | 20.5  |                          |                   |                    | 1360  |
| Al <sub>0.65</sub> Ge <sub>0.35</sub> Nb <sub>3-0.75</sub> Ti <sub>0-2.25</sub>         | 20.1-4.7-6.2<br>(annealed)<br>18.5-1.37-1.8 (as cast) |                          |                   |                    | 885 1173                                    |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                                       | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.                                   |
|---|--|--------------------------|-----------------------------|--------------------|---|
| Al <sub>0.65</sub> Ge <sub>0.35</sub> Nb <sub>3-0.75</sub> Zr <sub>0-2.25</sub>                 | 20.2-5.3-10.3<br>(annealed)<br>18.5-5.1-6.1<br>(as cast) |                          |                             |                    | 885 1173                                |
| Al <sub>1-x</sub> Ge <sub>x</sub> Th <sub>2</sub>   | 0.2-<0.1   |                          | C16                         |                    | 1377                                    |
| Al <sub>x</sub> Ge <sub>1-x</sub> V <sub>3</sub> (Anneals critical)                             | 5.9-13.9   |                          | A15                         |                    | 894 792 1808<br>1015 890                |
| Al <sub>0-0.25</sub> Ge <sub>1-0.75</sub> V <sub>3</sub>  | 6.5-12   |                          | A15                         |                    | 1832                                    |
| Al <sub>1-0</sub> Ge <sub>0-1</sub> V <sub>3</sub>  | ~12-12.5-6   |                          |                             |                    | 1369 1446<br>1073                       |
| Al <sub>0.6-0</sub> Ge <sub>0.4-1</sub> V <sub>3</sub><br>(no order observed)                   | 11.5-12.5-6.5<br>Max. at Ge <sub>0.6</sub>               |                          |                             |                    | 1731                                    |
| Al <sub>0.3</sub> In <sub>0.7</sub> La <sub>3</sub>   | 9.42   |                          | L <sub>1</sub> <sub>2</sub> |                    | 1564                                    |
| Al <sub>1-0.67</sub> In <sub>0-0.33</sub> Nb <sub>3</sub>                                       | 18.4-16.0  |                          | A15                         |                    | 1072                                    |
| Al <sub>0.046</sub> In <sub>0.151</sub> Sn <sub>0.803</sub>                                     | 3.652 (Annealed)<br>4.38                                 |                          |                             |                    | 1201                                    |
| Al <sub>11</sub> La <sub>3</sub>  |  |                          | ORTHO                       | 1.3                | 1631                                    |
| Al <sub>4</sub> La  |  |                          |                             | 1.15               | 711                                     |
| Al <sub>2</sub> La  | 3.237, 3.26, 3.305                                       |                          | C15                         |                    | 1425# 1424<br>486 1314 953<br>1428# 658 |
| Al <sub>2</sub> La(REE) <sub>x</sub><br>(REE= Ce, Pr, Nd, Sm,<br>Gd, Tb, Dy, Ho, Er,<br>Tm, Yb) | Decreases observed                                       |                          |                             |                    | 794                                     |
| Al <sub>2</sub> La(P to 18, 20 kbar)  | Decreases ~0.3K  |                          | C15                         |                    | 1924 1429                               |
| Al <sub>2</sub> La  |  | HF                       |                             |                    | 1422                                    |
| AlLa  |  |                          |                             | 0.33               | 658                                     |
| AlLa <sub>3</sub>   | 6.16   | HF                       | DO <sub>19</sub>            |                    | 943 918 658                             |
| Al <sub>2</sub> La <sub>1-0.986</sub> Tb <sub>0-0.014</sub>                                     | 3.24-0.6   | HF                       |                             |                    | 1678 1428#<br>1429                      |
| Al <sub>2</sub> La <sub>0.994-0.998</sub><br>Tb <sub>0.006-0.002</sub> (P to 18 kbar)           | 2.13-2.875<br>(P decreases ~0.3K)                        |                          |                             |                    | 1924                                    |
| AlLu <sub>2</sub>   |  |                          | C15                         | 1.02               | 270                                     |
| AlLu <sub>3</sub>   |  |                          |                             | 1.1                | 659                                     |
| Al <sub>2</sub> Lu  |  |                          | C15                         | 1.02               | 658                                     |
| Al <sub>3</sub> Mg <sub>2</sub>   | 0.84   |                          | CUB                         |                    | 270 084                                 |
| Al <sub>2</sub> Mg <sub>3</sub>   |  |                          | A12                         | 0.35               | 270                                     |
| AlMg <sub>0-0.0106</sub>  | T <sub>c</sub> (-0.058)                                  |                          |                             |                    | 1506 856#<br>320 319 435#               |
| Al <sub>0-0.9</sub> Mg <sub>1-0.1</sub>   | 1.18-1.63-<0.03  |                          |                             |                    | 1604                                    |
| Al <sub>0.82</sub> Mg <sub>0.18</sub>   | 1.63   |                          | A1                          |                    | 1604                                    |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                       | $T_c$ (K)                          | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|--|------------------------------------|-----------------|-------------------|-----------|---|
| $Al_{0.61-0.39}Mg_{0.39-0.61}$                 | 0.7-<0.03                          |                 | A12               |           | 1764 1604   |
| $Al_{0.61}Mg_{0.39}$                           | 0.85                               |                 | HEX               |           | 1604  |
| $Al_{0.11}Mg_{0.89}$                           |                                    |                 |                   | 0.013     | 1340  |
| $Al_{\sim 0.6}Mg_{0.4}$ (Deposited 0.4K)       | 1.6-1.7                            |                 |                   |           | ▽1764   |
| $Al_{0.39}Mg_{0.61}$                           | 1.5-1.6                            |                 |                   |           | ▽1604   |
| $Al_{1-0.999}Mn_{0-0.00125}$<br>(P to 22 kbar) | 1.17-0.51<br>(P decreases further) |                 |                   |           | 1519 598 1357<br>951 673 421  |
| $AlMn_{0-0.0018}$                              | $T_c'(-0.68)$                      | Data given      |                   |           | 588   |
| $AlMn_{440, 900}$ ppm                          | 0.843, 0.594                       | 75.6, 53.3      |                   |           | 1449#   |
| $Al_{12}Mo$                                    |                                    |                 | CUB               | 1.02      | 270   |
| $Al_5Mo$                                       |                                    |                 | HEX               | 1.15      | 412 712   |
| $AlMo_3$                                       | 0.58                               |                 | A15               |           | 125 181<br>142 270  |
| $AlMo_{0-3}Nb_{3-0}$                           | 16.3-<2                            |                 | A15               |           | 1874  |
| $AlMo_6Pd$                                     | 2.1                                |                 |                   |           | 427   |
| $Al_{0.5}Mo_5S_6Sn$                            | 14.2, 13.6                         | HF              |                   |           | 1597 1664<br>1725   |
| $Al_{0.2}Mo_5S_6Sn$                            |                                    | HF              |                   |           | 1759  |
| $Al_{0-0.12}Mo_{6.35}S_8Sn_{1.2}$              | 11.8-14.3                          | HF              |                   |           | 1759  |
| $AlN$  | 1.55?                              |                 | B4                |           | 558   |
| $AlN$ (Very Thin, 14 layers $N_2$ )            | $T_{co}/T_c$ given                 |                 |                   |           | ▽1195   |
| $Al_2NNb_3$                                    | 1.3                                |                 | A13               |           | 632   |
| $Al N O(24-117\text{\AA})$                     | $Al T_c$ depressed                 |                 |                   |           | ▽1195   |
| $Al_3Nb$                                       |                                    |                 | DO <sub>22</sub>  | 1.20      | 412   |
| $Al_{0.33}Nb_{0.67}$                           | 8.5-13.5                           |                 | D8 <sub>b</sub>   |           | 557 125<br>497 1810   |
| $AlNb_3$ ("Splat" cooled)                      | 3.1                                |                 | A2                |           | 1795  |
| $AlNb_3$                                       | 18.8-18.6                          | HF              | A15               |           | 1215# 787<br>1551 1339<br>1660 1483   |
| $AlNb_3$                                       | 18.52-18.2                         |                 |                   |           | 939 i750<br>1064 1176#<br>1066 1693#  |
| $AlNb_3$                                       | 18.1-17.11                         |                 |                   |           | 1075 254 125<br>1801 1164<br>1976 497<br>1101 880<br>1446 447<br>1421 311 479<br>497 513 798<br>142 |
| $Al_{0.25-0.18}Nb_{0.75-0.82}$                 | 18.3-17.0                          |                 |                   |           | 1752 1432   |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                           | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                     |
|--|--|--------------------------|-------------------|--------------------|---------------------------|
| Al <sub>0.2-0.26</sub> Nb <sub>0.8-0.74</sub>                          | 13.5-17.3                                    |                          |                   |                    | 1749                      |
| Al <sub>0.215</sub> Nb <sub>0.785</sub>                                | 17.97  |                          | Single phase      |                    | 859                       |
| AlNb <sub>3</sub> (Versus neutron irradiation; reversible)             | 18.6-3.5                                     | HF                       |                   |                    | 1660                      |
| Al <sub>0-0.5</sub> Nb <sub>1-0.5</sub> (Sputtered or quenched)        | 9.3-0.7                                      |                          | A2                |                    | ▽ 1432                    |
| Al <sub>0-0.34</sub> Nb <sub>1-0.66</sub> (Sputtered)                  | 9.3-8-16-15                                  |                          |                   |                    | ▽ 1432                    |
| Al <sub>0.21-0.25</sub> Nb <sub>0.79-0.75</sub> (Sputtered)            | 16.0-16.6                                    |                          | A15               |                    | ▽ 1432                    |
| AlNb <sub>3</sub> (4000 Å, various)                                    | 17.4, 16.6-9.3                               |                          |                   |                    | ▽ 1410 ▽ 1276             |
| AlNb <sub>3</sub> (P study)  | 1.75, decreases, then to 18.1                |                          |                   |                    | 1705 1079                 |
| AlNb <sub>2</sub> Ni   | 4.2  |                          |                   |                    | 1888                      |
| AlNb <sub>3</sub> Ni <sub>0-0.01</sub> (Weight fraction)               | 17.4-17.7-15.5                               | HF                       |                   |                    | 1753                      |
| Al <sub>0.04</sub> Nb <sub>0.895</sub> O <sub>0.06</sub>               | 7.10   | HF                       |                   |                    | 1667                      |
| Al <sub>0.01</sub> Nb <sub>0.97</sub> O <sub>0.02</sub>                | 8.30   | HF                       |                   |                    | 1667                      |
| Al <sub>0.8-0.1</sub> Nb <sub>3</sub> Sb <sub>0.2-0.9</sub>            | 16.74-3.92                                   |                          | A15               |                    | 801                       |
| Al <sub>0.95</sub> Nb <sub>3</sub> Sb <sub>0.5</sub>                   | 17.81  |                          | A15               |                    | 801                       |
| Al <sub>0.9</sub> Nb <sub>3</sub> Sb <sub>0.1</sub>                    | 18.06-17.4                                   |                          | A15               |                    | 801                       |
| Al <sub>0.25-0.18</sub> Nb <sub>0.75-0.78</sub> Si <sub>0-0.04</sub>   | 18.3-18.6-18.4                               |                          |                   |                    | 1752                      |
| Al <sub>0.05-0.7</sub> Nb <sub>3</sub> Si <sub>0.05-0.3</sub>          | 18.05-16.9                                   |                          |                   |                    | 1976                      |
| Al <sub>0.22</sub> Nb <sub>0.75</sub> Si <sub>0.3</sub>                | 19.2   |                          |                   |                    | 1821                      |
| Al <sub>1-0</sub> Nb <sub>3</sub> Si <sub>0-1</sub> (~20,000 Å)        | 14.5-8                                       |                          | A15               |                    | ▽ 1954                    |
| Al <sub>0-1</sub> Nb <sub>0-4</sub> Si <sub>1-0</sub> V <sub>3-0</sub> | 16.5-4.0-16.7                                |                          | A15               |                    | 893                       |
| Al <sub>1-0</sub> Nb <sub>3</sub> Sn <sub>0-1</sub>                    | 17.2-13.5-18.2                               |                          | A15               |                    | 1236 1812<br>1072 419 311 |
| Al <sub>0-0.1</sub> Nb <sub>3</sub> Sn <sub>1-0.9</sub>                | 17.9-18.58-18.1                              |                          | A15+              |                    | 1115                      |
| Al <sub>0-0.2</sub> Nb <sub>3</sub> Sr <sub>1-0.8</sub>                | 18-18.2-17<br>(Resistance meas.)<br>18-16.65 |                          |                   |                    | 1982                      |
| Al <sub>0.5</sub> Nb <sub>3</sub> Sn <sub>0.5</sub>                    | 15.8 (Annealed)                              |                          |                   |                    | 1404 1236 270             |
| AlNbSn   | 17.45  |                          | A15               |                    | 1115                      |
| AlNb <sub>2.85-2.25</sub> Ti <sub>0.15-0.75</sub>                      | 15.2-8.35                                    |                          | A15               |                    | 1976                      |
| Al <sub>0.05-0.25</sub> Nb <sub>0.05-0.45</sub> Ti <sub>y</sub>        | 2.95-9.10                                    |                          |                   |                    | 1862                      |
| Al <sub>0.27</sub> Nb <sub>0.73-0.48</sub> V <sub>0-0.25</sub>         | 17.5-14.5                                    |                          | A15               |                    | 497                       |
| Al <sub>0.27</sub> Nb <sub>0-0.50</sub> V <sub>1-0.50</sub>            |  | CUB                      | 4.2               |                    | 497                       |
| AlNb <sub>2.1</sub> V <sub>0.9</sub>                                   | 12.5, 13.4 (Annealed)                        |                          | A15               |                    | 1073                      |
| AlNb <sub>2.7</sub> V <sub>0.3</sub>                                   | 15.4, 16.7 (Annealed)                        |                          | A15               |                    | 1073                      |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material   | $T_c$ (K)               | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.         |
|--|-------------------------|-----------------|-------------------|-----------|---------------|
| $\text{AlNb}_{2.94-2.25}\text{V}_{0.06-0.75}$        | 16.7-13.0               |                 | A15               |           | 1976          |
| $\text{Al}_{0.175-0.23}\text{Nb}_{0.775-0.725}$      | 18.3-~10                |                 |                   |           | 1980          |
| $\text{Zr}_{0-0.075}$                                |                         |                 |                   |           |               |
| $\text{Al}_{0.23}\text{Nb}_{0.75}\text{Zr}_{0.013}$  | 18.3                    |                 |                   |           | 1980          |
| $\text{Al}_{0.175}\text{Nb}_{0.775}\text{Zr}_{0.05}$ | ~10(Broad)              |                 |                   |           | 1980          |
| $\text{Al}_{1-x}\text{Ni}_x$                         | Data given              |                 |                   |           | 673 572#      |
| $\text{AlO}_x$ (~15-350 Å)                           | 1.2-2.3-1.4             |                 |                   |           | ▽454 ▽224     |
| $\text{Al+Al}_2\text{O}_3$ (2,000-319,000 Å)         | 0.8-2.69                | HF              |                   |           | ▽1451 ▽1622   |
| $\text{Al}_2\text{O}_3$ -Nb(Cermet films)            | 4.43-5.19               |                 |                   |           | ▽1554         |
| $\text{Al}_{13}\text{Os}_4$                          | 5.5                     |                 |                   |           | 1431#         |
| $\text{Al}_2\text{Os}$                               |                         |                 |                   | 1.1       | 1431 711      |
| $\text{Al}_3\text{Os}_2$                             |                         |                 |                   | 1.1       | 1431 711      |
| $\text{Al}_3\text{Os}$                               | 5.9                     |                 |                   |           | 173           |
| $\text{AlOs}$  | 0.39                    |                 | B2                |           | 270 173       |
| $\text{Al}_{13}\text{Os}_{4-3}\text{Ru}_{0-1}$       | 5.5-~2                  |                 |                   |           | 1431#         |
| $\text{AlPb}_x$ (Layered films)                      |                         |                 |                   |           | ▽512          |
| $\text{Al}_3\text{Pd}_4\text{Si}$                    |                         |                 | B20               | 1.02      | 270           |
| $\text{Al}_2\text{Pt}$                               | 0.55-0.48               |                 | C1                |           | 486 037       |
| $\text{AlPt}$  |                         |                 | CUB               | 0.34      | 486           |
| $\text{Al}_{0-0.05}\text{Pu}_{1-0.95}$               |                         |                 |                   | 1.50      | 226           |
| $\text{Al}_{12}\text{Re}$                            |                         |                 | CUB               | 1.15      | 712 412       |
| $\text{Al}_6\text{Re}$                               | 1.85                    |                 |                   |           | 711           |
| $\text{AlRe}$  |                         |                 | B2                | 1.15      | 712 412       |
| $\text{Al}_5\text{Re}_{24}$                          | 3.35                    |                 | A12               |           | 412 557       |
| $\text{Al}_{13}\text{Ru}_4$                          |                         |                 | MONO              | 1.1       | 1431#         |
| $\text{AlSb}$ (P~125kbar)                            | 2.8                     |                 |                   |           | 1104          |
| $\text{Al}_{0-0.3}\text{Sb}_{1-0.7}\text{V}_3$       | <2-4                    |                 | A15               |           | 1832          |
| $\text{Al}_{1-x}\text{Sb}_x\text{V}_3$               | 4.5-7.2                 |                 | A15               |           | 890           |
| $\text{Al}_2\text{Sc}$                               |                         |                 | C15               | 1.02      | 270 658       |
| $\text{AlSc}_3$                                      |                         |                 |                   | 1.1       | 659           |
| $\text{Al}_{1-x}\text{Si}_x$                         | $T_c^{\prime} (-0.019)$ |                 |                   |           | 746 319       |
| $\text{Al}_{0-1}\text{Si}_{1-0}\text{V}_3$           | 17-5                    |                 | A15+              |           | 890 1369 1983 |
| $\text{Al}_{0-0.13}\text{Si}_{1-0.87}\text{V}_3$     | 16-12.5                 |                 | A15               |           | 1832          |
| $\text{Al}_{0.1}\text{Si}_{0.9}\text{V}_3$           | 16.1(Aannealed)         |                 | A15               |           | 1073          |
| $\text{Al}_{0.2}\text{Si}_{0.8}\text{V}_3$           | 15.7(Aannealed)         |                 |                   |           | 1073          |
| $\text{Al}_{0-0.007}\text{Sn}$                       | 3.72-3.692              | HF              |                   |           | 850           |
| $\text{Al}_{0.152}\text{Sn}_{0.848}$                 | 3.690(Aannealed)        |                 |                   |           | 1201          |
| $\text{Al}_{1-0}\text{Sn}_{0-1}$ (Deposited 4.2K)    | 3.5-6.7-4.7             |                 |                   |           | ▽1732 ▽1134   |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.          |
|---|-------------------------|--------------------------|-----------------------------|--------------------|----------------|
| Al <sub>1-0</sub> Sn <sub>0-1</sub> V <sub>3</sub>                            | ~5.5-6-4                |                          | A15+                        |                    | 1369 890       |
| Al <sub>3</sub> Ta  |                         |                          | DO <sub>22</sub>            | 1.20               | 412            |
| AlTa <sub>3</sub>   |                         |                          | D <sub>8</sub> <sub>b</sub> | 1.02               | 270            |
| AlTa <sub>3</sub> ("Splat" cooled)  | 1.59                    |                          | A2                          |                    | 1795           |
| Al <sub>3</sub> Th  | 0.2, 0.75               |                          | DO <sub>19</sub>            |                    | 1373 270       |
| Al <sub>2</sub> Th  |                         |                          | C32                         | 0.35               | 270            |
| AlTh <sub>2</sub>   | 0.09                    |                          | C16                         |                    | 1377 270       |
| Al <sub>2</sub> Th <sub>3</sub>   | 2.6                     |                          | TET                         |                    | 927            |
| Al <sub>3</sub> Th <sub>1-0.8</sub> Y <sub>0-0.2</sub>                        |                         |                          | DO <sub>19</sub>            | 0.05               | 1373           |
| Al <sub>1-x</sub> Ti <sub>x</sub>   | T' <sub>c</sub> (-0.04) |                          |                             |                    | 1357 673       |
| Al <sub>0.996</sub> Ti <sub>0.004</sub> (Rapid quench)                        | T' <sub>c</sub> (-0.16) |                          |                             |                    | 1507           |
| Al <sub>3</sub> Ti  |                         |                          | DO <sub>22</sub>            | 1.02               | 270            |
| Al <sub>0.03</sub> Ti <sub>0.81</sub> V <sub>0.16</sub> (Various anneals)     | 3.5-5.1                 |                          |                             |                    | 1803           |
| Al <sub>0.1-0.15</sub> Ti <sub>0.15-0.69</sub><br>V <sub>0.18-0.74</sub>      | 2.05-3.62               |                          | CUB                         |                    | 514#           |
| Al <sub>0.25, 0.3</sub> Ti <sub>0.525, 0.49</sub><br>V <sub>0.255, 0.21</sub> |                         |                          | CUB                         | 1.4                | 514#           |
| Al <sub>2</sub> U   |                         |                          | C15                         | 1.12               | 021            |
| Al <sub>3</sub> U   |                         |                          | L1 <sub>2</sub>             | 0.07               | 715 1677#      |
| Al <sub>1-x</sub> V <sub>x</sub>  | T' <sub>c</sub> (-0.08) |                          |                             |                    | 1357 673       |
| Al <sub>0.9945</sub> V <sub>0.0055</sub> (Rapid quench)                       | T' <sub>c</sub> (-0.33) |                          |                             |                    | 1507           |
| Al <sub>3</sub> V   |                         |                          | DO <sub>22</sub>            | 1.20               | 412 447        |
| AlV <sub>3</sub>  |                         |                          | A2                          | 3.0                | 1369 1455      |
| AlV <sub>3</sub> (Possible Si additions)                                      | 10.3, 11.65             |                          | A15                         |                    | 824 894<br>792 |
| Al <sub>0-0.12</sub> V <sub>1-0.88</sub>                                      | 5.20-1.73               | 1446-408                 |                             |                    | 1890# 572#     |
| Al <sub>0.108</sub> V <sub>0.892</sub>  | 1.82                    |                          | CUB                         |                    | 514#           |
| Al <sub>0.188-0.402</sub> V <sub>0.812-0.598</sub>                            |                         |                          | CUB                         | 1.4, 4.2           | 514# 497       |
| AlV <sub>3</sub> (with additions)   |                         |                          |                             |                    | 1455           |
| AlV <sub>3</sub> (Deposited 350-450C)   | 9.6, 10.3 Max.          |                          |                             |                    | ▽1363 ▽1438    |
| Al <sub>5</sub> V <sub>2</sub>  |                         |                          |                             | 1.55               | 427            |
| Al <sub>2</sub> V   |                         |                          | C15                         | 0.34               | 127 486 658    |
| Al <sub>2</sub> V <sub>3</sub>  |                         |                          |                             | 1.15               | 711            |
| AlV   |                         |                          |                             | 1.15               | 711            |
| AlV <sub>2</sub>  |                         |                          |                             | 1.15               | 711            |
| AlV <sub>3</sub>  |                         |                          |                             | 1.1                | 659            |
| Al <sub>3</sub> Yb  | 0.94                    |                          | L1 <sub>2</sub>             |                    | 715            |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)   | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.       |
|---|--|--------------------------|-------------------|--------------------|-------------|
| Al <sub>2</sub> Yb  |  |                          | C15               | 0.06               | 1372        |
| AlZn <sub>0-0.01</sub>  | T <sub>c</sub> <sup>1</sup> (-0.0444)  |                          |                   |                    | 319 320 746 |
| Al <sub>1-0.8</sub> Zn <sub>0-0.2</sub>                                 | T <sub>c</sub> <sup>1</sup> (-0.12+0.18)<br>T <sub>c</sub> <sup>1</sup> (Quenched)<br>T <sub>c</sub> <sup>1</sup> (-0.07+0.10)<br>T <sub>c</sub> <sup>1</sup> (Aged) | Data given               |                   |                    | 1794        |
| Al <sub>0.992</sub> Zn <sub>0.0078</sub>                                | 1.132  |                          |                   |                    | 435#        |
| Al <sub>0.85</sub> Zn <sub>0.15</sub>                                   |  | HF                       |                   |                    | 1793        |
| Al <sub>x</sub> Zn <sub>1-x</sub>                                       | 0.5-0.845  |                          |                   |                    | 624         |
| Al <sub>x</sub> Zn <sub>1-x</sub>                                       | T <sub>c</sub> <sup>1</sup> (-0.03, 0.0+)  |                          |                   |                    | 598         |
| Al <sub>2</sub> Zn <sub>2</sub> Zr                                      |  |                          | L1 <sub>2</sub>   | 0.08               | 1372        |
| Al <sub>3</sub> Zr  |  |                          | DO <sub>23</sub>  | 1.02               | 270         |
| Al <sub>2</sub> Zr  | <0.35  |                          | C14               |                    | 270         |
| AlZr <sub>3</sub>   | 0.73   |                          | L1 <sub>2</sub>   |                    | 270         |
| Am <sub>0.01</sub> Si <sub>2</sub> Th                                   | 2.66   |                          |                   |                    | 1504        |
| As(99.9999%; P study)   | 0.31-0.5(220-140 kbar)<br>0.2-0.25(~140-100 kbar)<br><0.1 (~100)   | A7                       |                   |                    | 898 774 245 |
| AsAu(Eutectic)  |  |                          |                   | 1.9                | 099         |
| As <sub>0.15</sub> Bi <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.7</sub> | 18.07  |                          |                   |                    | 1982        |
| AsBiPb  | 0  |                          |                   |                    | 111         |
| AsBiPbSb  | 9  |                          |                   |                    | 111         |
| As <sub>2</sub> CdGe(P of 60-70 kbars)                                  | 2.84-3.02  |                          | TET+              |                    | 867         |
| As <sub>2</sub> CdSn(Prepared ~60 kbar)                                 | 1.79-2.29  |                          | B1                |                    | 865         |
| As <sub>2</sub> Co  |  |                          | C18               | 1.1                | 262         |
| AsCo  |  |                          | B31               | 1.1                | 262         |
| As <sub>2</sub> Cu  |  |                          |                   | 1.57               | 002         |
| AsCu(Eutectic)  |  |                          |                   | 2.2                | 099         |
| AsCu <sub>3</sub>   |  |                          |                   | 1.28               | 011 084     |
| As <sub>4</sub> Cu <sub>18</sub> Sb <sub>3</sub>                        |  |                          | CUB               | 0.35               | 270         |
| As <sub>0.4</sub> Fe <sub>0.6</sub>                                     |  |                          |                   | 1.30               | 084         |
| AsGa(P = 260 kbar)  | 4.8  |                          |                   |                    | 1730        |
| As <sub>0.15</sub> Ga <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.7</sub> | 18.01  |                          |                   |                    | 1982        |
| AsGe(Prepared high P & Temp.)   | 3-3.5  |                          |                   |                    | 891         |
| AsGeMo  |  |                          | MONO              | 0.035              | 1508        |
| AsGeRe  |  |                          | MONO              | 0.33               | 1508        |
| AsGeTe(See Table 4)   |  |                          |                   |                    |             |
| AsGeW   |  |                          | MONO              | 0.035              | 1508        |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.         |
|---|--------------------|--------------------------|-------------------|--------------------|---------------|
| As <sub>2</sub> Hf  |                    |                          | C23               | 1.1                | 1583          |
| AsHf  |                    |                          | B <sub>i</sub>    | 1.1                | 1583          |
| As <sub>0.15</sub> In <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.7</sub> | 17.99              |                          |                   |                    | 1982          |
| AsInTe(See Table 4)   |                    |                          |                   |                    |               |
| AsIr  |                    |                          |                   | 0.35               | 491           |
| AsIr <sub>2</sub>   |                    |                          |                   | 0.35               | 491           |
| As <sub>2</sub> Mo  | 0.41               |                          | MONO              |                    | 1508 1584 084 |
| As <sub>3</sub> Mo  |                    |                          |                   | 1.1                | 1583          |
| As <sub>2</sub> Nb  |                    |                          | MONO              | 0.012              | 1508 1584     |
| As <sub>0.15</sub> Nb <sub>3</sub> Pb <sub>0.15</sub> Sn <sub>0.7</sub> | 18.05              |                          |                   |                    | 1982          |
| As <sub>0-0.3</sub> Nb <sub>3</sub> Sn <sub>1-0.7</sub>                 | 18-17.9            |                          |                   |                    | 1982 200      |
| As <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.85</sub> (Sintered)        | 17.98              |                          |                   |                    | 1982          |
| As <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.7</sub> Tl <sub>0.15</sub> | 17.98              |                          |                   |                    | 1982          |
| AsNi  |                    |                          |                   | 1.28               | 011 084       |
| As <sub>0.5</sub> (Ni <sub>0.125</sub> )Pd <sub>0.375</sub>             | 1.6, 1.34          |                          |                   |                    | 054 035 262   |
| (Ref. 262 suggests due to As <sub>2</sub> Pd <sub>2</sub> )             |                    |                          |                   |                    |               |
| AsOs  |                    |                          | Like OsP          | 1.13               | 1582          |
| AsPb(Eutectic)  | 8.40               |                          |                   |                    | 085 111       |
| AsPd  |                    |                          | C2                | 1.02               | 035 054       |
| AsPd <sub>2</sub> (High Temp.)  | 1.70               |                          | C22               |                    | 491 262 530   |
| AsPd <sub>2</sub> (Low Temp.)   | 0.60               |                          | HEX               |                    | 491 530       |
| AsPd <sub>3</sub>   |                    |                          | DO <sub>e</sub>   | 0.3                | 530 491 262   |
| As <sub>2</sub> Pd <sub>5</sub>   | 0.46               |                          |                   |                    | 491 530 262   |
| As <sub>2</sub> Pd  |                    |                          |                   | 1.1                | 530           |
| As <sub>2</sub> Pd <sub>3</sub>   |                    |                          |                   | 1.4                | 427           |
| As <sub>3</sub> Pd <sub>5</sub>   |                    |                          |                   | 1.9                | 262           |
| AsPd <sub>7</sub>   |                    |                          |                   | 1.1                | 530           |
| AsPdSe  |                    |                          | C2                | 1.2                | 413 414       |
| As <sub>2</sub> Pt  |                    |                          |                   | 0.35               | 491           |
| As <sub>3</sub> Pt <sub>2</sub>   |                    |                          |                   | 0.35               | 491           |
| As <sub>7</sub> Re <sub>3</sub>   |                    |                          | D8 <sub>f</sub>   | 0.3                | 1584          |
| AsRh  | 0.58               |                          | B31               |                    | 491           |
| AsRh <sub>1.4-1.6</sub>   | 0.56-<0.03         |                          | HEX               |                    | 491           |
| As <sub>3</sub> Rh <sub>5</sub>   |                    |                          |                   | 1.1                | 262           |
| AsRh <sub>2</sub>   |                    |                          | C1                | 1.1                | 1583 262      |
| AsRu  |                    |                          |                   | 0.35               | 491 262       |
| AsRu <sub>2</sub>   |                    |                          |                   | 0.35               | 491 262       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)       | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                            |
|--|--------------------------|--------------------------|-------------------|--------------------|----------------------------------|
| As <sub>0.26</sub> Sb <sub>0.74</sub>  |                          |                          |                   | 1.32               | 084                              |
| As <sub>0.25</sub> Se <sub>0.75</sub> <sup>Y</sup>                                       | 0.72-0.78                |                          | B1                |                    | 1219                             |
| AsSn(See Table 4)  |                          |                          |                   |                    |                                  |
| AsSn(Eutectic)   | 4.1, 4.2                 |                          |                   |                    | 085 111                          |
| AsSnTe (See Table 4)   |                          |                          |                   |                    |                                  |
| As <sub>1-0.1</sub> SnTe <sub>0-0.9</sub>  | ~3.5                     |                          |                   |                    | 1605                             |
| As <sub>2</sub> Ta   |                          |                          | MONO              | 0.035              | 1508 1583                        |
| As <sub>7</sub> Tc <sub>3</sub>  |                          |                          | D8 <sub>f</sub>   | 0.3                | 1584                             |
| As <sub>2</sub> Th   |                          |                          | C23               | 1.2                | 1583                             |
| As <sub>2</sub> Ti   |                          |                          |                   | 1.1                | 1583                             |
| AsTi   |                          |                          | Bi                | 0.30               | 1584                             |
| AsV <sub>3</sub>   |                          |                          | A15               | 1.0                | 1578 015<br>128 117              |
| As <sub>2</sub> V  |                          |                          | MONO              | 0.33               | 1508 1583                        |
| As <sub>2</sub> W  | ~0.9                     |                          | MONO              |                    | 1508 1583                        |
| As <sub>3</sub> W <sub>2</sub>   |                          |                          |                   | 1.1                | 1583                             |
| AsW  |                          |                          |                   | 1.4                | 427                              |
| AsY  |                          |                          | Bi                | 0.31               | 1584                             |
| AsZn   |                          |                          |                   | 1.3                | 427                              |
| As <sub>2</sub> Zr   |                          |                          | C23               | 1.1                | 1583                             |
| AsZr   |                          |                          | Bi                | 1.1                | 1583                             |
| Au(99.999%)  |                          |                          | A1                | 0.002              | 1830 374 012<br>487 1617<br>1633 |
| Au <sub>0.2</sub> B <sub>5</sub> Mo <sub>1.8</sub>                                       | 4.5                      |                          | C32               |                    | 767                              |
| Au <sub>5</sub> Ba   | 0.4-0.7                  |                          | D2 <sub>d</sub>   |                    | 486 449                          |
| AuBe   | 2.64                     |                          | B20               |                    | 138                              |
| AuBe <sub>5</sub>  |                          |                          | C15 <sub>b</sub>  | 1.02               | 270 037                          |
| AuBe   | 0.91                     |                          |                   |                    | 1057                             |
| Au <sub>0.03-0.15</sub> Be <sub>0.97-0.85</sub>  | 1.80-1.29-<br>2.79, 1.52 |                          | HEX               |                    | 1057                             |
| Au <sub>2</sub> Bi   | 1.84, 1.70               |                          | C15               |                    | 281 282 015<br>085 120 153       |
| Au <sub>0.1</sub> C <sub>1.3</sub> <sup>Y</sup> <sub>0.9</sub>                           | 10.1                     |                          | D5 <sub>c</sub>   |                    | 870                              |
| Au <sub>5</sub> Ca   | 0.34-0.38                |                          | C15 <sub>b</sub>  |                    | 486 535                          |
| Au <sub>0.72-0.69</sub> Cd <sub>0.28-0.31</sub>  |                          |                          | A1                | 0.014              | 1617                             |
| Au <sub>5</sub> Cd <sub>8</sub>  |                          |                          |                   | 1.28               | 084                              |
| Au <sub>0.25</sub> Cu <sub>0.75</sub> , Au <sub>0.5</sub> Cu <sub>0.5</sub> (Impurities) |                          |                          |                   | 1.11               | 076                              |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)      | H <sub>0</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                              |
|--|-------------------------|--------------------------|-------------------|--------------------|------------------------------------|
| AuGa   | 1.2                     |                          | B31               |                    | 486 270                            |
| AuGa <sub>2</sub>  | 1.12-1.05(866)          |                          | C1                | 0.34<br>(486)      | 866 486 1011                       |
| AuGa <sub>2</sub> (P~6 kbar)   | 1.9                     |                          |                   |                    | 1534                               |
| Au <sub>0.85-0.98</sub> Ga <sub>2</sub> Pd <sub>0.15-0.02</sub>              | 1.79-1.25               |                          | C1                |                    | 866# 1011                          |
| Au <sub>0.725-0.40</sub> Ge <sub>0.275-0.6</sub>                             | 0.99-1.63               |                          | Data given        |                    | 487                                |
| AuGe   |                         |                          |                   | 1.4                | 908                                |
| Au <sub>0.3-0.33</sub> , 0.75-0.92<br>Ge <sub>0.7-0.67</sub> , 0.25-0.08     |                         |                          | HEX,CUB           | 0.32               | 487                                |
| AuGe(Laser pulse preparation)  | 2.25-2.7                |                          |                   |                    | ▼908                               |
| Au <sub>0.3-0.8</sub> Ge <sub>0.7-0.2</sub> (Deposited<br>4K; 200-600Å)      | 2.7-3.6-2.2             |                          |                   |                    | ▼1082 1179                         |
| Au <sub>0.5</sub> Ge <sub>0.5</sub> (Deposited 4K)                           | 3.6                     |                          |                   |                    | ▼1179                              |
| Au <sub>0.41</sub> Ge <sub>0.59</sub> (Deposited 4K)                         | 2.2, <2.2               |                          |                   |                    | ▼1867                              |
| Au <sub>0-0.35</sub> H <sub>≈0.9</sub> Pd <sub>1-0.65</sub><br>(H Implanted) | 8.6-14-11.5             |                          |                   |                    | 1901-1985                          |
| AuII <sub>1.0</sub> , 2.8 Ti <sub>3</sub>                                    |                         |                          | CUB               | 1.6                | 1480                               |
| Au <sub>0.75</sub> Hg <sub>0.25</sub>  |                         |                          |                   | 1.28               | 084 091                            |
| Au <sub>0.8-0.85</sub> Hg <sub>0.2-0.15</sub>                                |                         |                          |                   | 0.32               | 489                                |
| Au <sub>0.88</sub> In <sub>0.12</sub>  |                         |                          | A1                | 0.014              | 1617                               |
| Au <sub>0.84-0.8</sub> In <sub>0.16-0.2</sub>                                | 0.04-0.33(Broad)        |                          | HEX               |                    | 1617                               |
| AuIn <sub>2</sub>  | 0.22                    | 16.6                     | C1                |                    | 1863 1993#<br>866# 1011<br>486 229 |
| AuIn   | 0.6-0.4                 |                          |                   |                    | 486 229                            |
| Au <sub>0.9</sub> In <sub>2</sub> Pd <sub>0.1</sub>                          |                         |                          |                   | 0.36               | 866                                |
| Au <sub>5</sub> K  |                         |                          | D2 <sub>d</sub>   | 0.32               | 394 486                            |
| AuLa   |                         |                          |                   | 0.33               | 658                                |
| Au <sub>0.33</sub> La <sub>0.67</sub>  | 3.2                     |                          |                   |                    | 1908                               |
| Au <sub>0.24</sub> La <sub>0.76</sub> (Rapid quench)                         | 4.0(Crystalline)<br>3.3 | HF                       |                   |                    | 1908                               |
| Au <sub>0.22</sub> La <sub>0.78</sub> (Rapid quench)                         | 3.4                     |                          |                   |                    | 1908                               |
| Au <sub>0-0.4</sub> La <sub>1-0.6</sub>                                      | 6(broad)-2              |                          |                   |                    | 1908                               |
| AuLu   | <0.35                   |                          | B2                |                    | 658                                |
| AuMg   |                         |                          | B2                | 0.35               | 270 173                            |
| Au <sub>2</sub> Na   |                         |                          | C15               | 0.34               | 270 486                            |
| AuNa <sub>2</sub>  |                         |                          | C16               | 0.06               | 1377                               |
| AuNb <sub>3</sub>  | 11.22                   |                          | A15               |                    | 1466                               |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                                  | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                                   |
|---|---|--------------------------|-------------------|--------------------|---|
| AuNb <sub>3</sub> (Various heat treatments)                                   | 11.5-8.99   |                          | A15               |                    | 492 128 137<br>117 568 707<br>922# 572# |
| AuNb <sub>3</sub>   | 1.2   |                          | A2                |                    | 568                                     |
| Au <sub>0.25</sub> Nb <sub>0.75</sub> (Sputtered,<br>10,000Å)                 | 11.2, 10.6  |                          | A15               |                    | 1438, 1410                              |
| Au <sub>1-0</sub> Nb <sub>4</sub> Pt <sub>0-1</sub>                           | 8.7-10-5.5(Cast)<br>7.7-8.3-5.2(Aannealed)          |                          | A15               |                    | 1859                                    |
| Au <sub>1-0</sub> Nb <sub>3</sub> Pt <sub>0-1</sub>                           | 9.5-10-8.5(Cast)<br>10.5-12-9(Aannealed)            |                          | A15               |                    | 1859 1944                               |
| Au <sub>1-0</sub> Nb <sub>2.33</sub> Pt <sub>0-1</sub>                        | 9.3-10.3-8.2(Cast)<br>10.7-11.5-7-6.5<br>(Annealed) |                          | A15               |                    | 1859 1944                               |
| Au <sub>1-0</sub> Nb <sub>3</sub> Pt <sub>0-1</sub>                           | 8.3-9.1(Quenched)<br>11.3-12.7-10.7<br>(Annealed)   |                          | A15               |                    | 934                                     |
| Au <sub>0.7</sub> Nb <sub>3</sub> Pt <sub>0.3</sub>                           | 12.5(Aannealed)                                     |                          | A15               |                    | 922#                                    |
| Au <sub>0.98-0.02</sub> Nb <sub>3</sub> Rh <sub>0.02-0.98</sub>               | 10.9-11-2.53  |                          | A15               |                    | 492                                     |
| Au <sub>1-x</sub> Nb <sub>3</sub> Sn <sub>x</sub>                             | 17.8 Max.   |                          |                   |                    | 420                                     |
| AuNb <sub>3(1-x)</sub> V <sub>3x</sub>  | 1.5-11.0  |                          | A15               |                    | 568 572#                                |
| Au <sub>2</sub> Pb  | 1.18, 7.12-5.98                                     |                          | C15               |                    | 486 640                                 |
| AuPb <sub>2</sub>   | 3.10  |                          | C16               |                    | 1377 521 475<br>087 229                 |
| AuPb <sub>3</sub>   | 4.40  |                          |                   |                    | 521 475                                 |
| Au <sub>1-x</sub> Pb <sub>x</sub>   | <1.2-7.3  |                          |                   |                    | 088 229 085<br>086 111                  |
| Au <sub>0-0.12</sub> Pb <sub>1-0.88</sub>                                     | T <sub>c</sub> <sup>1</sup> (-0.75)                 |                          |                   |                    | ▽386                                    |
| Au <sub>0.1-0.7</sub> Pb <sub>0.9-0.3</sub>                                   | 7.2-1.5   |                          |                   |                    | ▽1100                                   |
| AuPb <sub>2</sub> , AuPb <sub>3</sub> (Layers 130-<br>1000Å)                  | 4.3, 4.25   |                          |                   |                    | ▽521                                    |
| Au <sub>1-0</sub> Pb <sub>2</sub> Pd <sub>0-1</sub>                           | 3.2-3.9-2.7-<br>3.5-3                               |                          | C16               |                    | 1377                                    |
| Au <sub>x</sub> Pd <sub>1-x</sub>   |   |                          |                   | 1.0                | 037                                     |
| Au <sub>0.95</sub> Pd <sub>0.05</sub> Ga <sub>2</sub>                         | 1.75-1.69   |                          | C1                |                    | 866#                                    |
| Au <sub>0.30</sub> Pd <sub>0.033</sub> Te <sub>0.666</sub><br>(Rapid quench)  | 2.6   |                          | CUB               |                    | 1116                                    |
| Au <sub>0.167</sub> Pd <sub>0.166</sub> Te <sub>0.667</sub><br>(Rapid quench) | 4.6   |                          | CUB               |                    | 1116                                    |
| Au <sub>1-0.4</sub> Pd <sub>0-0.6</sub> Te <sub>2</sub>                       | 2.6-1.6-<br>4.5-3.8                                 |                          | CUB               |                    | 1718                                    |
| Au <sub>1-x</sub> Pt <sub>x</sub>   |   |                          |                   | 1.0                | 037 572#                                |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)  | H <sub>0</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|---|---------------------|--------------------------|-------------------|--------------------|---|
| Au <sub>1-x-y</sub> Pt <sub>x</sub> V <sub>y</sub>                                    |                     |                          |                   |                    | 1944  |
| Au <sub>5</sub> Rb  |                     |                          | D2 <sub>d</sub>   | 0.32               | 394 486   |
| Au <sub>0.5</sub> Rh <sub>0.4</sub> Ti <sub>0.91</sub>                                | 3.0                 |                          |                   |                    | 1060  |
| AuSb <sub>2</sub>   | 0.58                |                          | C2                |                    | 270 229 427   |
| Au <sub>0.25</sub> Sb <sub>0.75</sub> (Rapid quench)                                  | 6.7                 |                          | CUB               |                    | 1116  |
| Au <sub>5</sub> Sn  | 1.1-0.7             |                          | A3                |                    | 486   |
| AuSn  | 1.25                |                          | B8 <sub>1</sub>   |                    | 486   |
| Au <sub>0.2</sub> Sn <sub>0.8</sub>   | 2.38                |                          | ORTHO             |                    | 229 222   |
| Au <sub>0.88-0.83</sub> Sn <sub>0.12-0.17</sub>                                       | 0.21-0.61           |                          | HEX               |                    | 1617  |
| Au <sub>0.45-0</sub> Sn <sub>0.55-1</sub><br>(Weight fraction)                        | 2.48-3.71           |                          |                   |                    | 088 229 086<br>071  |
| Au <sub>0.92</sub> Sn <sub>0.08</sub>   |                     |                          |                   | 1.32               | 084   |
| Au <sub>x</sub> Sn <sub>1-x</sub>   | 2.0-3.8             |                          |                   |                    | 577   |
| Au <sub>0.33</sub> Ta <sub>0.67</sub>   |                     |                          | D8 <sub>b</sub>   | 1.2                | 276   |
| AuTa <sub>3</sub> (Rapid quench)  | 0.82                |                          | A2                |                    | 1795  |
| AuTa <sub>4.3</sub>   | 0.51-0.58           |                          | A15               |                    | 1015  |
| AuTe <sub>2</sub>   |                     |                          |                   | 0.012              | 1584 770 427  |
| Au <sub>3</sub> Te <sub>5</sub>   | 1.62                |                          |                   |                    | 487   |
| Au <sub>0.37-0.15</sub> Te <sub>0.63-0.85</sub><br>("Splat" cooled)                   | 1.6-3.0-<br>1.9-2.4 |                          | CUB               |                    | 1643  |
| AuTh <sub>2</sub>   | 3.65                |                          | C16               |                    | 1377 173  |
| AuTi <sub>3</sub>   |                     |                          | A15               | 0.015              | 707 980 1480<br>010 522   |
| AuTl <sub>2</sub>   | 4.25-4.35           |                          | C16               |                    | 1959  |
| Au <sub>0.27</sub> Tl <sub>0.73</sub>   | 2.04                |                          |                   |                    | 070   |
| AuTl (Eutectic)   | 1.92                |                          |                   |                    | 085   |
| Au <sub>0.28-0.60</sub> Tl <sub>0.72-0.40</sub><br>("Splat" cooled)                   | 2.35-3.75           |                          | Amorphous         |                    | 1959  |
| Au <sub>0.18-0.27</sub> V <sub>0.82-0.73</sub><br>(Various anneals,<br>order changes) | 0.3-3.0             |                          | A15               |                    | 1772  |
| Au <sub>0-0.29</sub> V <sub>1-0.71</sub>  | 5.3-0.10-<0.1       |                          | A2                |                    | 1772  |
| Au <sub>0.45-1</sub> V <sub>0.55-0</sub>  |                     |                          | A1                | 1.2                | 1772  |
| AuV <sub>3</sub> (Long range order changes)   | ~0.8-2.87           |                          | A15               |                    | 1852# 1446  |
| AuV <sub>3</sub> (Order changes)  | <0.015-3.22         | HF                       | A15               |                    | 1160 1088<br>1446 987<br>948# 857 707<br>572# 578<br>1944 270 137 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                 | $T_c$ (K)                | $H_o$ (oersted) | Crystal Structure           | $T_n$ (K)    | Refs.        |
|--|--------------------------|-----------------|-----------------------------|--------------|--------------|
| $Au_{0.23}V_{0.77}$ (As cast, levitated) | 0.66                     |                 |                             | 707          |              |
| $Au_xZn_{1-x}$                           | 0.5-0.845                |                 |                             | 624          |              |
| $Au_{0.85}Zn_{0.15}$                     |                          |                 | A1                          | 0.014        | 1617         |
| $AuZn_3$                                 | 1.21                     |                 |                             | 270          |              |
| $Au_5Zn_8$                               |                          |                 |                             | 1.28         | 084          |
| $Au_{0.12-0.05}Zr_{0.88-0.95}$           | 2.74-2.79-1.65           |                 | A3                          | 032          |              |
| $AuZr_3$                                 | 0.92                     |                 | A15                         | 270          |              |
| $AuZr_3$                                 |                          |                 | D <sub>6</sub> <sub>b</sub> | 1.02         | 270          |
| $B_{0.86}Ba_{0.14}$                      |                          |                 |                             | 1.28         | 011          |
| $B_4C$                                   |                          |                 |                             | 1.28         | 011          |
| $BCMo_2$                                 | 7.1, 5.4                 | HF              | ORTHO                       | 966# 635 497 |              |
| $B_{0-0.2}C_{1-0.8}Mo$                   | 14.3-12.5                |                 | B1                          | 1006 573 497 |              |
| $B_6Ca$                                  |                          |                 | D <sub>2</sub> <sub>1</sub> | 1.28         | 558 1815     |
| $B_6Ce$                                  |                          |                 | D <sub>2</sub> <sub>1</sub> | 0.35         | 705 1815 558 |
| $B_{2x}CeRu_{2(1-x)}$                    | Decreases from 6.2       |                 | C15                         |              | 1569         |
| $B_6Ce_{0.01}Y_{0.99}$                   | $T'_c(-0.8)$             |                 |                             |              | 1014         |
| $B_{12}Ce_xZr_{1-x}$                     | $T'_c(\text{decreases})$ |                 |                             |              | 782          |
| $BCo_2$                                  |                          |                 | C16                         | 0.06         | 1377         |
| $B_2Cr$                                  |                          |                 |                             | 1.28         | 011          |
| $BCr$                                    |                          |                 | B <sub>f</sub>              | 1.28         | 011          |
| $Cr_2B$                                  |                          |                 | C16                         | 1.20         | 010          |
| $B_6Dy$                                  |                          |                 |                             | 0.35         | 705          |
| $B_6Dy_{0.01}Y_{0.99}$                   | $T'_c(-0.65)$            |                 |                             |              | 1014         |
| $B_{12}Dy_xZr_{1-x}$                     | $T'_c(\text{decreases})$ |                 |                             |              | 782          |
| $B_{12}Er$                               |                          |                 |                             | 0.35         | 705          |
| $B_6Er_{0.01}Y_{0.99}$                   | $T'_c(+0.25)$            |                 |                             |              | 1014         |
| $B_{12}Er_xZr_{1-x}$                     | $T'_c(\text{decreases})$ |                 |                             |              | 782          |
| $B_6Eu$                                  |                          |                 | D <sub>2</sub> <sub>1</sub> | 0.35         | 705 558 1815 |
| $B_6Eu_{0.01}Y_{0.99}$                   | $T'_c(-0.3)$             |                 |                             |              | 1014         |
| $RF_{e_2}$                               |                          |                 | C16                         | 0.06         | 1377         |
| $B_6Gd$                                  |                          |                 | D <sub>2</sub> <sub>1</sub> | 0.35         | 705 558 1815 |
| $B_{12}Gd_xZr_{1-x}$                     | $T'_c(\text{decreases})$ |                 |                             |              | 782          |
| $BHf$                                    | 3.1                      |                 | B1                          |              | 1815 558 020 |
| $B_5Hf_{0.2}Mo_{1.8}$                    | 8.4-8.1                  |                 | C32                         |              | 767          |
| $B_5Hf_{0.2}Nb_{1.8}$                    | 3.6-2.6                  |                 | C32                         |              | 767          |
| $B_6Ho$                                  |                          |                 |                             | 0.35         | 705          |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                            | $T_c$ (K)                 | $H_o$ (oersted) | Crystal Structure   | $T_n$ (K) | Refs.                 |
|-------------------------------------|---------------------------|-----------------|---------------------|-----------|-----------------------|
| $B_{12}Ho$                          |                           |                 |                     | 0.35      | 705                   |
| $B_6Ho_{0.01}Y_{0.99}$              | $T_c^*(-0.4)$             |                 |                     |           | 1014                  |
| $B_{12}Ho_xZr_{1-x}$                | $T_c^*(\text{decreases})$ |                 |                     |           | 782                   |
| $Blr$                               |                           |                 |                     | 1.28      | 011                   |
| $B_6La$                             |                           |                 | $D2_1$              | 1.30      | 1815 558 705          |
| $B_6La_{1-0}Y_{0-1}$                | 6.8-<1.5                  |                 | CUB                 |           | 1840                  |
| $B_{12}Lu$                          | 0.48                      |                 |                     |           | 705                   |
| $BMn_2$                             |                           |                 | C16                 | 0.06      | 1377                  |
| $B_{2.5}Mo$                         | 7.45-5.2                  |                 | C32                 |           | 767                   |
| $B_{0.72}Mo_{0.28}$                 |                           |                 | $D8_i$              | 1.28      | 011                   |
| $B_2Mo$                             |                           |                 | C32                 | 1.0       | 767                   |
| $BMo$                               |                           |                 | $B_f$               | 1.28      | 011 497 444           |
| $BMo$                               |                           |                 | $B_g$               | 1.28      | 011 048 040           |
| $BMo_2$                             | 5.85, 5.07                |                 | C16                 |           | 1105 1377<br>1020 011 |
| $B_5Mo_{0.2}Nb_{1.8}$               | 4.3-4.0                   |                 | C32                 |           | 767                   |
| $B_5Mo_{1.7}Nb_{0.3}$               | 8.3-8.2                   |                 | C32                 |           | 767                   |
| $BMo_{2(1-x)}Re_{2x}$               | 5.1-4.3-5.3-5             |                 | C16( $x \leq 0.6$ ) |           | 1377                  |
| $B_{\sim 3}Mo_{\sim 6}S_{\sim 8}Sn$ | 15.0                      |                 |                     |           | 1309                  |
| $B_5Mo_{1.8}Sc_{0.2}$               | 8.8-8.3                   |                 | C32                 |           | 767                   |
| $BMo_{1.5}Ta_{0.5}$                 | 1.81                      |                 | C16                 |           | 1377                  |
| $BMo_{1.75}Ta_{0.25}$               | 3.05                      |                 | C16                 |           | 1377                  |
| $B_5Mo_{1.7}Ta_{0.3}$               | 7.0-5.9                   |                 | C32                 |           | 767                   |
| $B_5Mo_{1.7}Ti_{0.3}$               | 7.1-5.5                   |                 | C32                 |           | 767                   |
| $B_5Mo_{1.7}V_{0.3}$                | 5.5-5.0                   |                 | C32                 |           | 767                   |
| $B_5Mo_{1.9}Y_{0.1}$                | 8.0-7.5                   |                 | C32                 |           | 767                   |
| $B_5Mo_{1.9}Zr_{0.1}$               | 8.9-8.4                   |                 | C32                 |           | 767                   |
| $B_2Mo_{1-0.75}Zr_{0-0.25}$         | <1-10.3                   |                 |                     |           | 767                   |
| $B_5Mo_{1.69}Zr_{0.31}$             | 11.2                      |                 | C32                 |           | 767                   |
| BN                                  |                           |                 |                     | 1.28      | 011                   |
| $B_xN_{1-x}Nb; V$                   |                           |                 |                     |           | 1238                  |
| $B_{2.5}Nb$                         | 6.4                       |                 | C32                 |           | 767                   |
| $B_2Nb$                             |                           |                 | C32                 | 1.0       | 767 810 011<br>572#   |
| BNb                                 | 8.25                      |                 | $B_f$               |           | 011 444               |
| $B_{0.57}Nb_{0.43}$                 |                           |                 | $D7_b$              | 1.28      | 011                   |
| $B_2Nb_3$                           |                           |                 | TET                 | 0.1       | 927                   |
| $B_2Nb$                             |                           |                 |                     |           | 1951#                 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                            | $T_c$ (K)         | $H_o$ (oersted) | Crystal Structure           | $T_n$ (K)     | Refs.            |
|-------------------------------------|-------------------|-----------------|-----------------------------|---------------|------------------|
| $B_5Nb_{1.8}Ru_{0.2}$               | 6.0               |                 | C32                         | 767           |                  |
| $B_5Nb_{1.9}Sc_{0.1}$               | 6.6               |                 | C32                         | 767           |                  |
| $B_5Nb_{1.8}Th_{0.2}$               | 7.0               |                 | C32                         | 767           |                  |
| $B_5Nb_{1.9}Ti_{0.1}$               | 4.0               |                 | C32                         | 767           |                  |
| $B_5Nb_{1.8}V_{0.2}$                | 2.5               |                 | C32                         | 767           |                  |
| $B_5Nb_{1.9}Y_{0.1}$                | 9.3               |                 | C32                         | 767           |                  |
| $B_5Nb_{1.8}Zr_{0.2}$               | 5.9               |                 | C32                         | 767           |                  |
| $B_6Nd$                             | ~3(1815)          |                 | D <sub>2</sub> <sub>1</sub> | 0.35          | 705 558 1815     |
| $B_6Nd_{0.01}Y_{0.99}$              | $T'_c(-0.15)$     |                 |                             |               | 1014             |
| $B_{12}Nd_xZr_{1-x}$                | $T'_c(decreases)$ |                 |                             |               | 782              |
| $BNi_2$                             |                   |                 | C16                         | 0.07          | 1377             |
| $B_2Os$                             |                   |                 | C32                         | 1.02          | 270              |
| $B_{\sim 1.5}Pd(B \text{ implant})$ | 3.8 Max.          |                 |                             |               | 164              |
| $B_6Pr$                             |                   |                 | D <sub>2</sub> <sub>1</sub> | 0.35          | 705 1815 558     |
| $B_6Pr_{0.01}Y_{0.99}$              | $T'_c(-0.1)$      |                 |                             |               | 1014             |
| $B_{12}Pr_xZr_{1-x}$                | $T'_c(Decreases)$ |                 |                             |               | 782              |
| $BPt$                               |                   |                 |                             | 1.28          | 011              |
| $BRe_2$                             | 4.6, 2.8          |                 |                             |               | 465# 136<br>572# |
| $BRe_{2(1-x)}W_{2x}$                | 4.2-6-3.2         |                 | C16( $x \geq 0.25$ )        | 1377          |                  |
| $BRh$                               |                   |                 |                             | 1.28          | 011              |
| $BRh_2$                             |                   |                 | ORTHO                       | 1.0           | 141 270          |
| $B_3Rh_7$                           |                   |                 | D10 <sub>2</sub>            | 0.35          | 270              |
| $B_3Ru_7$                           | 2.58              |                 | D10 <sub>2</sub>            |               | 173              |
| $BRu_2$                             |                   |                 |                             | 1.20          | 010              |
| $B_{12}Sc$                          | 0.39              |                 |                             |               | 705              |
| $B_4Sc$                             |                   |                 | HEX                         | 1.34          | 1815 558         |
| $B_2Sc$                             |                   |                 | C32                         | 1.30          | 1815 558         |
| $B_6Sm$                             |                   |                 | D <sub>2</sub> <sub>1</sub> | 1.28          | 1815 558         |
| $B_6Sm_{0.01}Y_{0.99}$              | $T'_c(-0.4)$      |                 |                             |               | 1014             |
| $B_{12}Sm_xZr_{1-x}$                | $T'_c(decreases)$ |                 |                             |               | 782              |
| $B_2Ta$                             |                   |                 | C32                         | 1.28          | 011              |
| $B_4Ta_3$                           |                   |                 | D7 <sub>b</sub>             | 1.28          | 011              |
| $BTa$                               | 4.0               |                 | B <sub>f</sub>              | 1.28<br>(011) | 1815 558 011     |
| $BTa_2$                             |                   |                 | C16                         | 0.06          | 1377 010         |
| $B_2Ta_3$                           |                   |                 | TET                         | 0.1           | 927              |
| $BTa_{1.25}W_{0.75}$                |                   |                 | C16                         | 0.06          | 1377             |

TABLE 2 (Cont'd). Properties of Superconductive Materials.

| Material  | T <sub>c</sub> (K)          | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                     |
|---|-----------------------------|--------------------------|-------------------|--------------------|---------------------------|
| BTa <sub>1.5</sub> W <sub>0.5</sub>                   | 0.25                        |                          | C16               |                    | 1377                      |
| BTa <sub>2-0</sub> W <sub>0-2</sub>                   | <0.2-0.4-<0.2-3.2           |                          | C16(x≥0.6)        |                    | 1377                      |
| B <sub>6</sub> Tb                                     |                             |                          | D2 <sub>1</sub>   | 0.35               | 705 1815 705              |
| B <sub>6</sub> Tb <sub>0.01</sub> Y <sub>0.99</sub>   | T' <sub>c</sub> (-0.9)      |                          |                   |                    | 1014                      |
| B <sub>12</sub> Tb <sub>x</sub> Zr <sub>1-x</sub>     | T' <sub>c</sub> (decreases) |                          |                   |                    | 782                       |
| B <sub>6</sub> Th                                     | 0.74                        |                          |                   |                    | 705 558 1815              |
| B <sub>2</sub> Th                                     |                             |                          |                   | 1.77               | 040                       |
| BTh   |                             |                          |                   | 1.20               | 010 040                   |
| B <sub>2</sub> Ti                                     |                             |                          | C32               | 1.28               | 011 522                   |
| BTi   |                             |                          | B27               | 1.20               | 010 522                   |
| B <sub>12</sub> Tm                                    |                             |                          |                   | 0.35               | 705                       |
| B <sub>6</sub> Tm <sub>0.01</sub> Y <sub>0.99</sub>   | T' <sub>c</sub> (-0.4)      |                          |                   |                    | 1014                      |
| B <sub>12</sub> Tm <sub>x</sub> Zr <sub>1-x</sub>     | T' <sub>c</sub> (decreases) |                          |                   |                    | 782                       |
| BV  |                             |                          | B <sub>f</sub>    | 1.20               | 010                       |
| BV <sub>2</sub>                                       |                             |                          |                   | 1.20               | 010                       |
| B <sub>2</sub> V <sub>3</sub>                         |                             |                          | TET               | 0.1                | 927                       |
| B <sub>5</sub> W <sub>2</sub>                         |                             |                          |                   | 1.28               | 011                       |
| BW  |                             |                          | B <sub>g</sub>    | 1.28               | 011                       |
| BW <sub>2</sub>                                       | 3.22, 3.1                   |                          | C16               |                    | 1377 1105<br>1020 474 010 |
| B <sub>12</sub> Y                                     | ~4.7                        |                          |                   |                    | 705                       |
| B <sub>6</sub> Y                                      | 6.5-7.1(705)                |                          | D2 <sub>1</sub>   | 1.28<br>(1815)     | 705# 1815 558             |
| B <sub>6</sub> Y <sub>0.99</sub> Yb <sub>0.01</sub>   | T' <sub>c</sub> (-0.2)      |                          |                   |                    | 1014                      |
| B <sub>6</sub> Yb                                     |                             |                          | D2 <sub>1</sub>   | 1.28               | 558                       |
| B <sub>12</sub> Yb <sub>0.01</sub> Zr <sub>0.99</sub> | 4.4                         |                          |                   |                    | 1014                      |
| B <sub>12</sub> Zr                                    | 6.0                         |                          | CUB               |                    | 782 1484#<br>705# 1851    |
| B <sub>2</sub> Zr                                     |                             |                          | C32               | 1.80               | 040                       |
| BZr   | 3.4                         |                          | B1                |                    | 1815 558 042              |
| Ba(99.5%)   |                             |                          | A2                | 0.014              | 1233 1214 023             |
| Ba(Commercial grade)                                  |                             |                          |                   |                    |                           |
| I(0-55kbar)   | <1                          |                          |                   | <1                 | 1453 902 777<br>612 1702  |
| II(~55-85 kbar)                                       | ~1-1.8                      |                          |                   |                    |                           |
| III(~85-144 kbar)                                     | 1.8-5                       |                          |                   |                    |                           |
| IV(~144-175 kbar)                                     | 5-5.4                       |                          |                   |                    |                           |
| IV(148-192 kbar)                                      | 4.5-5.1                     |                          |                   |                    | 1702                      |
| Ba(Deposit 4.2K, 1000Å)                               | 3.0                         | HF                       |                   |                    | ▽710                      |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                          | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K)   | Refs.    |
|--|---|--------------------------|-----------------------------|--|----------|
| BaBi <sub>3</sub>                                    | 5.80  |                          | TET                         | 715 011 095<br>270   |          |
| BaHg   | 2.32-2.29                                   |                          | B2                          | 1232   |          |
| BaOSrTi(See Table 4)                                 |   |                          |                             |  |          |
| BaOTi(See Table 4)                                   |   |                          |                             |  |          |
| Ba <sub>~0.13</sub> O <sub>3</sub> W                 | 1.9   |                          | TET                         | 575  |          |
| Ba <sub>0.14</sub> O <sub>3</sub> W                  | <1.25-2.2                                   |                          | HEX                         | 644  |          |
| Ba <sub>0.1</sub> Pb <sub>3</sub> Sr <sub>0.9</sub>  | 1.75  |                          | TET                         | 1372   |          |
| BaPd <sub>2</sub>                                    |   |                          | C15                         | 1.02   | 028      |
| BaPt <sub>2</sub>                                    |   |                          | C15                         | 1.02   | 028      |
| BaRh <sub>2</sub>                                    | 6.0   |                          | C15                         | 028  |          |
| Be(Impurity 40 ppm)                                  | 0.026                                       |                          | A3                          | 783# 580# 103  |          |
| Be(Extrapolated to infinite thickness)               | 9.95  |                          |                             | ▽674   |          |
| Be(Deposited 0.3K)                                   | 9.75-9                                      |                          |                             | ▽1903 ▽1649  |          |
| Be(Deposited 4.2, 10K; to 600Å)                      | 9.6   |                          |                             | ▽1474 ▽1948#   |          |
| Be(Deposited 10K, 260Å)                              | 9.6   |                          |                             | ▽1178  |          |
| Be(Deposited 4.2, 10K; 100-1000Å)                    | 9.2-6                                       | HF                       |                             | ▽710 ▽699<br>▽101 ▽1512<br>▽395 ▽679<br>▽144 ▽1327<br>▽550 |          |
| Be(Deposited 4.2K; 25-60-180Å)                       | 6.4-8.6-5                                   |                          |                             | ▽899 ▽1479   |          |
| Be(See Table 3)                                      |   |                          |                             |  |          |
| Be <sub>13</sub> Ca                                  |   |                          | D <sub>2</sub> <sub>3</sub> | 1.38   | 1769     |
| Be <sub>13</sub> Ce                                  |   |                          | D <sub>2</sub> <sub>3</sub> | 1.4  | 1769     |
| Be <sub>0.944-0.958</sub> Co <sub>0.056-0.042</sub>  | 2.44-2.54                                   |                          | A2                          | 1057   |          |
| Be <sub>0.944</sub> Co <sub>0.056</sub> (Slow cool)  |   |                          |                             | 0.45   | 1057     |
| Be <sub>21</sub> Co <sub>5</sub> (arc melted)        |   |                          | D <sub>8</sub> <sub>2</sub> | 0.45   | 1057     |
| Be <sub>12</sub> Co                                  |   |                          | TET                         | 1.15   | 1769 712 |
| Be <sub>5</sub> Co                                   |   |                          |                             | 1.15   | 712      |
| Be <sub>13</sub> Co <sub>0-1</sub> Re <sub>1-0</sub> |   |                          |                             | 9.9  | 1769     |
| Be <sub>12</sub> Cr                                  |   |                          | TET                         | 1.4  | 1769     |
| Be <sub>2</sub> Cr                                   |   |                          | C14                         | 1.4  | 1769     |
| BeCr <sub>2</sub>                                    |   |                          | C14                         | 1.75   | 427      |
| Be <sub>22</sub> Cr <sub>x</sub> Re <sub>1-x</sub>   | ~9.8  |                          |                             |  | 1769     |
| Be <sub>0.92</sub> Cu <sub>0.08</sub>                | 0.84  |                          | A2                          | 1057   |          |
| Be <sub>0.89</sub> Cu <sub>0.11</sub>                | 1.11(arc melt or quench)<br>0.44(Slow cool) |                          | A2                          | 1057   |          |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.     |
|--|--------------------|--------------------------|-------------------|--------------------|-----------|
| Be <sub>0.858</sub> Cu <sub>0.142</sub>                    | 0.56               |                          | A2                | 1057               |           |
| Be <sub>3</sub> Cu   |                    |                          | C15               | 1.4                | 1769      |
| Be <sub>13</sub> Cu <sub>0-1</sub> Re <sub>1-0</sub>       |                    |                          |                   | 9.9                | 1769      |
| Be <sub>0.977</sub> Fe <sub>0.023</sub>                    |                    |                          |                   | 0.45               | 1057      |
| Be <sub>0.95</sub> Fe <sub>0.05</sub>                      |                    |                          |                   | 0.45               | 1057      |
| Be <sub>11</sub> Fe  |                    |                          |                   | 1.15               | 712       |
| Be <sub>2</sub> Fe   |                    |                          | C14               | 1.4                | 1769      |
| Be <sub>22</sub> Ga  | 5.7                |                          |                   |                    | 1769      |
| Be <sub>13</sub> Ga  | 5.6                |                          |                   |                    | 1769      |
| Be <sub>8</sub> Ga   | 5.7                |                          |                   |                    | 1769      |
| Be <sub>6</sub> Ga   | 6.0                |                          |                   |                    | 1769      |
| Be <sub>5</sub> Ga   | 5.8                |                          |                   |                    | 1769      |
| Be <sub>3</sub> Ga   | 6.7                |                          |                   |                    | 1769      |
| Be <sub>2</sub> Ga   | 6.3                |                          |                   |                    | 1769      |
| Be <sub>13</sub> Ga <sub>0-1</sub> Re <sub>1-0</sub>       |                    |                          |                   | 9.9                | 1769      |
| Be <sub>13</sub> Ge  |                    |                          |                   | 1.4                | 1769      |
| Be <sub>0.9</sub> Ge <sub>0.1</sub> (Deposited 10K; ~300Å) | 9.3, 8.7           |                          |                   |                    | 699       |
| Be <sub>17</sub> Hf <sub>2</sub>                           |                    |                          |                   | 1.15               | 712 1769  |
| Be <sub>13</sub> Hf  |                    |                          |                   | 1.15               | 712 1769  |
| Be <sub>13</sub> In <sub>0-1</sub> Re <sub>1-0</sub>       |                    |                          |                   | 9.9                | 1769      |
| Be <sub>0.95</sub> Ir <sub>0.05</sub>                      |                    |                          |                   | 0.45               | 1057      |
| Be <sub>13</sub> Ir  |                    |                          |                   | 1.0                | 1769      |
| Be <sub>5</sub> Ir   | 1.5                |                          |                   |                    | 1769      |
| Be <sub>13</sub> La  |                    |                          | CUB               | 0.45               | 1964      |
| Be <sub>13</sub> Li <sub>0-1</sub> Re <sub>1-0</sub>       |                    |                          |                   | 9.9                | 1769      |
| Be <sub>13</sub> Lu  |                    |                          | CUB               | 0.45               | 1964      |
| Be <sub>13</sub> Mg  |                    |                          | D2 <sub>3</sub>   | 1.4                | 1769 1922 |
| Be <sub>12</sub> MgRe                                      | 10.1               |                          |                   |                    | 1769      |
| Be <sub>13</sub> Mg <sub>0-1</sub> Re <sub>1-0</sub>       |                    |                          |                   | 9.9                | 1769      |
| Be <sub>13</sub> Mn  |                    |                          |                   | 1.4                | 1769      |
| Be <sub>12</sub> Mn  |                    |                          | TET               | 1.15               | 712 1769  |
| Be <sub>8</sub> Mn   |                    |                          | C15               | 1.4                | 1769      |
| Be <sub>2</sub> Mn   |                    |                          | C14               | 1.4                | 1769      |
| Be <sub>22</sub> Mn <sub>x</sub> Re <sub>1-x</sub>         | ~9.8               |                          |                   |                    | 1769      |
| Be <sub>22</sub> Mo  | 2.545              | HF                       | CUB               |                    | 1922 566  |
| Be <sub>13</sub> Mo  |                    |                          | TET               | 1.68               | 427       |
| Be <sub>12</sub> Mo  |                    |                          | TET               | 1.38               | 1909 1922 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                  | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.         |
|--|-------------------------------------|--------------------------|-------------------|--------------------|---------------|
| Be <sub>2</sub> Mo   |                                     |                          | C14               | 1.4                | 1769 1922 427 |
| BeMo <sub>3</sub>  |                                     |                          |                   | 1.15               | 712           |
| Be <sub>x</sub> Mo <sub>1-x</sub> (Co-sputtered)             | 8.1 Max.(at x=0.34)                 |                          |                   |                    | ▽1565         |
| Be <sub>13</sub> Mo <sub>1-0</sub> Re <sub>0-1</sub>         |                                     |                          |                   | 9.9                | 1769          |
| Be <sub>22</sub> Mo <sub>0.4</sub> Re <sub>0.6</sub>         | 8.6                                 |                          | CUB               |                    | 1822          |
| Be <sub>22</sub> Mo <sub>0.3</sub> Re <sub>0.7</sub>         | 8.6                                 |                          | CUB               |                    | 1822          |
| Be <sub>22</sub> Mo <sub>0.6</sub> Re <sub>0.4</sub>         | 8.3                                 |                          | CUB               |                    | 1822          |
| Be <sub>17</sub> Nb <sub>2</sub>                             | 1.47                                |                          |                   | 1.38<br>(1909)     | 712 1909      |
| Be <sub>12</sub> Nb  |                                     |                          | TET               | 1.38               | 1909 1922     |
| Be <sub>3</sub> Nb   |                                     |                          |                   | 1.15               | 712           |
| Be <sub>2</sub> Nb   | 2.15                                |                          |                   |                    | 712           |
| Be <sub>2</sub> Nb <sub>3</sub>                              | 2.3                                 |                          | TET               |                    | 927           |
| Be <sub>2</sub> Nb <sub>1.5</sub> Ta <sub>1.5</sub>          | 1.7                                 |                          |                   |                    | 927           |
| Be <sub>8</sub> Nb <sub>5</sub> Zr <sub>2</sub>              | 5.2                                 |                          |                   |                    | 427           |
| Be <sub>21</sub> Ni <sub>5</sub>                             | 0.72(Arc melted)<br>0.78(Slow cool) |                          | D8 <sub>2</sub>   |                    | 1057 590      |
| Be <sub>0.9</sub> Ni <sub>0.1</sub>                          | 2.38(Arc melted)                    |                          | A2                |                    | 1057          |
| Be <sub>0.9</sub> Ni <sub>0.1</sub>                          | 0.58(Slow cool)                     |                          | Compound          |                    | 1057          |
| Be <sub>0.934</sub> Ni <sub>0.066</sub>                      | 0.88(Arc melted)<br>0.66(Slow cool) |                          | Compound          |                    | 1057          |
| Be <sub>0.96</sub> Ni <sub>0.04</sub>                        | 0.76(Arc melted)                    |                          | Compound          |                    | 1057          |
| Be <sub>22</sub> Os  |                                     |                          |                   | 1.0                | 1769          |
| Be <sub>13</sub> Os  |                                     |                          |                   | 1.0                | 1769          |
| Be <sub>5</sub> Os   | 9.2                                 |                          |                   |                    | 1769          |
| Be <sub>2</sub> Os   | 3.07                                |                          |                   |                    | 712           |
| Be <sub>0.95</sub> Os <sub>0.05</sub>                        | 0.57                                |                          | Compound          |                    | 1057 590      |
| Be <sub>0.9</sub> Os <sub>0.1</sub>                          |                                     |                          |                   | 1.0                | 1769          |
| Be <sub>0.8</sub> Os <sub>0.2</sub>                          | 8.6                                 |                          |                   |                    | 1769          |
| Be <sub>0.1-0.7</sub> Os <sub>0.9-0.3</sub>                  |                                     |                          |                   | 1.0                | 1769          |
| Be <sub>22</sub> Os <sub>0-0.005</sub> Re <sub>1-0.995</sub> | ~9.8                                |                          |                   |                    | 1769          |
| Be <sub>13</sub> Os <sub>0-1</sub> Re <sub>1-0</sub>         |                                     |                          |                   | 9.9                | 1769          |
| Be <sub>0.86</sub> Pb <sub>0.14</sub>                        | 9.7(Extrapolated<br>bulk value)     |                          |                   |                    | ▽1903         |
| Be <sub>22</sub> Pd  |                                     |                          |                   | 0.45               | 1057 1769     |
| Be <sub>13</sub> Pd  |                                     |                          |                   | 1.0                | 1769          |
| Be <sub>12</sub> Pd  |                                     |                          | TET               | 1.4                | 1769          |
| Be <sub>5</sub> Pd   |                                     |                          | C15 <sub>b</sub>  | 0.35               | 270 1769 037  |
| Be <sub>22</sub> Pd <sub>0-0.005</sub> Re <sub>1-0.995</sub> | ~8.8                                |                          |                   |                    | 1769          |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                 | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.            |
|--|------------------------------------|--------------------------|-------------------|--------------------|------------------|
| Be <sub>13</sub> Pd <sub>0-1</sub> Re <sub>1-0</sub>         |                                    |                          |                   | 9.9                | 1769             |
| Be <sub>0.95</sub> Pt <sub>0.005</sub>                       |                                    |                          |                   | 0.45               | 1057             |
| Be <sub>5</sub> Pt   | 2.3                                |                          |                   |                    | 1769             |
| Be <sub>13</sub> Pt <sub>0-1</sub> Re <sub>1-0</sub>         |                                    |                          |                   | <9.9               | 1769             |
| Be <sub>22</sub> Pt <sub>0-0.005</sub> Re <sub>1-0.995</sub> | ~9.8                               |                          |                   |                    | 1769             |
| Be <sub>22</sub> Re  | 9.33<br>9.55 (Annealed)            | HF                       | CUB               |                    | 1390 566         |
| Be <sub>2</sub> Re   |                                    |                          | C14               | 1.4                | 1769 427         |
| Be <sub>0.995-0.92</sub> Re <sub>0.005-0.08</sub>            | 8.9-9.75 (Quenched)                | HF                       |                   |                    | 567# 1390        |
| Be <sub>0.98</sub> Re <sub>0.02</sub>                        | 9.75 (Quenched)                    | HF                       | CUB               |                    | 567 1390         |
| Be <sub>0.957</sub> Re <sub>0.043</sub>                      | 9.67 (Annealed)<br>9.62 (Quenched) |                          |                   |                    | 567#             |
| Be <sub>0.96</sub> Re <sub>0.04</sub>                        | 9.50                               | HF                       |                   |                    | 1390 590<br>1057 |
| Be <sub>22</sub> Re <sub>0.95</sub> Os <sub>0.05</sub>       | 9.2                                | HF                       |                   |                    | 1390             |
| Be <sub>13</sub> Re <sub>1-0</sub> Rh <sub>0-1</sub>         |                                    |                          |                   | 9.9                | 1769             |
| Be <sub>22</sub> Re <sub>1-0.99</sub> Ru <sub>0-0.01</sub>   | 9.8-9.2                            | HF                       |                   |                    | 1769 1390        |
| Be <sub>13</sub> Re <sub>1-0</sub> Ru <sub>0-1</sub>         |                                    |                          |                   | 9.9                | 1769             |
| Be <sub>13</sub> Re <sub>1-0</sub> Ti <sub>0-1</sub>         |                                    |                          |                   | 9.9                | 1769             |
| Be <sub>13</sub> Re <sub>1-0</sub> V <sub>0-1</sub>          |                                    |                          |                   | 9.9                | 1769             |
| Be <sub>13</sub> Re <sub>1-0</sub> W <sub>0-1</sub>          |                                    |                          |                   | 9.9                | 1769             |
| Be <sub>22</sub> Re <sub>0.95</sub> W <sub>0.05</sub>        | 9.45                               | HF                       |                   |                    | 1390             |
| Be <sub>13</sub> Re <sub>1-0</sub> Zr <sub>0-1</sub>         |                                    |                          |                   | 9.9                | 1769             |
| Be <sub>49</sub> Rh  |                                    |                          |                   | 1.4                | 1769             |
| Be <sub>22</sub> Rh  |                                    |                          |                   | 1.0                | 1769             |
| Be <sub>0.95</sub> Rh <sub>0.05</sub>                        |                                    |                          |                   | 0.45               | 1057             |
| Be <sub>13</sub> Rh  |                                    |                          |                   | 1.0                | 1769             |
| Be <sub>8.5</sub> Rh   |                                    |                          |                   | 1.4                | 1769             |
| Be <sub>5</sub> Rh   |                                    |                          |                   | 1.0                | 1769             |
| Be <sub>4.4</sub> Rh   |                                    |                          |                   | 1.4                | 1769             |
| Be <sub>2</sub> Rh   | 1.37                               |                          |                   |                    | 712 1922<br>1769 |
| BeRh   |                                    |                          |                   | 1.4                | 1769             |
| Be <sub>22</sub> Ru  |                                    |                          |                   | 1.0                | 1769             |
| Be <sub>13</sub> Ru  | 1.3                                |                          |                   |                    | 1769             |
| Be <sub>17</sub> Ru <sub>3</sub>                             |                                    |                          |                   | 1.15               | 712              |
| Be <sub>5</sub> Ru   |                                    |                          |                   | 1.0                | 1769             |
| Be <sub>2</sub> Ru   | 1.35                               |                          |                   |                    | 712              |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)         | $H_o$ (oersted)     | Crystal Structure | $T_n$ (K) | Refs.                                   |
|---|-------------------|---------------------|-------------------|-----------|---|
| $\text{Be}_{0.95}\text{Ru}_{0.05}$                | 1.47              |                     | Compound          | 1057 590  |   |
| $\text{Be}_? \text{S}_?$                          |                   |                     |                   | 1.4       | 1769                                    |
| $\text{Be}_{22,13,2}$                             |                   |                     |                   | 1.4       | 1769                                    |
| $\text{Be}_{0.62}\text{Si}_{0.38}$ (Rapid quench) | ~9-0 (Very broad) |                     |                   |           | 1784                                    |
| $\text{Be}_x\text{Si}_{1-x}\text{V}_3$            | 17-15.6           |                     |                   |           | 1983                                    |
| $\text{Be}_{12}\text{Ta}$                         |                   |                     | TET               | 1.38      | 1909 1922                               |
| $\text{Be}_{17}\text{Ta}_2$                       |                   |                     |                   | 1.38      | 1909                                    |
| $\text{Be}_2\text{Ta}_3$                          | 1.0               |                     | TET               |           | 927                                     |
| $\text{BeTa}_2$                                   |                   |                     | C16               | 0.06      | 1377                                    |
| $\text{BeTc}$                                     | 5.21              |                     | CUB               |           | 566                                     |
| $\text{Be}_{13}\text{Th}$                         |                   |                     | D2 <sub>3</sub>   | 0.04      | 1769 1964#<br>712                       |
| $\text{Be}_{17,12,4,2,1}\text{Ti}$                |                   |                     |                   | 1.4       | 1769                                    |
| $\text{Be}_{13,12}\text{Ti}$                      |                   |                     |                   | 1.15      | 712                                     |
| $\text{Be}_2\text{Ti}$                            |                   |                     | C15               | 1.02      | 270                                     |
| $\text{Be}_{13}\text{U}$                          |                   |                     | D2 <sub>3</sub>   | 0.04      | 1769 1909<br>1964                       |
| $\text{Be}_{22}\text{W}$                          | 4.12              | HF                  | CUB               |           | 1922 566                                |
| $\text{Be}_{13}\text{W}$                          | 4.1               |                     | TET               |           | 427                                     |
| $\text{Be}_{12}\text{W}$                          |                   |                     | TET               | 1.7       | 1922                                    |
| $\text{Be}_{21}\text{W}_5$                        |                   |                     |                   | 1.15      | 712                                     |
| $\text{Be}_2\text{W}$                             |                   |                     | C14               | 1.4       | 1769 427                                |
| $\text{Be}_{13}\text{Y}$                          |                   |                     |                   | 1.4       | 1769                                    |
| $\text{Be}_{16}\text{Zr}$                         |                   |                     | D2 <sub>3</sub>   | 1.15      | 712                                     |
| $\text{Be}_{13}\text{Zr}$                         |                   |                     | D2 <sub>3</sub>   | 1.15      | 1909 1769<br>712 427                    |
| $\text{Be}_{17}\text{Zr}_2$                       |                   |                     |                   | 1.15      | 712                                     |
| $\text{Be}_2\text{Zr}$                            |                   |                     | C32               | 1.4       | 1769 427                                |
| Bi (I)  |                   |                     | A7                | 0.05      | 012 078 1264                            |
| Bi (II) (25-27 kbar)                              | 3.9               | 320(785)<br>HF(437) |                   |           | 203 213 214<br>1701 1282<br>437 199 785 |
| Bi III (~37, 27-28.4 kbar)                        | 6.55, 7.25        | HF(437)             |                   |           | 973 203 213<br>214 1282<br>1701 437 199 |
| Bi IV (43, 43-62, 90-250; kbar)                   | 7.0; 8.7-6.0      |                     |                   |           | 903 1702                                |
| Bi V (68, 81 kbar)                                | 6.7, 8.3          |                     |                   |           | 903 780 904                             |
| Bi VI (90 kbar) (Exists from 92-101 kbar)         | 8.55              |                     |                   |           | 903 1701 904                            |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|--|------------|-----------------|-------------------|-----------|---|
| Bi VII (30 kbar?)  | 8.2        |                 |                   |           | 1701  |
| Bi(680 Å, 750 Å)(Deposit 1.5, 4.2 K)   | 6.17, 6.15 |                 |                   |           | $\nabla_{737}$ $\nabla_{1548}$<br>$\nabla_{1218}$ $\nabla_{1562}$<br>$\nabla_{1136}$ $\nabla_{078}$<br>$\nabla_{213}$ $\nabla_{215}$<br>$\nabla_{152}$ $\nabla_{251}$<br>$\nabla_{388}$ $\nabla_{395}$<br>$\nabla_{773}$ $\nabla_{602}$ |
| Bi(500-30 Å)(Deposited at $^3\text{He}$ Temp.)   | 6.13-2.3   |                 |                   |           | $\nabla_{1893}$ $\nabla_{1545}$<br>$\nabla_{1868}$  |
| Bi(50-~15 Å)   | ~5-~2      |                 |                   |           | $\nabla_{1259}$   |
| Bi(Ne, Xe)(Deposit 10 K)   | Decreases  |                 |                   |           | $\nabla_{1229}$   |
| Bi(Cr, Mn)(Deposited at low Temp)  |            |                 |                   |           | $\nabla_{296}$  |
| Bi(470-2750 Å)(Deposit ~8 K)   | 6.14       | HF              |                   |           | $\nabla_{1541}$ $\nabla_{1679}$   |
| BiC  |            |                 |                   | 0.3       | 606   |
| $\text{Bi}_{0.3}\text{C}_{1.45}\text{Y}_{0.7}$   |            |                 |                   | 4.0       | 870   |
| $\text{Bi}_{0.1}\text{C}_{1.45}\text{Y}_{0.9}$   | 9.35       |                 | D5 <sub>c</sub>   |           | 870   |
| Bi <sub>3</sub> Ca   | 2.0        |                 |                   |           | 153 008 028<br>002  |
| Bi <sub>2</sub> Ca <sub>3</sub>  |            |                 |                   | 1.38      | 008   |
| Bi <sub>0.6</sub> Cd <sub>0.4</sub> (Weight fraction)  | 0.53       | Data given      |                   |           | 1204  |
| BiCd(Eutectic)   |            |                 |                   | 1.88      | 099   |
| Bi <sub>0.28</sub> Cd <sub>0.19</sub> In <sub>0.53</sub> (Weight fraction)                     | 5.85       | HF              |                   |           | 1917  |
| Bi <sub>0.5</sub> Cd <sub>0.125</sub> Pb <sub>0.25</sub> Sn <sub>0.125</sub> (Weight fraction) | 8.20       |                 |                   |           | 109   |
| Bi <sub>0.5</sub> Cd <sub>0.1</sub> Pb <sub>0.27</sub> Sn <sub>0.13</sub>                      |            | HF              |                   |           | 402   |
| Bi <sub>0.396</sub> Cd <sub>0.594</sub> Sn <sub>0.0099</sub> (Weight fraction)                 |            |                 |                   | 1.3       | 1917  |
| Bi <sub>0.54</sub> Cd <sub>0.20</sub> Sn <sub>0.26</sub> (Weight fraction)                     | 3.69       | HF              |                   |           | 1917  |
| Bi <sub>2</sub> Ce   |            |                 |                   | 1.28      | 011 008   |
| BiCe   |            |                 | B1                | 1.28      | 011 158   |
| BiCo   | 0.49-0.42  |                 |                   |           | 606   |
| BiCo <sub>0.1</sub> Sc <sub>0.9</sub>  |            |                 |                   | 1.1       | 262   |
| Bi <sub>2</sub> Cr   |            |                 |                   | 1.57      | 002   |
| BiCr   |            |                 |                   | 0.3       | 606   |
| Bi <sub>2</sub> Cs   | 4.75       |                 | C15               |           | 052# 007 153  |
| BiCs <sub>3</sub>  |            |                 | CUB               | 1.5?      | 052 158   |
| BiCs <sub>2</sub>  |            |                 |                   | 1.5?      | 052   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                       | $T_c$ (K)                      | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.  |
|--|--------------------------------|-----------------|-------------------|-----------|--|
| BiCu   | 2.20                           |                 |                   |           | 154 099 197  |
| $Bi_x Cu_{1-x}$ (Electrodeposited)             | 2.2                            |                 |                   |           | 197  |
| BiCu   | 1.40-1.33                      |                 |                   |           | 606  |
| $BiCu_3$                                       |                                |                 |                   | 1.5?      | 095  |
| BiCuMg   |                                |                 | C1 <sub>b</sub>   | 1.28      | 011  |
| BiFe   |                                |                 |                   | 0.3       | 606  |
| $Bi_{0.15} Ga_{0.15} Nb_3 Sn_{0.7}$            | 18.04                          |                 |                   |           | 1982   |
| $Bi_{0.25} Ga_{0.25} Nb_3 Sn_{1-0.5}$          | 18.05-18.3-17.4                |                 |                   |           | 1982   |
| $Bi_2 Ge$                                      |                                |                 |                   | 1.28      | 011  |
| $Bi_{0.15} Ge_{0.15} Nb_3 Sn_{0.7}$            | 17.75                          |                 |                   |           | 1982   |
| $BiIn_2$                                       | 5.60                           | 870             | HEX               |           | 1198# 634<br>122 1978  |
| $BiIn_2$ (Intrinsic Type II)<br>(RRR=60-72)    | 5.87                           | 590, HF         |                   |           | 1978   |
| BiIn   |                                |                 | B10               | 0.5       | 634, 122   |
| $Bi_3 In_5$                                    | ~4.2, 4.1                      |                 | Data given        |           | 1112 634   |
| $Bi_{0.42-0.85} In_{0.58-0.15}$<br>(0-24 kbar) | 7.3-7.8                        |                 |                   |           | 1919   |
| $Bi_{0.34-0.48} In_{0.66-0.52}$                | 4.0-4.1                        |                 |                   |           | 634  |
| $Bi_{0-0.05} In_{1-0.95}$                      | 3.398-4.25                     | HF              |                   |           | 1650 799   |
| $Bi_{0-0.003} In_{1-0.997}$                    | $T_c(-0.0129+$<br>$0.0119)$    |                 |                   |           | 319 320  |
| $Bi_{0.343} In_{0.657}$                        | 5.55, 5.20<br>(30 kbar)        |                 |                   |           | 843  |
| $Bi_{0.15-0.30} In_{0.85-0.70}$                | 5.3-5.4                        |                 |                   |           | 634  |
| $Bi_{0.1} In_{0.9}$                            | 5.05                           |                 |                   |           | 634  |
| $Bi_{0.05} In_{0.95}$                          | 4.65                           |                 |                   |           | 634  |
| $Bi_{0.025} In_{0.975}$ (0-18 kbar)            | 4.07-3.47                      |                 |                   |           | 1247   |
| $Bi_{0.02} In_{0.98}$                          | 3.845                          | HF              |                   |           | 1121 666<br>1612 544   |
| $Bi_{0.019} In_{0.981}$                        | 3.86                           | 336             |                   |           | 722  |
| $Bi_{0.015} In_{0.985}$                        | 3.725                          | HF              |                   |           | 842 666  |
| BiIn(Co-condensed 4.2K)                        | 7.95 Max.                      | HF              |                   |           | $\nabla 1732 \nabla 1235$<br>$\nabla 1619 \nabla 1089$<br>$\nabla 822$ |
| $Bi_{0.15} In_{0.15} Nb_3 Sn_{0.7}$            | 18.01                          |                 |                   |           | 1982   |
| BiIr   |                                |                 |                   | 0.35      | 491  |
| BiIr <sub>2</sub>                              |                                |                 |                   | 0.35      | 491  |
| $Bi_2 Ir$                                      | 3.96-3.0(Quenched)<br>~2.3-1.7 |                 |                   |           | 606  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                      |
|---|--------------------|--------------------------|-------------------|--------------------|----------------------------|
| Bi <sub>2</sub> K   | 3.58               |                          | C15               |                    | 153# 094 008<br>014 198    |
| Bi <sub>2</sub> K(0-10 kbar)  | 3.57-3.9-3.7       | HF                       |                   |                    | 897                        |
| BiK   | 3.6?               |                          |                   |                    | 095                        |
| Bi <sub>2</sub> K <sub>3</sub>  |                    |                          |                   | 3.6                | 008                        |
| BiK <sub>3</sub>  |                    |                          | DO <sub>18</sub>  | 1.40               | 008 153                    |
| BiLi  | 2.455              |                          | L1 <sub>o</sub>   |                    | 1351 153#<br>008 013       |
| BiLi <sub>3</sub>   |                    |                          | DO <sub>3</sub>   | 1.43               | 008                        |
| Bi <sub>2</sub> Mg <sub>3</sub>   |                    |                          | D5 <sub>2</sub>   | 1.4-1.5            | 008 158 060                |
| Bi <sub>4.9</sub> Mg  | ~1-0.70            |                          |                   |                    | 606                        |
| BiMn  |                    |                          | B8 <sub>1</sub>   | 0.3                | 606 011 009<br>158         |
| BiMo  |                    |                          |                   | 1.28               | 011                        |
| Bi <sub>3</sub> Mo  | 3.7-3.0            |                          |                   |                    | 606                        |
| BiNa <sub>3</sub>   |                    |                          | DO <sub>18</sub>  | 1.40               | 008 198                    |
| BiNa  | 2.25               |                          | L1 <sub>o</sub>   |                    | 004 153# 198<br>014        |
| BiNb <sub>3</sub> (High P and Temp.)                                    | 2-4.5              |                          | A15               |                    | 508 311                    |
| BiNb <sub>3</sub>   |                    |                          | CUB               | 2.25               | 508                        |
| Bi <sub>0-0.3</sub> Nb <sub>3</sub> Sn <sub>1-0.7</sub>                 | 18-18.2-18.09      |                          |                   |                    | 1982 311 299               |
| Bi <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.85</sub> (Sintered)        | 18.23              |                          |                   |                    | 1982                       |
| Bi <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.7</sub> Tl <sub>0.15</sub> | 18.12              |                          |                   |                    | 1982                       |
| Bi <sub>3</sub> Ni  | 4.06               |                          | ORTHO             |                    | 008 062 011<br>153         |
| BiNi  | 4.25               |                          | B8 <sub>1</sub>   |                    | 008 037 153                |
| Bi <sub>x</sub> NiSb <sub>1-x</sub>                                     |                    |                          | B8 <sub>1</sub>   | 1.4                | 396                        |
| BiOs  |                    |                          |                   | 0.3                | 606                        |
| Bi <sub>~0.65</sub> Pb <sub>~0.35</sub> (Weight fraction, eutectic)     | 8.8, 8.7           | HF(402)                  |                   |                    | 085 082 109<br>402 404 406 |
| Bi <sub>0.5</sub> Pb <sub>0.5</sub>                                     | 8.4                | HF                       |                   |                    | 310 384 080                |
| Bi <sub>0.45</sub> Pb <sub>0.55</sub>                                   | 8.4                | 1083                     |                   |                    | 1485                       |
| Bi <sub>0.38</sub> Pb <sub>0.62</sub> -0.12                             | 8.5-4.6            | HF(1102)                 |                   |                    | 851 1102                   |
| Bi <sub>0.35</sub> Pb <sub>0.65</sub>                                   | 8.7                | HF                       |                   |                    | 403 404 406                |
| Bi <sub>0.3</sub> Pb <sub>0.7</sub>                                     | 8.63               | HF                       |                   |                    | 1318                       |
| Bi <sub>0.26</sub> Pb <sub>0.74</sub>                                   | 8.3                |                          |                   |                    | 851                        |
| Bi <sub>0.23</sub> Pb <sub>0.77</sub>                                   | 7.8                |                          |                   |                    | 851                        |
| Bi <sub>0.2</sub> Pb <sub>0.8</sub>                                     | 8.15               | HF                       |                   |                    | 402 404                    |
| Bi <sub>0.1</sub> Pb <sub>0.9</sub>                                     | 7.95               | HF                       |                   |                    | 402 404 322<br>348         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)       | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)     | Refs. |
|--|--------------------------|--------------------------|-------------------|------------------------|-------|
| Bi <sub>0.07</sub> Pb <sub>0.93</sub>  | 7.7                      | HF                       |                   | 402 404                |       |
| Bi <sub>0.05-0.40</sub> Pb <sub>0.95-0.60</sub>  | 7.35-8.4                 | HF                       |                   | 677 949 685            |       |
| Bi <sub>0-0.56</sub> Pb <sub>1-0.44</sub>  |                          | HF                       |                   | 855 1288 322           |       |
| Bi <sub>0-0.2</sub> Pb <sub>1-0.8</sub>  | 7.25-8.0                 |                          | A1                | 851                    |       |
| Bi <sub>0-0.11</sub> Pb <sub>1-0.89</sub>  | T <sub>c</sub> '(+0.39)  |                          |                   | 1133 861               |       |
| Bi <sub>0-0.2</sub> Pb <sub>1-0.98</sub>   | T <sub>c</sub> '(± 0.07) |                          |                   | 1165 852               |       |
| Bi <sub>0.01-0.05</sub> Pb <sub>0.99-0.95</sub>  |                          | 890-810-941              |                   | 1724#                  |       |
| Bi <sub>1-0</sub> Pb <sub>0-1</sub>  | 7.26-9.14                |                          |                   | 083                    |       |
| Bi <sub>0.7-0.95</sub> Pb <sub>0.3-0.05</sub> (P~20 kbar)                                      | 8-5, 5-6                 |                          |                   | 1746                   |       |
| Bi <sub>0.625</sub> Pb <sub>0.375</sub>  | 8.05                     |                          |                   | 843                    |       |
|  | 7.25(After 30 kbar)      |                          |                   |                        |       |
| Bi <sub>0.575</sub> Pb <sub>0.425</sub> (P=12-18 kbar)   | 7.96-8.03                |                          | HEX               | 1457                   |       |
| Bi <sub>0.1-1</sub> Pb <sub>0.9-0</sub> (Amorphous, deposit 4.2K)                              | 6-7.1                    |                          |                   | 851 ▽1126              |       |
| Bi <sub>0.45</sub> Pb <sub>0.55</sub> (Amorphous)  | 7.0                      | 916                      |                   | 1485                   |       |
| Bi <sub>0.3-0.56</sub> Pb <sub>0.7-0.44</sub> (In porous glass ~20-60Å)                        | 6.2-8.5                  | HF                       |                   | 1459 1716<br>1319 1045 |       |
| Bi <sub>1-0</sub> Pb <sub>0-1</sub>  | 7.25-8.67                | HF                       |                   | ▽484 ▽1235<br>▽750     |       |
| Bi <sub>0.25-0.75</sub> Pb <sub>0.75-0.25</sub> (Quench condensed)                             | 6.9-7.0                  |                          |                   | ▽1548                  |       |
| Bi <sub>0.25</sub> Pb <sub>0.75</sub> (Deposit 4.2K, 1260Å)                                    | 6.9                      | HF                       |                   | ▽1774 ▽1949<br>▽1545   |       |
| Bi <sub>0-0.56</sub> Pb <sub>1-0.44</sub> (Weight fraction, ~1500Å)                            | 7.3-8.5                  |                          |                   | ▽1865                  |       |
| Bi <sub>1-0.92</sub> Pb <sub>0-0.08</sub> (500-1100Å)  | 6.154-6.032              |                          |                   | ▽737                   |       |
| Bi <sub>0.95</sub> Pb <sub>0.05</sub>  |                          |                          |                   | 1.03 ▽484              |       |
| BiPbSb   | 8.9                      |                          |                   | 111                    |       |
| BiPbSb(In porous glass, 32Å, 57Å)  | 7.83, 8.15               | HF                       |                   | 1459                   |       |
| Bi <sub>0.08-0.46</sub> Pb <sub>0.84-0.24</sub> Sb <sub>0.08-0.30</sub> (In porous glass, 32Å) | 7.2-6.9-8.16             | HF                       |                   | 1459                   |       |
| Bi <sub>0.525</sub> Pb <sub>0.32</sub> Sn <sub>0.155</sub> (Weight fraction)                   | 8.68                     | HF                       |                   | 1917 109 402           |       |
| Bi <sub>0.5</sub> Pb <sub>0.25</sub> Sn <sub>0.25</sub>  | 8.5                      |                          |                   | 109                    |       |
| Bi <sub>0-0.4</sub> Pb <sub>1-0</sub> Tl <sub>0-1</sub>  | 7.36-1.2                 |                          | CUB               | 1308                   |       |
| Bi <sub>0.015-0.15</sub> Pb <sub>0.97-0.7</sub> Tl <sub>0.015-0.15</sub>                       | 7.204-7.376              | HF                       |                   | 1713                   |       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                       | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                       |
|---|--|--------------------------|-------------------|--------------------|-----------------------------|
| Bi <sub>0-0.025</sub> Pb <sub>1-0.975</sub> Tl <sub>0-0.025</sub>       | T <sub>c</sub> <sup>1</sup> (-0.01+0.02) |                          |                   |                    | 1165                        |
| Bi <sub>~0.01</sub> Pb <sub>0.98</sub> Tl <sub>~0.01</sub>              |  | 828                      |                   |                    | 1724#                       |
| Bi <sub>2</sub> Pd  | 4.25                                     |                          | TET               | 006 050 056<br>153 |                             |
| Bi <sub>2</sub> Pd  | 1.73                                     |                          | MONO              | 008 006 050<br>056 |                             |
| BiPd  | 3.74                                     |                          | ORTHO             | 030 005 050<br>107 |                             |
| Bi <sub>0.33</sub> Pd <sub>0.67</sub>                                   | 4(broad)                                 |                          |                   |                    | 005 050 095                 |
| Bi <sub>0.25</sub> Pd <sub>0.75</sub>                                   |  |                          |                   | Data given         | 145                         |
| Bi <sub>0.4</sub> Pd <sub>0.6</sub>                                     | 3.7-4                                    |                          | B8 <sub>1</sub>   |                    | 198 425                     |
| BiPdSe  | 1.0                                      |                          | C2                |                    | 413 414                     |
| BiPdTe  | 1.2                                      |                          | C2                |                    | 413 414                     |
| BiPr  |  |                          | B1                | Data given         | 158 270                     |
| Bi <sub>2</sub> Pt(beta)  | 0.155, 0.18                              | 9.5                      | HEX, C2           |                    | 060 1993 158<br>002 095 051 |
| Bi <sub>2</sub> Pt(Low Temp. form-alpha)                                |  |                          |                   | 1.45-1.8           | 002 051                     |
|   | 2.4, 1.21                                |                          | B8 <sub>1</sub>   |                    | 158 129 037                 |
| Bi <sub>3</sub> Pt  |  |                          |                   | 1.8                | 002                         |
| Bi <sub>0.1-1</sub> PtSb <sub>0.0-0</sub>                               | 1.21-2.05                                |                          | B8 <sub>1</sub>   |                    | 396                         |
| BiPtSe  | 1.45                                     |                          | C2                |                    | 413 414                     |
| BiPtTe  | 1.15                                     |                          | C2                |                    | 413 414                     |
| Bi <sub>2</sub> Rb  | 4.25                                     |                          | C15               |                    | 053 007 153                 |
| BiRb <sub>2</sub> , BiRb <sub>3</sub> , Bi <sub>2</sub> Rb <sub>3</sub> |  |                          |                   | Data given         | 053                         |
| BiRe <sub>2</sub>   | 2.20-1.9                                 |                          |                   |                    | 606                         |
| Bi <sub>2</sub> Rh(Alpha form)  |  |                          | MONO              | 1.34               | 059 002 057<br>008 287      |
| Bi <sub>2</sub> Rh(Beta form)   |  |                          | MONO              | 1.30               | 059 057 008                 |
| BiRh  | 2.06-2.2                                 |                          | B8 <sub>1</sub>   |                    | 1588 061 008<br>153         |
| Bi <sub>3</sub> Rh  | 3.2                                      |                          | ORTHO             |                    | 059 057 145<br>153 286      |
| Bi <sub>0.8</sub> Rh <sub>0.2</sub>                                     | 2.7                                      |                          | HEX               |                    | 155 057 145<br>153 059      |
| Bi <sub>4</sub> Rh(Alpha form)  |  |                          | CUB               | 0.10               | 002 055 057<br>059          |
| BiRu, BiRu <sub>2</sub>   |  |                          |                   | 0.35               | 491                         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                 | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                    |
|--|------------------------------------|--------------------------|-------------------|--------------------|--------------------------|
| BiRu   | 5.7, 4.12 3.31<br>2.7-<2(quenched) |                          |                   |                    | 606                      |
| Bi <sub>2</sub> S  |                                    |                          |                   | 1.90               | 119                      |
| BiS  |                                    |                          |                   | 0.3                | 606                      |
| BiS <sub>3</sub>   |                                    |                          |                   | Quoted             | 008                      |
| Bi <sub>2</sub> S <sub>3</sub>                                   |                                    |                          | D5 <sub>8</sub>   | 0.10               | 060 270 084<br>119       |
| BiSb   |                                    |                          |                   | 1.28               | 011                      |
| Bi <sub>1-0.95</sub> Sb <sub>0-0.05</sub> (~700-900Å)            | 6.154-6.374                        |                          |                   |                    | ▽737                     |
| Bi <sub>1-0.4</sub> Sb <sub>0-0.6</sub> (Deposit 77K)            | 5.8-1.7                            |                          |                   |                    | ▽1904 ▽1538#             |
| BiSc   |                                    |                          |                   | 0.3                | 606 262                  |
| Bi <sub>2</sub> Se <sub>3</sub>                                  |                                    |                          |                   | 1.26               | 084                      |
| Bi <sub>0-0.01</sub> Si <sub>1-0.99</sub>                        |                                    |                          |                   |                    | 320                      |
| Bi <sub>3</sub> Sn   | 3.77-3.72<br>3.67-3.63             |                          |                   |                    | 606                      |
| Bi <sub>0.57</sub> Sn <sub>0.43</sub> (Weight fraction)          | 2.25                               | HF                       |                   |                    | 1917                     |
| Bi <sub>0.6</sub> Sn <sub>0.4</sub> (~25 kbar, 77K)              | 7.0                                | HF                       |                   |                    | 1091                     |
| Bi <sub>0.5</sub> Sn <sub>0.5</sub> (~25 kbar, 77K)              | 7.2, 788                           | HF                       | MON               |                    | 1091 1084                |
| BiSn   | 3.72<br>4.20 (30 kbar)             |                          |                   |                    | 843                      |
| BiSn(Eutectic)   | 3.80                               | 130(at 3.48K)            |                   |                    | 070 090 085              |
| Bi <sub>0.4</sub> Sn <sub>0.6</sub> (~25 kbar, 77K)              | 7.34                               | HF                       |                   |                    | 1091                     |
| Bi <sub>0.02-0.10</sub> Sn <sub>0.98-0.9</sub>                   | 3.85-4.18                          |                          |                   |                    | 036                      |
| Bi <sub>0.1-0.8</sub> Sn <sub>0.9-0.2</sub> (~30 kbar,<br>~360K) | 6.5-7.4                            | HF                       |                   |                    | 1701 ▽1089               |
| Bi <sub>0-0.01</sub> Sn <sub>1-0.99</sub>                        | 3.730-3.734,<br>3.700              |                          | TET               |                    | 318# 320 345<br>341 1153 |
| Bi <sub>3</sub> Sr   | 5.7, 5.62                          | 530                      | L1 <sub>2</sub>   |                    | 011 095 198<br>715       |
| Bi <sub>3</sub> Te   | ~1.0-0.75                          |                          |                   |                    | 606                      |
| Bi <sub>2</sub> Te <sub>3</sub> (See Table 4)                    |                                    |                          |                   | 1.26               | 084                      |
| BiTe <sub>2</sub> Tl(See Table 4)                                |                                    |                          |                   |                    |                          |
| Bi <sub>5</sub> Th <sub>3</sub>                                  |                                    |                          |                   | 1.13               | 1582                     |
| BiTi <sub>3</sub>  |                                    |                          | TET               | 1.15               | 712 1582 412             |
| Bi <sub>0.86</sub> Tl <sub>0.14</sub> (after 30 kbar)            | 6.50                               |                          |                   |                    | 843 1878                 |
| Bi <sub>0.62-0.18</sub> Tl <sub>0.38-0.02</sub>                  | 6.6-2.3                            |                          |                   |                    | 736 1264                 |
| Bi <sub>5</sub> Tl <sub>3</sub>                                  | 6.4                                | HF                       |                   |                    | 090 404 085<br>109 074   |
| Bi <sub>0.26</sub> Tl <sub>0.74</sub>                            | 4.4(Disordered)<br>4.15(ordered)   |                          |                   |                    | 265                      |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)                       | $H_o$ (oersted) | Crystal Structure | $T_n$ (K)   | Refs.       |
|---|---------------------------------|-----------------|-------------------|-------------|-------------|
| $\text{Bi}_x\text{Tl}_{1-x}$                                  | $T_c^1 (+0.16)$                 |                 | HEX               | 858 591 209 |             |
| $\text{Bi}_{1-0.87}\text{Tl}_{0-0.13}$ (550-820 Å)            | 6.154-6.220                     |                 |                   | ▽737 ▽990   |             |
| $\text{Bi}_{0.85}\text{Tl}_{0.15}$ (1260 Å, 1500 Å)           | 6.23, 6.2                       | HF              |                   | ▽1774 ▽1949 |             |
| $\text{BiV}_3$  |                                 |                 | A15               | 4.2         | 825         |
| $\text{BiW}$  |                                 |                 |                   | 0.3         | 606         |
| $\text{Bi}_2\text{Y}_3$                                       | 2.25                            |                 |                   |             | 173         |
| $\text{BiY}$  |                                 |                 | B1                | Discussed   | 411         |
| $\text{Bi}_3\text{Zn}$  | 0.87-0.77                       |                 |                   |             | 606         |
| $\text{BiZr}_3$   | 2.84-2.35<br>3.4-0.4 (Annealed) |                 |                   |             | 606         |
| $\text{Bi}_{0.3}\text{Zr}_{0.7}$                              | 1.51                            |                 |                   |             | 270         |
| $\text{Bi}_2\text{Zr}$  |                                 |                 |                   | 1.13        | 1582        |
| $\text{Br}_2\text{Cu}$  |                                 |                 |                   | 1.28        | 011         |
| C(pyrolytic graphite)   |                                 |                 |                   | 0.011       | 494         |
| C(Graphite and carbons)                                       |                                 |                 |                   | 1.3         | 046         |
| C(See Table 3)  |                                 |                 |                   |             |             |
| $\text{C}_{1.35}\text{Ca}_{0.1}\text{Y}_{0.9}$                | 10.5-11.5                       |                 |                   |             | 870         |
| $\text{CCdTi}_2$  |                                 |                 | HEX               | 1.1         | 632         |
| $\text{C}_2\text{Ce}$   |                                 |                 |                   | 1.28        | 011 784     |
| $\text{C}_3\text{Ce}_{0.2}\text{Th}_{1.8}$                    |                                 |                 | D5 <sub>c</sub>   | 4.0         | 1222        |
| $\text{CCo}_{0.05-0.01}\text{Ta}_{0.95-0.99}$                 | Data given                      |                 |                   |             | 262 263 271 |
| $\text{C}_2\text{Cr}_3$                                       |                                 |                 |                   | 1.28        | 011 010     |
| $\text{C}_{0.3}\text{Cr}_{0.71}\text{C}_{0.2}\text{Cr}_{0.8}$ |                                 |                 |                   | 1.20        | 010         |
| $\text{C}\text{Cr}_2\text{Ga}$                                |                                 |                 | HEX               | 1.1         | 632         |
| $\text{C}_{1.45}\text{Cr}_{0.1}\text{Y}_{0.9}$                | 12.4                            |                 | D5c               |             | 870         |
| $\text{C}_8\text{Cs}(\text{Gold})$                            | 0.020-0.135                     |                 | HEX               |             | 494         |
| $\text{C}_{16}\text{Cs}(\text{Blue})$                         |                                 |                 |                   | 0.011       | 494         |
| $\text{C}_2\text{Dy}$   |                                 |                 |                   | 2.0         | 784         |
| $\text{C}_2\text{Er}$   |                                 |                 |                   | 2.0         | 784         |
| $\text{C}_3\text{Er}_{0.4}\text{Th}_{1.6}$                    | 8.2                             |                 | D5 <sub>c</sub>   |             | 1222        |
| $\text{C}_3\text{Er}_{0.6}\text{Th}_{1.4}$                    | 8.1                             |                 | D5 <sub>c</sub>   |             | 1222        |
| $\text{C}_3\text{Er}_{0.8}\text{Th}_{1.2}$                    | 7.0                             |                 | D5 <sub>c</sub>   |             | 1222        |
| $\text{C}_3\text{ErTh}$                                       | 4.6                             |                 | D5 <sub>c</sub>   |             | 1222        |
| $\text{C}_3\text{Er}_{0.1}\text{Th}_{1.9}$                    | 6.8                             |                 | D5 <sub>c</sub>   |             | 1222        |
| $\text{C}_3\text{Er}_{0.2}\text{Th}_{1.8}$                    | 8.2                             |                 | D5 <sub>c</sub>   |             | 1222        |
| $\text{C}_{1.5}\text{Er}_x\text{Th}_{1-x}$                    | 4-8-4.6                         |                 | CUB               |             | 1971        |
| $\text{CFe}_3$  |                                 |                 |                   | 1.3         | 119         |
| $\text{CGaLa}_3$  |                                 |                 | CUB               | 1.02        | 1564        |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)       | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.               |
|--|-----------------|-----------------|-------------------|-----------|---------------------|
| $\text{CGaMo}_2$   | 4.1-3.7         |                 | HEX               |           | 635                 |
| $\text{C}_2\text{Gd}$                                      |                 |                 |                   | 2.0       | 784                 |
| $\text{C}_{1.5}\text{Ge}_3\text{La}_5$                     | 3.3-3.7         |                 | CUB               |           | 767                 |
| $\text{C}_{10}\text{Ge}_{0.01-0.16}\text{Sc}_{13}$         | 7.0-8.5         |                 | CUB               |           | 871                 |
| $\text{C}_{0.05}\text{Ge}_3\text{V}_5$                     |                 |                 | $D_{8g}$          | 1.02      | 270                 |
| $\text{C}_{1.35}\text{Ge}_{0.1}\text{Y}_{0.9}$             | 10.6            |                 | $D_{5c}$          |           | 870                 |
| $\text{CHf}$   |                 |                 | B1                | 1.23      | 920 119 238<br>1813 |
| $\text{C}_{0.985}\text{Hf}$                                |                 |                 |                   | 1.28      | 559 558 560         |
| $\text{CHf}_2\text{In}$                                    |                 |                 | HEX               | 1.1       | 632                 |
| $\text{CHf}_{0.0-0.75}\text{Mo}_{0.1-0.25}$                |                 |                 | B1                | 1.4       | 559 558 560         |
| $\text{CHf}_{0.5-0.07}\text{Mo}_{0.5-0.93}$                | 3.4-9.0-8.2     |                 | B1                |           | 559 558 560         |
| $\text{C}_{0.75}\text{Hf}_{0.05}\text{Mo}_{0.95}$          | 14.2            |                 | B1                |           | 650                 |
| $\text{CHf}_{0-0.2}\text{Mo}_{1-0.8}$                      | 14.3-11.7       |                 | B1                |           | 1006                |
| $\text{CHf}_{0.9-0.75}\text{Mo}_{0.1-0.25}$                |                 |                 | B1                | 1.4       | 1813                |
| $\text{CHf}_{0.15}\text{Mo}_{0.85}$                        | 9.0             |                 | B1                |           | 1813                |
| $\text{CHf}_{0.5-0}\text{Mo}_{0.5-1}$                      | 3.4-9.0-6.5     |                 | B1                |           | 1813                |
| $\text{C}_{0.1-0.35}\text{HfN}_{0.9-0.65}$                 | 8.5-4.9         |                 |                   |           | 1238                |
| $\text{C}_{0-1}\text{Hf}_{0-1}\text{Nb}_{1-0}$             | 14.9-15.5-12.7  |                 | B1                |           | 1238                |
| $\text{C}_{0.25}\text{Hf}_{0-0.5}\text{Nb}_{0.75-1-0.5}$   | 17.4-8.5        |                 |                   |           | 1511                |
| $\text{C}_{0-0.25}\text{Hf}_{0-0.25}\text{Nb}_{1-0.75}$    | 14.7-12.8       |                 |                   |           | 1511                |
| $\text{Nb}_{1-0.75}$                                       |                 |                 |                   |           |                     |
| $\text{C}_{0.25}\text{Hf}_{0-0.25}\text{Nb}_{0.75-1-0.75}$ | 17.4-12.7       |                 |                   |           | 1511                |
| $\text{CHf}_{0.8-0.2}\text{Nb}_{0.2-0.8}$                  | 5.4-6.1-4.5-7.8 |                 | B1                |           | 559 558 560         |
| $\text{CHf}_{0.9}\text{Nb}_{0.1}$                          |                 |                 | B1                | 4.2       | 559 558 560         |
| $\text{CHf}_{0.9-0.1}\text{Ta}_{0.1-0.9}$                  | 5.0-9.0         |                 | B1                |           | 559 558 560         |
| $\text{CHf}_{0.6}\text{Zr}_{0.4}$                          |                 |                 | B1                | 1.28      | 558                 |
| $\text{C}_2\text{Ho}$                                      |                 |                 |                   | 2.0       | 784                 |
| $\text{C}_3\text{Ho}_{0.6}\text{Th}_{1.4}$                 | 5.2             |                 | $D_{5c}$          |           | 1222                |
| $\text{C}_3\text{Ho}_{0.4}\text{Th}_{1.6}$                 | 5.5             |                 | $D_{5c}$          |           | 1222                |
| $\text{C}_3\text{Ho}_{0.2}\text{Th}_{1.8}$                 | 5.4             |                 | $D_{5c}$          |           | 1222                |
| $\text{C}_{1.5}\text{Ho}_x\text{Th}_{1-x}$                 | 4-5.5-5.2       |                 | CUB               |           | 1971                |
| $\text{CInLa}_3$   |                 |                 | CUB               | 1.02      | 1564                |
| $\text{CInNb}_2$   |                 |                 | HEX               | 1.1       | 632                 |
| $\text{C}_{1.35}\text{In}_{0.15}\text{Y}_{0.85}$           |                 |                 |                   | 4.0       | 870                 |
| $\text{CInZr}_2$   |                 |                 | HEX               | 1.1       | 632                 |
| $\text{CIr}_2\text{Mo}_3$                                  | 1.8             |                 | CUB               |           | 793                 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)     | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.  |
|--|------------------------|--------------------------|-----------------------------|--------------------|--|
| C Ir Mo <sub>3</sub>   | 3.2                    |                          | CUB                         |                    | 793  |
| C <sub>2</sub> IrU <sub>2</sub>  |                        |                          | TET                         | 0.3                | 1018   |
| C Ir <sub>2</sub> W <sub>3</sub>   | 2.1                    |                          | CUB                         |                    | 793  |
| C <sub>8</sub> K(gold)   | 0.55, 0.39             | HF                       | HEX                         |                    | 494  |
| C <sub>16</sub> K(blue)  |                        |                          | HEX                         | 0.011              | 494  |
| C <sub>2</sub> La  | 1.44, 1.61             |                          | C <sub>11</sub> a           |                    | 784 863 1148   |
| C <sub>1.58</sub> La   | 9.6                    |                          | CUB                         |                    | 1148   |
| C <sub>3</sub> La <sub>2</sub>   | 11.0                   |                          | D <sub>5</sub> <sub>c</sub> |                    | 1971 869 1148  |
| C <sub>1.3</sub> La  | 8.3(Arc melt)          |                          | CUB                         |                    | 1148   |
| C <sub>13</sub> La(Prepared with high P)   | 4.8                    |                          | CUB                         |                    | 1148   |
| CLa <sub>3</sub> Pb  |                        |                          | CUB                         | 1.02               | 1564   |
| CLa <sub>3</sub> Sn  |                        |                          | CUB                         | 1.02               | 1564   |
| C <sub>1.45</sub> La <sub>0.5</sub> Th <sub>0.5</sub> (P preparation)                      | 14.2                   |                          | CUB                         |                    | 1148   |
| C <sub>1.45</sub> La <sub>0.1-0.8</sub> Th <sub>0.9-0.2</sub><br>(Arc Melt)                |                        |                          |                             | 3.9                | 1148   |
| C <sub>1.2-1.6</sub> La <sub>0.1-0.9</sub> Th <sub>0.9-0.1</sub><br>(Various preparations) | 10.2, 10.6-<br>14.3    |                          | CUB                         |                    | 1148   |
| C <sub>1.4</sub> La <sub>x</sub> Th <sub>1-x</sub>   | 4-14.2...<br>14.2-4    |                          | CUB                         |                    | 1971   |
| C <sub>1.5</sub> La <sub>0.9</sub> Th <sub>0.1</sub>                                       | 12.9                   |                          | CUB                         |                    | 1971   |
| CLa <sub>3</sub> Tl  |                        |                          | CUB                         | 1.02               | 1564   |
| C <sub>2</sub> Lu  | 3.33(863)              |                          | TET                         | 2.0                | 863 784  |
| C <sub>1.5</sub> Lu <sub>0-0.4</sub> Th <sub>1-0.6</sub>                                   | 4-11.7-11.5            |                          | CUB                         |                    | 1971   |
| C <sub>3</sub> Lu <sub>0.8-0.2</sub> Th <sub>1.2-1.8</sub>                                 | 11.6-11.7-10.3         |                          | D <sub>5</sub> <sub>c</sub> |                    | 1222   |
| CMn  |                        |                          | HEX                         | 1.7                | 1795   |
| CMn <sub>0.02</sub> Mo <sub>0.98</sub> ("Splat" cooled)                                    |                        |                          | CUB                         | 1.7                | 1795   |
| CMo  | 14.3                   |                          | B1                          |                    | 1006 1036<br>1824  |
| CMo(Quenched)  | 9.26, 7.7, 6.5         | HF(1098)                 | HEX                         |                    | 011 1824 021<br>069 089 333<br>815 558 119<br>1132 1098<br>559 560 497 |
| CMo <sub>2</sub>   | 6, 4, 10.8, 12         |                          | ORTHO                       |                    | 966 650 1132<br>069 089  |
| CMo <sub>2</sub>   | 3.45-5.8, 7.1,<br>2.78 | HF(1098)                 | L <sub>3</sub>              |                    | 1132 815 011<br>069 089  |
| C <sub>0.44</sub> Mo <sub>0.56</sub>   | 13.0                   |                          |                             |                    | 1824   |
| C <sub>0.69</sub> Mo   | 12.1                   | HF                       | B1                          |                    | 966#   |
| C <sub>0.64</sub> Mo   | 8.0                    | HF                       | HEX                         |                    | 966#   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)               | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.        |
|--|-------------------------|-----------------|-------------------|-----------|--------------|
| $C_{0.42}Mo$   | 2.8                     |                 | $L_3^1$           |           | 966#         |
| $C_{0.40-0.44}Mo_{0.60-0.56}$<br>(Various hot pressings<br>and quench) | 9-13                    |                 |                   |           | 573 571 691  |
| $C_{0.4}Mo_{0.6}$ (plus 2% VC)   | 11.2-13.2               |                 |                   |           | 571          |
| $C_{0-0.9}Mo_{1-0.1}$ (Deposit 78K,<br>$60\text{\AA}$ plus)            | 1.3-6.9-<1.5            |                 |                   |           | ▽1734        |
| $C_{0.2}Mo_{0.8}$ ( $60\text{\AA}$ plus 0- $80\text{\AA}$<br>C coat)   | 5.9-7.3-6.7-<br>6.8-6.7 |                 |                   |           | ▽1733        |
| $C_{0-0.2}Mo_{0-0.2}N_{1-0.8}Nb_{1-0.8}$                               | 14.7-15.5-12.2          |                 |                   |           | 1511         |
| $CMo_{1-0}Nb_{0-1}$  | 11.1-10.8-14.3          |                 | B1                |           | 1006 128 117 |
| $CMo_3Pt_2$  | 1.1 (onset)             |                 | CUB               |           | 793          |
| $C_{1-0}Mo_{2-0}Re_{0-1}$  | 2.8-4.3-3.4-<br>5-1.7   |                 | HEX               |           | 1799 1366    |
| $C_2MoRe$  | 3.8                     |                 | CUB               |           | 793          |
| $CMo_{0.9}Re_{0.1}$  | 13.8                    |                 | B1                |           | 1006         |
| $CMo_3Re_2$  |                         |                 | HEX               | 1.0       | 793          |
| $CMo_{0.9}Ru_{0.1}$  | 13.6                    |                 | B1                |           | 1006         |
| $C_{0.6}Mo_{4.8}Si_{0.3}$  | 7.6                     |                 | $D_8^2$           |           | 650          |
| $CMo_{0.85-0.2}Ta_{0.15-0.8}$  | 8.9-7.5                 |                 | B1                |           | 559 558 560  |
| $CMo_{1-0}Ta_{0-1}$  | 6.5-8.9-7.4             |                 | B1                |           | 1813         |
| $CMo_{0.85}Ta_{0.15}$  | 8.9                     |                 | B1                |           | 1813         |
| $CMo_{1-0}Ta_{0-1}$  | 10.1-8.3-14.3           |                 | B1                |           | 1006         |
| $CMo_{0.83}Ti_{0.17}$  | 10.2                    |                 | B1                |           | 522 128 117  |
| $CMo_{1-0.8}Ti_{0-0.2}$  | 14.3-12.0               |                 | B1                |           | 1006         |
| $CMo_{1-0.8}V_{0-0.2}$   | 14.3-12.7               |                 | B1                |           | 1006         |
| $C_{0.5}Mo_{0.25-0.4}V_{0.25-0.1}$                                     | 2.9-9.30                |                 |                   |           | 128 117      |
| $CMo_{1-0}W_{0-1}$   | 14.3-8.8-10.0           |                 | B1                |           | 1006         |
| $C_{1.45}Mo_{0.1}Y_{0.9}$  | 13.8                    |                 | $D_5^c$           |           | 870          |
| $CMo_{1-0.8}Zr_{0-0.2}$  | 14.3-10.9               |                 | B1                |           | 1006         |
| $C_{0.5}Mo_{0.17}Zr_{0.42}$  | 3.8-9.5                 |                 |                   |           | 128 117      |
| $C_{0.25}N_{0.75}Hf_xNb_{1-x}$   | 17.6-8.5                |                 |                   |           | 1238         |
| $C_{0-1}N_{1-0}Nb_{1-0}$   | 14.0-18.0-11            |                 | B1                |           | 1238         |
| $C_{0-1}N_{1-0}Nb$   | 14.7-17.7-10.7          |                 |                   |           | 1511         |
| $C_{0.1-0.9}N_{0.9-0.1}Nb$   | 16.7-17.8-10.5          |                 | B1                |           | 559 558 561  |
| $C_{0.35}N_{0.65}Nb$   | 17.8                    |                 | B1                |           | 559          |
| CNNb   | 17.3 max.               |                 |                   |           | 1383         |
| $C_{0.1}N_xNb$   | 11-17-16                |                 |                   |           | 1234         |
| $C_{0.2}N_xNb$   | 13-17.5                 |                 |                   |           | 1234         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)  | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                                 |
|---|---------------------|--------------------------|-------------------|--------------------|---------------------------------------|
| C <sub>0.3</sub> N <sub>x</sub> Nb  | 14-17.8             |                          |                   |                    | 1234                                  |
| C <sub>0.5</sub> N <sub>x</sub> Nb  | 14.5-17.8           |                          |                   |                    | 1234                                  |
| C <sub>0.25-0.3</sub> N <sub>0.75-0.7</sub> Nb  | 17.8                |                          |                   |                    | 037 1234<br>1510#                     |
| C <sub>0.026</sub> N <sub>0.974</sub> Nb  | 17.2-17.3           |                          |                   |                    | 1234                                  |
| CNNb  |                     | HF                       |                   |                    | 1038 572#                             |
| C <sub>x</sub> N <sub>1-x</sub> Nb(Whiskers)  | 8.5-17.3            | HF                       |                   |                    | 582                                   |
| C <sub>0-0.3</sub> N <sub>1-0.7</sub> Nb <sub>1-0.7</sub> Ta <sub>0-0.3</sub>               | 14.7-13-15.7        |                          |                   |                    | 1511                                  |
| C <sub>0.25</sub> N <sub>0.75</sub> Nb <sub>1-0.6</sub> Ta <sub>0-0.4</sub>                 | 17.4-15             |                          |                   |                    | 1511                                  |
| C <sub>0-1</sub> N <sub>1-0</sub> Nb <sub>1-0</sub> Ta <sub>0-1</sub>                       | 14.9-16.5-10.2      |                          | B1                |                    | 1238                                  |
| C <sub>0-0.4</sub> N <sub>1-0.6</sub> Nb <sub>1-0.6</sub> Ti <sub>0-0.4</sub>               | 14.7-18-16.8        |                          |                   |                    | 1511                                  |
| C <sub>0.25</sub> N <sub>0.75</sub> Nb <sub>1-0.5</sub> Ti <sub>0-0.5</sub>                 | 17.4-17.8-15.5      |                          |                   |                    | 1511                                  |
| C <sub>0.25</sub> N <sub>0.75</sub> Nb <sub>0.85</sub> Ti <sub>0.15</sub>                   | 17.8                |                          |                   |                    | 1511                                  |
| C <sub>1-0</sub> N <sub>0-1</sub> Nb <sub>0-1</sub> Ti <sub>1-0</sub>                       | 14.9-17.8-<2.5      |                          | B1                |                    | 1238                                  |
| C <sub>0.25</sub> Nb <sub>0.75</sub> Nb <sub>1-x</sub> Ti <sub>x</sub>                      | 17.6-17.8-16        |                          |                   |                    | 1238                                  |
| C <sub>0.15</sub> N <sub>0.85</sub> Nb <sub>0.85</sub> Ti <sub>x</sub> Zr <sub>0.15-x</sub> | 17.5-14.7           |                          |                   |                    | 1238                                  |
| C <sub>0.25</sub> N <sub>0.75</sub> Nb <sub>0.85</sub> Ti <sub>x</sub> Zr <sub>0.15-x</sub> | 17.7-15.5           |                          |                   |                    | 1238                                  |
| C <sub>0-1</sub> N <sub>1-0</sub> Nb <sub>0-1</sub> V <sub>1-0</sub>                        | 14.9-<2.5           |                          | B1                |                    | 1238                                  |
|   | 8.7-8.8-<2.3-11.1   |                          | B1                |                    | 1238                                  |
| C <sub>0.2</sub> N <sub>0.8</sub> Nb <sub>0.8</sub> V <sub>0.2</sub>                        | 5.5                 |                          |                   |                    | 1511                                  |
| C <sub>0.25</sub> N <sub>0.75</sub> Nb <sub>1-0.62</sub> V <sub>0-0.38</sub>                | 17.4-4.0            |                          |                   |                    | 1511 1238                             |
| C <sub>0-1</sub> N <sub>1-0</sub> Nb <sub>1-0</sub> Zr <sub>0-1</sub>                       | 17.6-11.5           |                          | B1                |                    | 1238                                  |
| C <sub>1-0.62</sub> N <sub>0-0.38</sub> Ta  | 10-11.3             |                          | B1                |                    | 1824                                  |
| C <sub>0-1</sub> N <sub>1-0</sub> Ta <sub>0-1</sub> V <sub>1-0</sub>                        | 8.7-<2.3-10.0       |                          |                   |                    | 1238                                  |
| C <sub>0-1</sub> N <sub>1-0</sub> Th  | <2-5.6-3.3          |                          | B1                |                    | 1971                                  |
| C <sub>0.78</sub> N <sub>0.22</sub> Th  | 5.6                 |                          | B1                |                    | 1971                                  |
| C <sub>0-1</sub> N <sub>1-0</sub> Ti <sub>0-1</sub> V <sub>1-0</sub>                        | 8.7-<2.3            |                          |                   |                    | 1238                                  |
| C <sub>0-1</sub> N <sub>1-0</sub> V   | 8.7-9.7-<2.3        |                          |                   |                    | 1238                                  |
| C <sub>1</sub> Nb <sub>1</sub>  | 12-14(Extrapolated) |                          |                   |                    | 271                                   |
| C <sub>0.98</sub> Nb  | 11.56               |                          |                   |                    | 1703#                                 |
| C <sub>0.99-0.80</sub> Nb   | 11.18-11.56-<1.5    |                          | B1                |                    | 1703# 1510#<br>559 558 560            |
| C <sub>0.977-0.83</sub> Nb  | 11.1-1.05           |                          | B1                |                    | 1961 271                              |
| C <sub>0.79-0.70</sub> Nb   |                     |                          | B1                | 1.05               | 1961 1510#<br>271                     |
| C <sub>~0.7-0.99</sub> Nb   | <2-11               |                          | B1                |                    | 967# 497 271                          |
| C <sub>~1</sub> Nb  | 11.1 max.           |                          | B1                |                    | 1542# 1238<br>1006 270 010<br>011 069 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)          | Refs.                       |
|--|--------------------|--------------------------|-------------------|-----------------------------|-----------------------------|
| C~1Nb  |                    | HF                       |                   | 1244 582 571<br>1035 1038   |                             |
| CNb <sub>2</sub>   | 9.1(474)           |                          | HEX               | 1.98<br>(284<br>397<br>967) | 474 284 397<br>010 067 572# |
| C <sub>x</sub> Nb(Whiskers)                                  | 7.5-10.5           | HF                       |                   |                             | 582                         |
| C <sub>x</sub> Nb <sub>1-x</sub> (Deposited 700°C)           | <2.5-9.6           | HF                       |                   |                             | ~1345                       |
| C <sub>0.05</sub> Nb <sub>5</sub> Si <sub>3</sub>            |                    |                          | D8 <sub>8</sub>   | 1.02                        | 270                         |
| CNb <sub>2</sub> Sn  |                    |                          | HEX               | 1.1                         | 632                         |
| C <sub>0-0.05</sub> Nb <sub>3</sub> Sn(Vapor deposition)     | 18.2-16.3          |                          | A15               |                             | 1804                        |
| CNb <sub>1-0</sub> Ta <sub>0-1</sub>                         | 11.1-8.9-10.1      |                          | B1                |                             | 1006                        |
| CNb <sub>1-0</sub> Ta <sub>0-1</sub>                         | 8.2-13.9           |                          |                   |                             | 628                         |
| CNb <sub>0.4</sub> Ta <sub>0.6</sub>                         | 10-13.6            | HF                       | CUB               |                             | 990                         |
| CNb <sub>0.2-0.8</sub> Ta <sub>0.8-0.2</sub>                 | 9.4-9.7            |                          | B1                |                             | 559 560 558                 |
| CNb <sub>0.9-0.1</sub> Ti <sub>0.1-0.9</sub>                 | 8.8-4.6-5-<4.2     |                          | B1                |                             | 559 558 560                 |
| CNb <sub>0.1</sub> Ti <sub>0.9</sub>                         |                    |                          | B1                | 4.2                         | 559 558 560                 |
| CNb <sub>0.9-0.5</sub> V <sub>0.1-0.5</sub>                  | 5.7-<~2            |                          |                   |                             | 1238                        |
| CNb <sub>1-0</sub> W <sub>0-1</sub>                          | 11.1-13.5-10.0     |                          | B1                |                             | 1006                        |
| CNb <sub>0.9-0.6</sub> W <sub>0.1-0.4</sub>                  | 11.6-12.7-12.5     |                          | B1                |                             | 558                         |
| C <sub>1.35</sub> Nb <sub>0.1</sub> Y <sub>0.9</sub>         | 10.8               |                          | D5 <sub>c</sub>   |                             | 870                         |
| CNb <sub>0.9-0.1</sub> Zr <sub>0.1-0.9</sub>                 | 8.4-4.8-6.4-4.2    |                          | B1                |                             | 559 558 560                 |
| C <sub>2</sub> Nd  |                    |                          |                   | 2.0                         | 784                         |
| C <sub>3</sub> Nd <sub>0.2</sub> Th <sub>1.8</sub>           |                    |                          | D5 <sub>d</sub>   | 4                           | 1222                        |
| C <sub>2</sub> OsU <sub>2</sub>                              |                    |                          | TET               | 0.3                         | 1018                        |
| COs <sub>2</sub> W <sub>3</sub>                              | 2.9                |                          | CUB               |                             | 793                         |
| CPbTi <sub>2</sub>   |                    |                          | HEX               | 1.1                         | 632                         |
| C <sub>0.6</sub> Pd(Ion implant)                             | 1.3 Max.           |                          |                   |                             | 164                         |
| C <sub>2</sub> Pr  |                    |                          |                   | 2.0                         | 784                         |
| C <sub>3</sub> Pr <sub>0.2, 0.4</sub> Th <sub>1.8, 1.6</sub> |                    |                          | D5 <sub>c</sub>   | 4                           | 1222                        |
| C <sub>2</sub> PtU <sub>2</sub>                              | 1.47               |                          | TET               |                             | 1018                        |
| CPt <sub>2</sub> W <sub>3</sub>                              | 1.2                |                          | CUB               |                             | 793                         |
| C <sub>8</sub> Rb(Gold)                                      | 0.023-0.151        |                          |                   |                             | 494                         |
| C <sub>16</sub> Rb(Blue)                                     |                    |                          |                   | 0.011                       | 494                         |
| C <sub>0.04</sub> Re <sub>0.96</sub> (Quenched)              | 1.98               |                          |                   |                             | 712                         |
| C <sub>0-1</sub> Re <sub>1-0</sub> W <sub>2-0</sub>          | 2.7-3-1.7          |                          | HEX               |                             | 1799                        |
| C <sub>2</sub> ReW   | 3.8                |                          | CUB               |                             | 793                         |
| CRe <sub>2</sub> W <sub>3</sub>                              |                    |                          | A13               | 1.0                         | 793                         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)          | $H_o$ (oersted) | Crystal Structure           | $T_n$ (K)            | Refs.   |
|---|--------------------|-----------------|-----------------------------|----------------------|---|
| $C_{0.01-0.08}Re_W$                               | 2.6-5.0-1.3        | HF              |                             | 603                  |   |
| $C_{1.35}Re_{0.3}Y_{0.7}$                         |                    |                 |                             | 4.0                  | 870   |
| $CRh$   | 1.6                |                 | B <sub>1</sub>              |                      | 1735 011  |
| $CRh$ (Prepared 160-180 kbar and Temp. to 1000°C) | 3.4                |                 | B1                          |                      | 1735  |
| $C_2RhU_2$  |                    |                 | TET                         | 0.3                  | 1018  |
| $C_2Ru$   | ~2.04(112)?        |                 |                             | 1.90                 | 112 119   |
| $C_2RuU_2$  |                    |                 | TET                         | 0.3                  | 1018  |
| $C_{1.35}Ru_{0.1}Y_{0.9}$                         | 11.2               |                 | D5 <sub>c</sub>             |                      | 870   |
| $C_{1.35}Ru_{0.3}Y_{0.7}$                         |                    |                 |                             | 4.0                  | 870   |
| $C_{0.96}Sc$                                      |                    |                 | B1                          | 1.38                 | 558   |
| $C_3Sc_4$   |                    |                 | CUB                         | 1.0                  | 871   |
| $C_3Sc_{0.2-1}Th_{1.8-1}$                         | 6.7-7.2-6.0-7.1    |                 | D5 <sub>c</sub>             |                      | 1222  |
| $C_3Sc_{1.4}Th_{0.6}$                             | 5.4                |                 |                             |                      | 1222  |
| $C_3Sc_{0-1.2}Th_{2-0.8}$                         | 4-7.0              |                 | CUB                         |                      | 1971  |
| $CSi$   |                    |                 |                             | 1.28                 | 011   |
| $C_{0.05}Si_3V_5$                                 |                    |                 | D8 <sub>8</sub>             | 0.35                 | 270   |
| $C_{1.35}Si_{0.1}Y_{0.9}$                         | 11.3               |                 | D5 <sub>c</sub>             |                      | 870   |
| $C_2Sm$   |                    |                 |                             | 2.0                  | 784   |
| $C_{1.35}Sn_{0.1}Y_{0.9}$                         | 10.2               |                 | D5 <sub>c</sub>             |                      | 870   |
| $CTa$   | 10.35              | HF              | B1                          |                      | 1542# 1244<br>1006 1238<br>571                                      |
| $C_{0.83-0.99}$                                   | 1.9-9.9            |                 | B1                          |                      | 271 1703#<br>1961 967#<br>333 263 069<br>040 018 010<br>559 558 560 |
| $C_{0.754}Ta$                                     |                    |                 | B1                          | 1.05                 | 1961 271  |
| $C_{0.47}Ta$                                      |                    |                 | C6                          | 1.6                  | 967#  |
| $CTa_2$   | 3.26               |                 | L <sub>3</sub> <sup>1</sup> | 1.98<br>(397<br>284) | 010 474 264<br>397 284  |
| $CTa$ (Sputtered, 947Å)                           | 5.09               |                 | B1                          |                      | 7505  |
| $CTa_{0.4}Ti_{0.6}$                               | 4.8                |                 | B1                          |                      | 558   |
| $CTa_{1-0}W_{0-1}$                                | 10.1-10.2-9.0-10.0 |                 | B1                          |                      | 1006  |
| $CTa_{0.45}W_{0.55}$                              | 10.5               |                 |                             |                      | 128   |
| $CTa_{0.5}W_{0.5}$                                | 10.1               |                 |                             |                      | 694   |
| $CTa_{1-0.4}W_{0-0.6}$                            | 8.5-10             |                 | B1                          |                      | 694   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                               | $T_c$ (K)            | $H_o$ (oersted) | Crystal Structure | $T_n$ (K)           | Refs.                              |
|--|----------------------|-----------------|-------------------|---------------------|------------------------------------|
| $C_{Ta_{0.9-0.3}Zr_{0.1-0.7}}$         | 8.3-4.6-5.1          |                 | B1                |                     | 559 558 560                        |
| $C_{Ta_{0.2}}Zr_{0.8}$                 |                      |                 | B1                | 4.2                 | 559                                |
| $C_2Tb$                                |                      |                 |                   | 2.0                 | 784                                |
| $CTc$ (Excess C)                       | 3.85                 |                 | CUB               |                     | 633                                |
| $CTh$                                  |                      |                 | B1                | 1.2                 | 1971 010<br>1148                   |
| $C_{112-1000 ppm}^{Th}$                | $T_c'(-0.095)$       | Data given      |                   |                     | 1291                               |
| $C_{1.45}^{Th}$                        | 4.1                  |                 | CUB               | 3.9<br>(Arc melted) | 1148                               |
| $C_{1.35-1.55}^{Th}0.1-0.9Y_{0.9-0.1}$ | 12-17.0              |                 | D5 <sub>c</sub>   |                     | 870                                |
| $C_{1.2-2.0}^{Th_x}Y_{1-x}$            |                      |                 | TET               | 4.0                 | 870                                |
| $C_{1.5}^{Th}0.1-0.7Y_{0.9-0.3}$       | 12-17-14.3<br>4-15.2 |                 | CUB               |                     | 1971                               |
| $C_{1.55}^{Th}0.3Y_{0.7}$              | 17.0                 |                 | D5 <sub>c</sub>   |                     | 870                                |
| $C_{1.35}^{Th}0.9, 0.8Y_{0.1, 0.2}$    |                      |                 |                   | 4.0                 | 870                                |
| $C_{1.55}^{Th}0.7Y_{0.3}$              |                      |                 |                   | 4.0                 | 870                                |
| $C_{1.65}^{Th}0.4Y_{0.6}$              |                      |                 |                   | 4.0                 | 870                                |
| $CTi$                                  |                      |                 | B1                | 1.20                | 010 333 559<br>558 560 522<br>1238 |
| $C_{0.91-0.69}^{Ti}$                   |                      |                 | CUB               | 1.5                 | 790                                |
| $C_{0.46, 0.52}^{Ti}$                  | 3.32, 3.42           | HF              | CUB               |                     | 790                                |
| $CTi_{0.4-0.7}V_{0.6-0.3}$             |                      |                 |                   | ~2                  | 1238                               |
| $CTi_{0.7-0.5}W_{0.3-0.5}$             | 2.1-6.7              |                 | B1                |                     | 558                                |
| $CTi_{0.8}W_{0.2}$                     |                      |                 | B1                | 1.38                | 558                                |
| $C_{1.45-1.55}^{Ti}0.1Y_{0.9}$         | 14.2-14.5            |                 | D5 <sub>c</sub>   |                     | 870                                |
| $C_{1.50}^{Ti}0.3Y_{0.7}$              | 12.9                 |                 | D5 <sub>c</sub>   |                     | 870                                |
| $C_{1.35}^{Ti}0.1Y_{0.9}$              | 10.7                 |                 | D5 <sub>c</sub>   |                     | 870                                |
| $CTi_{0.6, 0.8}Zr_{0.4, 0.2}$          |                      |                 | B1                | 1.28                | 558                                |
| $C_2^{Tm}$                             |                      |                 |                   | 2.0                 | 784                                |
| $CU$                                   |                      |                 | B1                | 1.20                | 010                                |
| $C_{1.45}^{U}0.15Y_{0.85}$             |                      |                 | D5 <sub>c</sub>   | 4.0                 | 870                                |
| CV(Probably low C)                     |                      |                 | B1                | 1.17                | 694 271 010<br>572# 1238<br>810#   |
| $CV_2$                                 |                      |                 | HEX               | 1.20                | 010 397                            |
| $C_{0.922}V$                           |                      |                 |                   | 1.28                | 559 558 560                        |
| $C_{0.87-0.76}$                        |                      |                 |                   | 0.03                | 1114 1332#                         |
| $C_{1.45}^{V}0.1Y_{0.9}$               | 11.5                 |                 | D5 <sub>c</sub>   |                     | 870                                |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                                       |
|--|--------------------|--------------------------|-------------------|--------------------|---|
| C <sub>0.4</sub> Zr <sub>0.6</sub>                               |                    |                          | B1                | 4.2                | 558   |
| C <sub>0.50</sub> W <sub>0.50</sub>                              | 10.0               |                          | A1                |                    | 1036 1006                                   |
| C <sub>0.55</sub> W <sub>0.45</sub>                              | 8.1                |                          | A1 plus           |                    | 1036  |
| C <sub>0.46</sub> W <sub>0.54</sub>                              | 9.0                |                          | A1                |                    | 1036  |
| CW   |                    |                          | B <sub>h</sub>    | 0.3                | 1037 603 018<br>011 040 815<br>011 010 1036 |
| CW <sub>2</sub>  | 2.74, 3.6          |                          | L <sub>3</sub>    |                    | 011 010 1036                                |
| CW <sub>2</sub>  | 2.85-3.05, 3.35    |                          | HEX               |                    | 1132 1223                                   |
| CW <sub>2</sub>  | 2.4-4.05           |                          | ORTHO<br>(HEX?)   |                    | 1223  |
| CW <sub>2</sub>  | 5.2(Broad)         |                          | CUB               |                    | 2.64  |
| C <sub>1.55</sub> W <sub>0.1</sub> Y <sub>0.9</sub>              | 14.8, 14.5         |                          | D <sub>5c</sub>   |                    | 870   |
| C <sub>2</sub> Y   | 3.88, 3.75         |                          | C11a              |                    | 784   |
| C <sub>3</sub> Y <sub>2</sub> (15-25 kbar)                       | 6.0-11.5(Broad)    |                          | D <sub>5c</sub>   |                    | 868   |
| CY <sub>3</sub>  |                    |                          |                   | 1.15               | 711 863                                     |
| C <sub>0.92</sub> Y  |                    |                          | B1                | 1.38               | 558   |
| C <sub>1.55-1.30</sub> Y   | 6.0-11.5-8.2       |                          | D <sub>5c</sub>   |                    | 870   |
| C <sub>1.45</sub> Y  | 11.5               |                          | D <sub>5c</sub>   |                    | 870   |
| C <sub>1.45</sub> Y <sub>0.9</sub> Zn <sub>0.1</sub>             | 13.0               |                          | D <sub>5c</sub>   |                    | 870   |
| C <sub>1.35</sub> Y <sub>0.8</sub> Zn <sub>0.2</sub>             |                    |                          |                   | 4.0                | 870   |
| C <sub>2</sub> Yb  |                    |                          |                   | 2.0                | 784   |
| CZr(Low C)   |                    |                          |                   | 1.20               | 010 559 1238<br>558 560                     |
| Ca(99.5%)  |                    |                          | A1                | <0.017             | 1214 1233<br>270                            |
| Ca(100Å, deposited 4.2K)   | 4.2                | HF                       |                   |                    | 710   |
| CaCu <sub>5</sub>  |                    |                          | D <sub>2d</sub>   | 0.34               | 486   |
| CaGa <sub>2</sub>  |                    |                          | C32               | 1.02               | 270   |
| CaGe <sub>3</sub>  |                    |                          |                   | 0.15               | 427   |
| CaH <sub>18</sub> N <sub>6</sub> (See Table 3)                   |                    |                          |                   |                    |   |
| CaHg   | 1.6-<1.25          |                          | B2                |                    | 1232  |
| CaHg <sub>3</sub>  | 1.6-1.3            |                          |                   |                    | 1232  |
| CaHg <sub>5</sub>  | 1.7-1.5            |                          |                   |                    | 1232  |
| CaIr <sub>2</sub>  | 4-6.15             |                          | C15               |                    | 028   |
| CaMg <sub>2</sub>  |                    |                          | C14               | 1.02               | 270   |
| Ca <sub>0.05-0.07</sub> MoS <sub>2</sub>                         | 4.0                |                          | ORTHO             |                    | 1928  |
| Ca <sub>x</sub> O <sub>3</sub> Sr <sub>1-x</sub> Ti(See Table 4) |                    | HF                       |                   |                    | 1005 611                                    |
| Ca <sub>0.10</sub> O <sub>3</sub> W                              | 1.4-3.4            |                          | HEX               |                    | 644   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)   | H (oersted)  | Crystal Structure           | $T_n$ (K)          | Refs.   |
|---|---|--------------|-----------------------------|--------------------|---------|
| CaPb  | 7   |              |                             | 085                | 111     |
| CaPb <sub>3</sub>   | 0.84  |              | L1 <sub>2</sub>             | 1245               | 715     |
| Ca <sub>1-0.7</sub> Pb <sub>3</sub> Sr <sub>0-0.3</sub>   | 0.08-1.0  |              | L1 <sub>2</sub>             | 1245               |         |
| Ca <sub>0.6</sub> Pb <sub>3</sub> Sr <sub>0.4</sub>       | 1.16  |              | TET                         | 1245               |         |
| Ca <sub>0.55-0</sub> Pb <sub>3</sub> Sr <sub>0.45-1</sub> | 1.47-1.88   |              | TET                         | 1245               |         |
| CaPb <sub>3x</sub> Tl <sub>3(1-x)</sub>                   | 3.7, 3.7  |              | L1 <sub>2</sub>             | 715                |         |
| CaPd <sub>2</sub>   |   |              | C15                         | 1.02               | 028     |
| CaPt <sub>2</sub>   |   |              | C15                         | 1.02               | 028     |
| CaRh <sub>2</sub>   | 6.40  |              | C15                         |                    | 028     |
| CaSe  |   |              |                             | 1.70               | 002     |
| Ca <sub>2</sub> Si  |   |              | CUB                         | 1.68               | 427     |
| CaSi  |   |              | ORTHO                       | 1.3                | 427     |
| CaSi <sub>2</sub>   |   |              | C12                         | 0.32               | 961 427 |
| CaSi <sub>2</sub>   | 1.58  |              | C <sub>c</sub>              |                    | 961     |
| CaTl <sub>3</sub>   | 2.04  |              | L1 <sub>2</sub>             | 715                |         |
| CaZn <sub>5</sub>   |   |              | D <sub>2</sub> <sub>d</sub> | 0.84               | 486     |
| Cd(RRR>38,000)  | 0.5173  | 28.05 (1960) | A3                          | 1607 1960#         |         |
|   |   |              |                             | 1937 1458          |         |
|   |   |              |                             | 1166# 1661         |         |
|   |   |              |                             | 537 1344           |         |
|   |   |              |                             | 1506#              |         |
| Cd  | 0.53-0.57   | 28.7, 30     | A3                          | 1609 1608          |         |
|   |   |              |                             | 179 024 030        |         |
|   |   |              |                             | 390 001 546        |         |
|   |   |              |                             | 933 1267           |         |
| Cd(Deposited 1K)  | 0.79-0.91<br>(Disordered)<br>0.53-0.59<br>(Ordered)     |              |                             | ▽1467 ▽1310        |         |
| CdCu( $\gamma$ )  |   |              |                             | 1.30               | 1009    |
| Cd <sub>0.04</sub> Cu <sub>0.96</sub> S <sub>2</sub>      | 1.3-2.0   |              | C2                          | 1665               |         |
| Cd <sub>0.06</sub> Cu <sub>0.94</sub> Se <sub>2</sub>     | 1.3-2.1   |              | C2                          | 1665               |         |
| Cd <sub>0.9</sub> Ge <sub>0.1</sub> (Deposited 1K)        | 1.59-1.70<br>(Disordered)<br>0.54-0.57<br>(Crystalline) |              |                             | 1467               |         |
| Cd <sub>1-0.72</sub> Hg <sub>0-0.28</sub>                 | 0.5-1.35  |              | HEX                         | 732 084 091        |         |
| Cd <sub>0.72-0.07</sub> Hg <sub>0.28-0.93</sub>           | 1.3-3.3<br>(Shows discontinuity at Cd <sub>0.33</sub> ) |              | TET                         | 732 270 073<br>080 |         |
| Cd <sub>0.06-0</sub> Hg <sub>0.94-1</sub>                 | 4.09-4.15   |              |                             | 732                |         |
| CdHg  | 1.77, 2.15  |              |                             | 270 073            |         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)         | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.                              |
|---|----------------------------|--------------------------|-----------------------------|--------------------|------------------------------------|
| Cd <sub>0.97</sub> Hg <sub>0.03</sub>   | 0.53                       |                          |                             |                    | 1506#                              |
| Cd <sub>0.02-0.15</sub> Hg <sub>0.98-0.85</sub>                               |                            | HF                       |                             |                    | 978 080 666                        |
| Cd <sub>0-0.045</sub> In <sub>1-0.955</sub>                                   | T' <sub>c</sub> (-0.17)    |                          |                             |                    | 1184# 1086<br>1090 320<br>319 1780 |
| Cd <sub>0-0.06</sub> In <sub>1-0.94</sub> (Quenched)                          | 3.406 3.245                |                          | TET                         |                    | 728 670                            |
| Cd <sub>0.08-0.16</sub> In <sub>0.92-0.84</sub>                               | 3.4-2.9                    | 250-220, HF              |                             |                    | 1539# 1540                         |
| Cd <sub>0.06</sub> In <sub>0.6</sub> (Quenched)                               | 3.55-3.00                  |                          | CUB                         |                    | 728                                |
| Cd <sub>0.1</sub> In <sub>0.9</sub> La <sub>3</sub>                           | 9.55                       |                          | L <sub>1</sub> <sub>2</sub> |                    | 1564                               |
| Cd <sub>11</sub> La   |                            |                          | CUB                         | 0.35               | 270                                |
| Cd <sub>0.96</sub> Mg <sub>0.04</sub>   | 0.24                       |                          |                             |                    | 1340#                              |
| Cd <sub>0.90</sub> Mg <sub>0.10</sub>   | 0.138                      |                          |                             |                    | 1340#                              |
| Cd <sub>0.86</sub> Mg <sub>0.14</sub>   | 0.145                      |                          | HEX                         |                    | 1340#                              |
| Cd <sub>0.80</sub> Mg <sub>0.20</sub>   | 0.185                      |                          | HEX                         |                    | 1340#                              |
| Cd <sub>0.75</sub> Mg <sub>0.25</sub>   | 0.160                      |                          | HEX                         |                    | 1340#                              |
| Cd <sub>0.70</sub> Mg <sub>0.30</sub>   | 0.105                      |                          |                             |                    | 1340#                              |
| Cd <sub>0.60</sub> Mg <sub>0.40</sub>   | 0.016                      |                          | ORTHO                       |                    | 1340#                              |
| Cd <sub>1-0.6</sub> Mg <sub>0-0.4</sub>                                       | 0.52-0.138-<br>0.185-0.016 |                          |                             |                    | 1340 1661                          |
| Cd <sub>1-0.2</sub> Mg <sub>0-0.8</sub> ("Splat" cooled,<br>disordered)       | 0.58-0.0085                |                          |                             |                    | 1654                               |
| Cd <sub>0.50</sub> Mg <sub>0.50</sub>   |                            |                          | ORTHO                       | 0.015              | 1340# 1661                         |
| Cd <sub>0.20</sub> Mg <sub>0.080</sub>  |                            |                          | HEX                         | 0.015              | 1340# 1661                         |
| CdMo <sub>5</sub> S <sub>6</sub>  | 2.4-2.3, 2.6               |                          | RHOMB                       |                    | 1163 614                           |
| CdMo <sub>5</sub> S <sub>6</sub> (0-22 kbar)                                  | 2.6-3.7                    |                          |                             |                    | 614                                |
| Cd <sub>6</sub> Na  |                            |                          |                             | 1.08               | 258                                |
| Cd <sub>2</sub> Na  |                            |                          |                             | 1.06               | 258                                |
| CdO   |                            |                          |                             | 1.3                | 119 069                            |
| Cd <sub>x</sub> Pb <sub>1-x</sub>   | 7.0 Max.                   | HF(457)                  |                             |                    | 080 308 084<br>457                 |
| Cd <sub>0-0.025</sub> Pb <sub>1-0.975</sub>                                   | T' <sub>c</sub> (-0.07)    |                          |                             |                    | 1165 861                           |
| Cd <sub>0.1</sub> Pb <sub>0.9</sub> (Quench condensed<br>at 0.4K)             | 6.02<br>6.92 (Annealed)    |                          |                             |                    | ▽1491                              |
| Cd <sub>0.18</sub> Pb <sub>0.32</sub> Sn <sub>0.50</sub><br>(Weight fraction) | 7.50                       | HF                       |                             |                    | 1917                               |
| Cd <sub>0.4</sub> Sb <sub>0.6</sub>   |                            |                          |                             | 1.90               | 099                                |
| Cd <sub>0.18</sub> Sn <sub>0.72</sub> (Eutectic)                              | 3.65                       | 266@1.98K                |                             |                    | 070 090                            |
| Cd <sub>0-0.01</sub> Sn <sub>y</sub>  | 3.725-3.734                |                          | TET                         |                    | 318# 320 345                       |
| Cd <sub>x</sub> Sn <sub>1-x</sub>   | T' <sub>c</sub> (-0.085)   | Data given               |                             |                    | 804                                |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)                       | $H_o$ (oersted) | Crystal Structure | $T_n$ (K)        | Refs.                           |
|--|---------------------------------|-----------------|-------------------|------------------|---------------------------------|
| $Cd_{0.17}Tl_{0.83}$                                     | 2.3, 2.54                       |                 |                   | 070 084 085      |                                 |
| $Cd_{0.1}Tl_{0.9}$ (Deposited 0.3K)                      | 3.51<br>2.8(after 300-<br>330K) |                 |                   |                  | <sup>v</sup> 1900               |
| $Cd_{0-0.0043}Tl$  | $T_c'(-0.027)$                  | Data given      |                   | 1095 1108<br>591 |                                 |
| $CdV_3$  |                                 |                 | A15               | 4.2              | 825                             |
| $Cd_{0.02}Zn_{0.98}$                                     | 0.675                           |                 |                   | 1052             |                                 |
| $Cd_{0.002}Zn_{0.998}$                                   | 0.780                           |                 |                   | 1052             |                                 |
| $Cd_{0.2}Zn_{0.8}$                                       | 0.628                           |                 |                   | 1052             |                                 |
| $Cd_{0.825}Zn_{0.175}$ (Weight fraction)                 |                                 |                 |                   | 1.3              | 1917                            |
| $Cd_{0-0.08}Zr_{1-0.92}$                                 |                                 |                 | A3                |                  | 572#                            |
| Ce   |                                 |                 | A1                | 0.25             | 023                             |
| Ce(at 10 kbar)   |                                 |                 | A1                | 0.4              | 656 542                         |
| Ce(50 kbar)  | 1.7                             |                 |                   | 618              |                                 |
| $CeCo_2$   | 0.84, 1.5                       |                 | C15               |                  | 655 776                         |
| $CeCo_{1.67}Ni_{0.33}$                                   | 0.46                            |                 | C15               |                  | 655                             |
| $CeCo_{1.33}Ni_{0.67}$                                   |                                 |                 | C15               | 0.33             | 655                             |
| $CeCo_{1.67}Rh_{0.33}$                                   | 0.47                            |                 | C15               |                  | 655                             |
| $CeCo_{1.33}Rh_{0.67}$                                   |                                 |                 | C15               | 0.33             | 655                             |
| $CeCo_{0-0.1}Ru_{2-1.9}$                                 | 5.2-<0.33                       |                 | C15               |                  | 1520 946                        |
| $CeCo_{0.2-1.7}Ru_{1.8-0.3}$                             |                                 |                 | C15               | 0.33             | 1520                            |
| $CeCo_{1.8-2.0}Ru_{0.2-0}$                               | <0.33-0.8                       |                 |                   |                  | 1520                            |
| $CeCr_{0-0.28}Ru_{2-1.72}$                               | 6.2-2                           |                 | C15               |                  | 1820                            |
| $Ce_{1-0.78}Dy_{0-0.22}Ru_2$                             | 6.2-6.6-2.4                     |                 | C15               |                  | 1820 1569                       |
| $Ce_{1-0.75}Er_{0-0.25}Ru_2$                             | 6.2-6.4-<2.4                    |                 | C15               |                  | 1820                            |
| $Ce_{0.35}Eu_{0.02}Gd_{0.06}La_{0.2}$                    |                                 |                 |                   | 2.30             | 113                             |
| $Nd_{0.2}Sa_{0.1}Pr_{0.05}Y_{0.02}$<br>(Weight fraction) |                                 |                 |                   |                  |                                 |
| $Ce_{0.975}Fe_{0.025}$                                   |                                 |                 |                   | 2.0              | 068                             |
| $Ce_{1-x}Fe_xRu$   | (Decreases)                     |                 |                   |                  | 946                             |
| $Ce_{1-0.87}Gd_{0-0.13}Ru_2$                             | 6.2-3.8                         |                 | C15               |                  | 1820 1569<br>116 171 946<br>187 |
| $Ce_{0.84}Gd_{0-0.1}Ru_2Y_{0.16-0.06}$                   | 4.9-3.1                         |                 |                   |                  | 1658                            |
| $Ce_{1-0.73}Ho_{0-0.27}Ru_2$                             | 6.2-6.3-1.5                     |                 | C15               |                  | 1820 1569                       |
| $Ce_xIn_{1-x}$   | (Decreases)                     |                 |                   |                  | 1394                            |
| CeIn <sub>3</sub>  |                                 |                 | L1 <sub>2</sub>   | 0.07             | 715                             |
| $Ce_{0-0.1}InLa_{3-2.9}$                                 | 9.45-<1                         | HF              |                   |                  | 1228 1012                       |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)   | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|---|----------------------|--------------------------|-------------------|--------------------|---|
| Ce <sub>0.04-0.08</sub> InLa <sub>2.96-2.92</sub> (0-23 kbar) | 7.2-2.2              |                          |                   |                    | 1137  |
| CeIr <sub>2,1.8</sub>   |                      |                          | C15               | 0.32               | 469 270 247<br>127                                    |
| CeIr <sub>3</sub>   | 3.34                 |                          |                   |                    | 469   |
| CeIr <sub>5</sub>   | *1.82                |                          |                   |                    | 469   |
| CeIr <sub>0-1</sub> Ru <sub>2-1</sub>                         | 6.2-4.5-4.5-<1.5     |                          | C15               |                    | 1820  |
| Ce <sub>0-0.02</sub> La <sub>1-0.98</sub> ( <sup>a</sup> )    | 4.87-2.4             | HF                       |                   |                    | 1358 1021<br>1637 1468<br>1265 1568#                  |
| Ce <sub>0-0.02</sub> La <sub>1-0.98</sub> ( <sup>b</sup> )    | 6-2.9                |                          |                   |                    | 1358 1021<br>115 200<br>1468 608<br>915 1568#<br>1365 |
| Ce <sub>0.04</sub> La <sub>0.96</sub>                         |                      |                          |                   | 0.05               | 1468  |
| Ce <sub>0.16</sub> La <sub>0.84</sub> (27-110 kbar)           | 4-8.7                |                          |                   |                    | 1016  |
| Ce <sub>0.02</sub> La <sub>0.98</sub> (0-10-24 kbar)          | 2.6-<0.3-3           |                          |                   |                    | 1016  |
| Ce <sub>0.013</sub> La <sub>0.887</sub> (0-12->140 kbar)      | 3.7-3.2-11.4         |                          |                   |                    | 1016  |
| Ce <sub>0.013</sub> La <sub>0.887</sub> (0-12-23 kbar)        | 3.7-3.1-4.3(As cast) |                          |                   |                    | 1016  |
| Ce <sub>0.013</sub> La <sub>0.887</sub> (0-12-22 kbar)        | 3.2-3.5-2.3          |                          | HEX               |                    | 1016  |
| Ce <sub>0.007</sub> La <sub>0.993</sub> (0-23 kbar)           | 4.7-6.2              |                          |                   |                    | 1016  |
| Ce <sub>1-0</sub> La <sub>0-1</sub> Ru <sub>2</sub>           | 6.2-6.3-<1.4-4.1     |                          | C15               |                    | 1026 1820   |
| Ce <sub>0.6-0.3</sub> La <sub>0.4-0.7</sub> Ru <sub>2</sub>   |                      |                          | C15               | 1.3                | 1820 1026   |
| Ce <sub>1-0</sub> La <sub>0-1</sub> Ru <sub>2</sub>           | 6.2-6.6-0.45-4.4     |                          |                   |                    | 1598  |
| Ce <sub>0-0.015</sub> La <sub>1-0</sub> Th <sub>0-1</sub>     | 5.9-<0.04            |                          |                   |                    | 1671 1531   |
| Ce <sub>1-0</sub> Lu <sub>0-1</sub> Ru <sub>2</sub>           | 6.2-6.25-<1.3        |                          | C15, C14          |                    | 1820  |
| Ce <sub>0.68-0</sub> Lu <sub>0.32-1</sub> Ru <sub>2</sub>     |                      |                          |                   | 1.3                | 1820  |
| Ce <sub>1-x</sub> Mn <sub>x</sub> Ru <sub>2</sub>             | (Decreases)          |                          |                   |                    | 946   |
| CeN <sub>0.87</sub>   |                      |                          |                   | 1.80               | 040   |
| Ce <sub>1-0.75</sub> Nd <sub>0-0.25</sub> Ru <sub>2</sub>     | 6.2-6.7-<2           |                          | C15               |                    | 1820 1569   |
| CeNi <sub>2</sub>   |                      |                          | C15               | 0.015              | 655   |
| Ce <sub>1-x</sub> N <sub>x</sub> Ru <sub>2</sub>              | (Decreases)          |                          |                   |                    | 946   |
| CeOs <sub>2</sub>   |                      |                          | C15               | 0.62               | 270 127 247<br>1375                                   |
| CeOs <sub>0-0.7</sub> Ru <sub>2-1.3</sub>                     | 6.2-<1.4             |                          | C15               |                    | 1820  |
| CePb?   |                      |                          |                   | 1.9                | 099   |
| CePd <sub>0-0.06</sub> Ru <sub>2-1.94</sub>                   | 6.2-<5               |                          | C15               |                    | 1820  |
| Ce <sub>1-0.73</sub> Pr <sub>0-0.27</sub> Ru <sub>2</sub>     | 6.2-6.75-<2.4        |                          | C15               |                    | 1820 116 240  |
| CePt <sub>2</sub>   |                      |                          | C15               | 0.32               | 469   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)                           | $H_0$ (oersted) | Crystal Structure | $T_n$ (K)  | Refs.                                    |
|--|-------------------------------------|-----------------|-------------------|------------|--|
| CePt <sub>3</sub>  |                                     |                 | C15               | 0.32       | 469                                      |
| CePt <sub>5</sub>  |                                     |                 | D2 <sub>d</sub>   | 0.32       | 469                                      |
| Ce <sub>0.20-0.173</sub> Pt <sub>0.8-0.826</sub>                     | 1.55 Max.<br>(Portion of<br>sample) |                 |                   |            | 469                                      |
| CePt <sub>0-0.3</sub> Ru <sub>2-1.7</sub>                            | 6.2-<2.8                            |                 | C15               |            | 1820                                     |
| CePt <sub>0.1, 0.2</sub> Ru <sub>1.9, 1.8</sub>                      | 4.08, 3.40                          | 832, 669 HF     | C15               |            | 1783#                                    |
| CeRh <sub>2</sub>  |                                     |                 | C15               | 0.35       | 270 127                                  |
| CeRh <sub>0.84</sub> Ru <sub>2-1.16</sub>                            | 6.2-<1.5                            |                 | C15               |            | 1820                                     |
| CeRu <sub>2</sub>  | 6.18                                | 1420 HF         |                   |            | 1783# 1026<br>657 115 127<br>116 247 946 |
| CeRu <sub>2</sub> Sc   | 6.2-2.6,<br>1.6-2.3                 |                 | C15, C14          |            | 1820                                     |
| Ce <sub>1-0.8</sub> Ru <sub>2</sub> Tb <sub>0-0.2</sub>              | 6.2-6.5-2.4                         |                 | C15               |            | 1820 1569                                |
| Ce <sub>1-0</sub> Ru <sub>2</sub> Y <sub>0-1</sub>                   | 6.2-6.65-<br><1.3-2.4               |                 | C15, C14          |            | 1820 1569                                |
| Ce <sub>0.6-0.4</sub> Ru <sub>2</sub> Y <sub>0.4-0.6</sub>           |                                     |                 |                   | 1.3        | 1820                                     |
| CeS  |                                     |                 | B1                | 1.06       | 258 011                                  |
| Ce <sub>2</sub> S <sub>3</sub>                                       |                                     |                 | CUB               | Data given | 558                                      |
| Ce <sub>0.25</sub> Sb <sub>3</sub>                                   |                                     |                 |                   | 1.28       | 011                                      |
| CeSi <sub>2</sub>  |                                     |                 | C <sub>c</sub>    | 1.00       | 025 010                                  |
| Ce <sub>0.12</sub> SiV <sub>2.88</sub>                               | 15.32                               |                 | A15               |            | 1913                                     |
| Ce <sub>x</sub> Sn <sub>1-x</sub>                                    | (Decreases)                         |                 |                   |            | 1394                                     |
| CeSn <sub>3</sub>  |                                     |                 | L1 <sub>2</sub>   | 0.07       | 715                                      |
| Ce <sub>1-0.8</sub> Tb <sub>0-0.2</sub> Ru <sub>2</sub>              | 6.2-6.4-2.4                         |                 |                   |            | 1113                                     |
| Ce <sub>0.8</sub> Tb <sub>0.2</sub> Ru <sub>2</sub>                  | 2.6                                 |                 |                   |            | 1811                                     |
| Ce <sub>x</sub> Th <sub>1-x</sub>                                    | 1.36->0.07                          |                 |                   |            | 951 886 1012                             |
| Ce <sub>0.0178</sub> Y   |                                     |                 |                   | 1.6        | 1477#                                    |
| Co   |                                     |                 | A3                | 1.36       | 012 572#                                 |
| Co <sub>0.98</sub> Cr <sub>0.02</sub> U                              | $T_c'$ (+0.05)                      |                 |                   |            | 1181                                     |
| Co <sub>0.02</sub> Cu <sub>0.98</sub> Rh <sub>2</sub> S <sub>4</sub> | ~3.8(broad)                         |                 | H1 <sub>1</sub>   |            | 984                                      |
| Co <sub>2</sub> CuS <sub>4</sub>                                     |                                     |                 | H1 <sub>1</sub>   | 0.05       | 1898 984                                 |
| Co <sub>1-0.98</sub> Fe <sub>0-0.02</sub> Si <sub>2</sub>            | 1.4-<1                              |                 | C <sub>1</sub>    |            | 037 572#                                 |
| Co <sub>0.5</sub> Fe <sub>0.5</sub> Ti                               | 3.3                                 |                 |                   |            | 1392                                     |
| Co <sub>0.5</sub> Fe <sub>0.5</sub> U <sub>6</sub>                   | 3.0                                 |                 | D2 <sub>c</sub>   |            | 1866                                     |
| Co <sub>x</sub> Fe <sub>1-x</sub> U <sub>6</sub>                     | 3.85-2.4                            |                 |                   |            | 920                                      |
| Co <sub>0.98</sub> Fe <sub>0.02</sub> U                              | $T_c'$ (+0.1)                       |                 |                   |            | 1181                                     |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)       | H <sub>o</sub> (oersted) | Crystal Structure                   | T <sub>n</sub> (K) | Refs.     |
|--|--------------------------|--------------------------|-------------------------------------|--------------------|-----------|
| Co <sub>1-0</sub> Fe <sub>0-1</sub> Zr <sub>2</sub>                        | 5.0-0.2                  |                          | C16                                 |                    | 1377 1476 |
| Co <sub>0-0.06</sub> Ga <sub>4</sub> Mo <sub>1-0.94</sub>                  | 8.0-6.5                  |                          |                                     |                    | 1295      |
| CoGe <sub>3</sub>  |                          |                          | ORTHO                               | 0.35               | 270       |
| CoGe <sub>2</sub>  |                          |                          |                                     | 0.051              | 770       |
| CoHf <sub>2</sub>  | 0.56                     |                          | E9 <sub>3</sub>                     |                    | 270       |
| Co <sub>0.03</sub> In <sub>0.97</sub> (Deposited 6K)                       | 3.95                     |                          |                                     |                    | ▽351      |
| Co <sub>0.004</sub> Ir <sub>0.996</sub>                                    | 0.046                    |                          |                                     |                    | 1624      |
| CoLa <sub>3</sub>  | 4.28, 4.01               |                          | DO <sub>11</sub> , DO <sub>20</sub> |                    | 658 469   |
| Co <sub>2</sub> Lu   |                          |                          | C15                                 | 0.32               | 469       |
| CoLu <sub>3</sub>  | <0.35 (Portion only)     |                          |                                     |                    | 469       |
| Co <sub>0.98</sub> Mn <sub>0.02</sub> U                                    | T <sub>c</sub> '(+0.2)   |                          |                                     |                    | 1181      |
| Co <sub>0.92</sub> Mn <sub>0.08</sub> U <sub>6</sub>                       | ~2.2                     |                          |                                     |                    | 1181      |
| Co <sub>0.5</sub> Mn <sub>0.5</sub> U <sub>6</sub>                         | 2.55                     |                          | D2 <sub>c</sub>                     |                    | 920 1866  |
| Co <sub>0-0.0004</sub> Mo  | 0.92-0.2                 | Data given               |                                     |                    | 1833      |
| Co <sub>0-0.01</sub> Mo <sub>0.8</sub> Re <sub>0.2</sub>                   | 10-~2                    |                          |                                     |                    | 240       |
| Co <sub>0.002</sub> Mo <sub>0.815</sub> Re <sub>0.185</sub>                | 5.8                      | HF                       |                                     |                    | 881       |
| Co <sub>0.96</sub> Mo <sub>0.04</sub> U <sub>6</sub>                       | ~1.5                     |                          |                                     |                    | 1181      |
| Co <sub>0.975</sub> Mo <sub>0.025</sub> U                                  | T <sub>c</sub> '(-0.35)  |                          |                                     |                    | 1181      |
| Co <sub>0.1-0.02</sub> Nb <sub>3</sub> Rh <sub>0.9-0.98</sub>              | 1.90-2.28                |                          | A15                                 |                    | 492       |
| Co <sub>0-0.06</sub> NbSe <sub>2</sub>                                     | ~7-1                     |                          |                                     |                    | 1602      |
| CoNbV  |                          |                          | C14                                 | 1.02               | 270       |
| Co <sub>0.16-0.64</sub> Ni <sub>0.64-0.15</sub> P                          |                          |                          |                                     | 0.99               | 601       |
| Co <sub>0.638-0.158</sub> Ni <sub>0.153-0.637</sub> P <sub>0.2-0.217</sub> |                          |                          |                                     | 1.02               | 217       |
| Co <sub>1-0.98</sub> Ni <sub>0-0.02</sub> Si <sub>2</sub>                  | 1.4-~1                   |                          |                                     |                    | 037       |
| Co <sub>1-0</sub> Ni <sub>0-1</sub> Ta <sub>2</sub>                        | 1.2-0.6                  |                          | C16                                 |                    | 1377      |
| Co <sub>1-0</sub> Ni <sub>0-1</sub> U <sub>6</sub>                         | 2.4-0.33                 |                          | D2 <sub>c</sub>                     |                    | 1866 920  |
| Co <sub>0.98</sub> Ni <sub>0.02</sub> U                                    | T <sub>c</sub> '(~-0.05) |                          |                                     |                    | 1181      |
| Co <sub>0.5</sub> Ni <sub>0.5</sub> V <sub>3</sub>                         |                          |                          | A15                                 | 2.0                | 1001      |
| Co <sub>0.3</sub> Ni <sub>0.7</sub> V <sub>3</sub>                         |                          |                          | A15                                 | 2.0                | 1001      |
| Co <sub>x</sub> Ni <sub>1-x</sub> Zr <sub>2</sub>                          | 5.0-5.9-1.3-1.4          |                          | C16                                 |                    | 914 1476  |
| Co <sub>1-0</sub> Ni <sub>0-1</sub> Zr <sub>2</sub>                        | 5.1-5.9-1.1-1.6          |                          | C16                                 |                    | 1377 1355 |
| Co <sub>0.5</sub> Ni <sub>0.5</sub> Zr <sub>2</sub>                        | 3.1                      |                          | C16                                 |                    | 914       |
| Co <sub>0.85</sub> Ni <sub>0.15</sub> Zr <sub>2</sub>                      | 6.0                      |                          | C16                                 |                    | 1355      |
| CoO  |                          |                          |                                     | 1.28               | 011       |
| Co <sub>x</sub> O <sub>t</sub> Pb <sub>1-x-y</sub> (500-700Å)              | 7.2-~2                   |                          |                                     |                    | ▽1053     |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)                 | $H_o$ (oersted) | Crystal Structure | $T_n$ (K)  | Refs.                   |
|--|---------------------------|-----------------|-------------------|------------|-------------------------|
| $\text{Co}_2\text{P}$  |                           |                 | C23               | 0.97       | 601 181                 |
| $\text{Co}_{0.0-0.03}\text{Pb}_{1-0.97}$ (500-700 Å)             | 7.2-4.4                   |                 |                   |            | ▽1053                   |
| $\text{Co}_{1-x}\text{Pd}_x\text{Zr}_2$                          | 5.3-6.2-5.7               |                 | C16               |            | 1476                    |
| $\text{Co}_{0.6(1-x)}\text{Pt}_x\text{Rh}_{0.4(1-x)}\text{Zr}_2$ | 8.0-8.2-7.6               |                 | C16               |            | 1476                    |
| $\text{Co}_{1-x}\text{Pt}_x\text{Zr}_2$                          | 5.3-6.9-6.7               |                 | C16               |            | 1476                    |
| $\text{Co}_{0.95-0.25}\text{Rh}_{0.05-0.75}$                     | ~1-3.65                   |                 |                   |            | 037                     |
| $\text{Co}_{0.5}\text{Rh}_{0.5}\text{Si}_2$                      | 2-3                       |                 |                   |            | 095                     |
| $\text{Co}_{0.05}\text{Rh}_{0.04}\text{Ti}_{0.91}$               | 4.0                       |                 |                   |            | 1060                    |
| $\text{Co}_{0.94}\text{Rh}_{0.06}\text{U}_6$                     | ~2                        |                 |                   |            | 1181                    |
| $\text{Co}_{0.97}\text{Rh}_{0.03}\text{U}$                       | $T_c^*(-0.4)$             |                 |                   |            | 1181                    |
| $\text{Co}_{0.9}\text{Rh}_{0.1}\text{V}_3$                       |                           |                 | A15               | 2.0        | 1001                    |
| $\text{Co}_{0.5}\text{Rh}_{0.5}\text{V}_3$                       |                           |                 | A15               | 2.0        | 1001                    |
| $\text{Co}_{0.6}\text{Rh}_{0.4}\text{Zr}_2$                      | 8.0                       |                 | C16               |            | 1476                    |
| $\text{Co}_{x}\text{Ru}$   | 0.4-0.09                  |                 | HEX               |            | 1570                    |
| CoSb   |                           |                 |                   | 1.8        | 002                     |
| CoSc   |                           |                 |                   | 1.03       | 260                     |
| CoSc <sub>2</sub>  |                           |                 | C16               | 0.07       | 1377 469                |
| CoSc <sub>3</sub>  |                           |                 |                   | 0.32       | 469 658 260             |
| $\text{Co}_{0.28-0.32}\text{Sc}_{0.72-0.68}$                     | <0.35 (Portion of sample) |                 |                   |            | 469                     |
| CoSc <sub>0.125</sub> Zr <sub>1.875</sub>                        | 2.89                      |                 | C16               |            | 1372                    |
| CoSi   |                           |                 |                   | Data given | 095                     |
| CoSi <sub>2</sub>  | 1.22                      | 105             | C1                |            | 043 1926 032<br>094 019 |
| $\text{Co}_{5.2}\text{Si}_2\text{V}_{2.8}$                       |                           |                 | A12               | 1.02       | 270                     |
| CoSn <sub>2</sub>  |                           |                 | C16               | 0.07       | 1377 270 229            |
| $\text{Co}_{0.02}\text{Sn}_{0.98}\text{Ta}_3$                    | 4.0                       | HF              |                   |            | 1362                    |
| CoTa <sub>2</sub>  | 0.82                      |                 | C16               |            | 1377                    |
| $\text{CoTa}_{1.75}\text{Zr}_{0.25}$                             | 0.90                      |                 | C16               |            | 1377                    |
| CoTe   |                           |                 |                   | 1.0        | 037                     |
| Co <sub>5</sub> Th   |                           |                 | D2 <sub>d</sub>   | 0.32       | 469 171                 |
| Co <sub>3</sub> Th <sub>7</sub>                                  | 1.83                      |                 | D10 <sub>2</sub>  |            | 173                     |
| CoTi   | 0.71                      |                 | A2                |            | 270 572#                |
| CoTi <sub>2</sub>  | 3.44                      |                 | E9 <sub>3</sub>   |            | 173                     |
| $\text{Co}_{0.0-0.06}\text{Ti}_{1-0.94}^{(\alpha)}$              | 2.8 Max.                  |                 |                   |            | 093 171 126             |
| $\text{Co}_{0.07-0.2}\text{Ti}_{0.93-0.8}^{(\beta)}$             | 3.8 Max.                  |                 |                   |            | 093 171 126<br>522      |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                        | H <sub>c</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                             |
|---|---|--------------------------|-------------------|--------------------|-----------------------------------|
| Co <sub>0.01</sub> Ti <sub>0.99</sub>                     |   |                          |                   | 1.5                | 759                               |
| CoU   | 1.7                                       |                          | B2                |                    | 021 1181                          |
| CoU <sub>6</sub>  | 2.3                                       |                          | D2 <sub>c</sub>   |                    | 021 1866<br>1181 920              |
| CoV <sub>3</sub>  |   |                          | A15               | 0.015              | 948 707 578<br>270 010            |
| Co <sub>0-0.03</sub> V <sub>1-0.97</sub>                  | 5.3-1.5                                   |                          | A2                |                    | 314                               |
| Co <sub>3</sub> VZr <sub>2</sub>                          |   |                          | C14               | 0.35               | 270                               |
| CoY <sub>2</sub>  |   |                          |                   | 0.32               | 469                               |
| CoY <sub>3</sub>  | <0.34 (Portion<br>of sample)              |                          |                   |                    | 469                               |
| Co <sub>0.28</sub> Y <sub>0.72</sub>                      | 0.34                                      |                          |                   |                    | 469                               |
| Co <sub>0-150</sub> ppm Zn                                | T <sub>c</sub> (-0.075)                   |                          |                   |                    | 598                               |
| Co <sub>2</sub> Zr  |   |                          | C15               | 1.02               | 270                               |
| CoZr  |   |                          | B2                | 1.2                | 1476                              |
| CoZr <sub>2</sub> (Various anneals)                       | 5.0-5.3                                   |                          | C16               |                    | 1476 1478<br>1377 1355<br>914 032 |
| CoZr <sub>2</sub> ("Splat" cooled)                        | 5.7-7.0                                   |                          |                   |                    | 1476                              |
| CoZr <sub>3</sub>   | 3.9                                       |                          |                   |                    | 1476                              |
| Co <sub>0.27-0.37</sub> Zr <sub>0.73-0.63</sub>           | 6.4-5.3-5.8                               |                          |                   |                    | 1476                              |
| Co <sub>0.1</sub> Zr <sub>0.9</sub>                       | 3.9                                       |                          | HEX               |                    | 032                               |
| Co <sub>0-0.1</sub> Zr <sub>1-0.9</sub>                   | 3.7, 2.3                                  |                          |                   |                    | 717                               |
| Cr(99.999%)   |   |                          | A2                | 0.015              | 788 103 514#<br>572#              |
| Cr(Thin films)  |   |                          |                   | 0.3                | ▽503                              |
| Cr(with Ar, Kr, Xe)                                       | 0.6, 0.944, 1.5                           |                          |                   |                    | ▽1441                             |
| Cr(with Ar, Kr, Xe)                                       | 2.1, 3.1, 1.6<br>(Ion beam<br>sputtering) |                          | A2                |                    | ▽1526                             |
| Cr <sub>0.008</sub> CuRh <sub>1.992</sub> S <sub>4</sub>  | ~3.9                                      |                          | H1 <sub>1</sub>   |                    | 984                               |
| Cr <sub>0.2</sub> Fe <sub>0.8</sub> U <sub>6</sub>        | 3.3                                       |                          | D2 <sub>c</sub>   |                    | 1866                              |
| Cr <sub>3</sub> Ga  |   |                          | A15               | 0.30               | 270 117 142<br>945#               |
| CrGa <sub>4</sub>   |   |                          | CUB               | 1.02               | 270                               |
| Cr <sub>0.6</sub> Ge <sub>0.4</sub>                       |   |                          | TET               | 1.20               | 010                               |
| CrGe  |   |                          | B20               | 1.20               | 010                               |
| Cr <sub>3</sub> Ge  |   |                          | A15               | 1.2                | 945# 010 270                      |
| Cr <sub>0.2</sub> H <sub>0.1</sub> , 0.3 V <sub>0.8</sub> |   |                          |                   | 2.3, 1.8           | 1617#                             |
| Cr <sub>0-0.6</sub> HfV <sub>2-1.4</sub>                  | 9.2-9.9-9.4                               |                          |                   |                    | 1323 1381                         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                     |
|---|--------------------|--------------------------|-------------------|--------------------|---------------------------|
| Cr <sub>0-0.0004</sub> In(Deposit 6K)                         | 4.2-1.7            |                          |                   |                    | ▽351                      |
| Cr <sub>3</sub> Ir  | 0.168              |                          |                   |                    | 707 945# 1692<br>1023     |
| Cr <sub>0.82</sub> Ir <sub>0.18</sub>                         | 0.75               |                          | A15               |                    | 1692                      |
| Cr <sub>0.835</sub> Ir <sub>0.165</sub>                       | 0.77               |                          | A15               |                    | 945#                      |
| Cr <sub>0.95</sub> , 0.55 Ir <sub>0.05</sub> , 0.45           |                    |                          | A2                | 0.3                | 224                       |
| Cr <sub>0.9-0.75</sub> Ir <sub>0.1-0.25</sub>                 | 0.78-0.45          |                          | A15               |                    | 224                       |
| Cr <sub>0.78</sub> Ir <sub>0.22</sub>                         |                    |                          |                   | 0.3                | 224                       |
| Cr <sub>0.72-0.6</sub> Ir <sub>0.28-0.4</sub>                 | 0.83-0.4           |                          | HEX               |                    | 224                       |
| CrKr <sub>x</sub>   | 0.96 Max.          |                          | CUB               |                    | ▽1657                     |
| Cr <sub>0.06-0.57</sub> Mo <sub>0.94-0.43</sub>               | 0.71-0.030         |                          |                   |                    | 788                       |
| Cr <sub>0.73-0.92</sub> Mo <sub>0.27-0.08</sub>               |                    |                          |                   | 0.015              | 788                       |
| Cr <sub>0-0.02</sub> Mo <sub>0.8</sub> Re <sub>0.2</sub>      | ~9-10              |                          |                   |                    | 240                       |
| CrN   |                    |                          | B1                | 1.28               | 011                       |
| Cr <sub>0.01</sub> , 0.03 NNb <sub>0.99</sub> , 0.97          |                    |                          | B1                | 0.32               | 1510 572#                 |
| Cr <sub>0.071</sub> Nb <sub>0.929</sub>                       | 6.95               | HF                       |                   |                    | 1979                      |
| Cr <sub>0-0.1</sub> Nb <sub>1-0.9</sub>                       | 9.2-4.6            |                          | CUB               |                    | 253 441                   |
| Cr <sub>0.116-0.098</sub> Nb <sub>0.075-0.78</sub>            | 2.70-6.33          | HF                       |                   |                    | 1979                      |
| V <sub>0.90-0.12</sub>  |                    |                          |                   |                    |                           |
| Cr <sub>3</sub> O   |                    |                          | A15               | 1.02               | 181                       |
| Cr <sub>x</sub> O <sub>y</sub> Pb <sub>1-x-y</sub> (500-700Å) | 7.2-2.4            |                          |                   |                    | ▽1053                     |
| Cr <sub>0.8</sub> Os <sub>0.2</sub>                           | 2.5                |                          | CUB               |                    | 556# 572#                 |
| Cr <sub>0.6</sub> Os <sub>0.4</sub>                           |                    |                          | D8 <sub>b</sub>   | 1.4                | 557                       |
| Cr <sub>0.67</sub> Os <sub>0.33</sub>                         | 1.03               |                          | D8 <sub>b</sub>   |                    | 707                       |
| Cr <sub>0.72</sub> Os <sub>0.28</sub>                         | 3.95               |                          | A15               |                    | 707                       |
| Cr <sub>0.71-0.74</sub> Os <sub>0.29-0.26</sub>               | 3.83-4.68          |                          | A15               |                    | 692 945# 1446<br>707 1692 |
| (Various anneals)   |                    |                          |                   |                    |                           |
| CrP   |                    |                          | B31               | 1.01               | 601 217                   |
| Cr <sub>3</sub> P   |                    |                          | DO <sub>e</sub>   | 1.01               | 601 217                   |
| Cr <sub>0-0.008</sub> Pb <sub>1-0.992</sub> (500-700Å)        | 7.2-~3             |                          |                   |                    | ▽1053                     |
| Cr <sub>0-100 ppm</sub> Pd <sub>1-x</sub> Sb                  | 1.66-<0.1          |                          |                   |                    | 1296                      |
| Cr <sub>0.915</sub> Pt <sub>0.185</sub>                       |                    |                          | A15               | 1.2                | 945#                      |
| Cr <sub>0.79</sub> Pt <sub>0.21</sub>                         |                    |                          | A15               | 0.015              | 707 945#                  |
| Cr <sub>3</sub> Pt  |                    |                          | A15               | 0.30               | 224                       |
| Cr <sub>1-0.8</sub> Re <sub>0-0.2</sub>                       |                    |                          | A2                | 1.0                | 415 572#                  |
| Cr <sub>0.8-0.5</sub> Re <sub>0.2-0.5</sub>                   | 1.2-5.2            |                          | A2                |                    | 415 1096#                 |
| CrRe  |                    |                          | D8 <sub>b</sub>   | 1.02               | 270                       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)               | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)   | Refs.                          |
|--|----------------------------------|--------------------------|-------------------|----------------------|--------------------------------|
| Cr <sub>0.42-0.33</sub> Re <sub>0.58-0.67</sub>            | 1.8-2.4                          |                          | D8 <sub>b</sub>   | 415 557#<br>572#     |                                |
| Cr <sub>0.38</sub> Re <sub>0.62</sub>                      | 4.1, 3.37                        |                          |                   | 1096#                |                                |
| Cr <sub>0.75</sub> Rh <sub>0.25</sub>                      | 0.072                            | HF                       | A15               | 707 945#<br>1023 224 |                                |
| Cr <sub>0.8-0.6</sub> Rh <sub>0.2-0.4</sub>                | 0.96-1.1-0.50                    |                          | HEX               | 224                  |                                |
| Cr <sub>0.9, 0.5</sub> Rh <sub>0.1, 0.5</sub>              |                                  |                          |                   | 0.3                  | 224                            |
| Cr <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>   | 3.75                             |                          |                   |                      | 1060                           |
| Cr <sub>0.72</sub> Ru <sub>0.28</sub>                      | 3.468                            |                          | A15               |                      | 1446 707<br>945#               |
| Cr <sub>0.9</sub> Ru <sub>0.1</sub>                        |                                  |                          | CUB               | 0.3                  | 224 572#                       |
| Cr <sub>0.85-0.6</sub> Ru <sub>0.15-0.4</sub>              | 1.13-3.3-1.60                    |                          | A15, plus         |                      | 224                            |
| Cr <sub>0.67-0.5</sub> Ru <sub>0.33-0.5</sub>              | 2.02-2.1-1.30                    |                          | D8 <sub>b</sub>   |                      | 224                            |
| Cr <sub>0.6-0.02</sub> Ru <sub>0.4-0.98</sub>              | 1.9-<0.3-0.5                     |                          | HEX               |                      | 224                            |
| CrSb   |                                  |                          | B8 <sub>1</sub>   | 1.0                  | 037                            |
| CrSb <sub>2</sub>  |                                  |                          |                   | 1.28                 | 011                            |
| Cr <sub>0.015, 0.03</sub> Sc <sub>0.985, 0.97</sub>        | 2.6, 3.1(Broad)                  |                          |                   |                      | 1987                           |
| Cr <sub>3</sub> Si   |                                  |                          | A15               | 0.015                | 707 945#<br>042 010            |
| CrSi   |                                  |                          | A15               | 0.015                | 945# 010 042                   |
| Cr <sub>0.6</sub> Si <sub>0.4</sub>                        |                                  |                          |                   | 1.2                  | 010 042                        |
| CrSi <sub>2</sub>  |                                  |                          |                   | 1.2                  | 010 042                        |
| Cr <sub>0.738</sub> Si <sub>0.262</sub>                    |                                  |                          | A15               | 1.2                  | 945#                           |
| Cr <sub>0.15-0.6</sub> SiV <sub>2.85-2.4</sub>             | 15.7-12                          |                          |                   |                      | 1976 1913                      |
| Cr <sub>0.21</sub> SiV <sub>2.79</sub>                     |                                  |                          | A15               | 14                   | 1913                           |
| Cr <sub>2</sub> Ti(Two phases)                             |                                  |                          | C15               | 0.025                | 1586 1801<br>1988              |
| CrTi <sub>3</sub>  | 3.7                              |                          |                   |                      | 093 171                        |
| Cr <sub>0.103-0.244</sub> Ti <sub>0.897-0.756</sub>        | 3.85-4.46-3.6<br>(Quenched)      |                          | CUB               |                      | 1289 522<br>1861 1290          |
| Cr <sub>0-0.6</sub> Ti <sub>1-0.4</sub> (Various anneals)  | 1.2-3.9-1.2 -<br>4.3-1.7-4.1-1.1 |                          |                   |                      | 1801                           |
| Cr <sub>0.025</sub> Ti <sub>0.975</sub>                    | 3.5                              |                          |                   |                      | 477#                           |
| Cr <sub>0-0.06</sub> Ti <sub>1-0.94</sub> (α)              | 3.6 Max.                         |                          |                   |                      | 093                            |
| Cr <sub>0.1-0.3</sub> Ti <sub>0.9-0.7</sub> (β)            | 4.2 Max.                         |                          |                   | 1.1<br>(523)         | 093 171 126<br>523 572#<br>522 |
| Cr <sub>0.011</sub> Ti <sub>0.967</sub> V <sub>0.022</sub> | 3.6                              |                          |                   |                      | 477#                           |
| Cr <sub>0.1</sub> Ti <sub>0.3</sub> V <sub>0.6</sub>       | 5.6                              | 1360, HF                 |                   |                      | 584 616                        |
| Cr <sub>0.6, 0.3</sub> U <sub>0.4, 0.7</sub>               |                                  |                          |                   | 1.08                 | 021                            |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                                       |
|--|--------------------|--------------------------|-------------------|--------------------|---|
| Cr <sub>0.0175</sub> U <sub>0.9825</sub> (β phase)                         | 0.75               |                          |                   |                    | 700   |
| Cr <sub>0.945-0.58</sub> V <sub>0.055-0.42</sub>                           |                    |                          |                   | 0.015              | 788 121 572#                                |
| Cr <sub>0.48-0.1</sub> V <sub>0.52-0.9</sub>                               | 0.10-3.21          |                          |                   |                    | 788 253<br>121 572#                         |
| Cr <sub>0.4-0</sub> V <sub>0.6-1</sub>                                     | 1.3-5.1            | HF                       | A2                |                    | 441# 1617#<br>121                           |
| Cr <sub>0.1</sub> V <sub>0.9</sub>   | 3.21               |                          |                   |                    | 788   |
| Cr <sub>0.099</sub> V <sub>0.901</sub>                                     | 3.30               | HF                       |                   |                    | 1979  |
| Cr <sub>0-0.055</sub> V <sub>1-0.945</sub>                                 | 2.0-5.3            | HF                       | A2                |                    | 314 253                                     |
| Cr <sub>0-0.5</sub> V <sub>2-1.5</sub> Zr                                  | 8.5-8.7-8.2        |                          |                   |                    | 1323  |
| CrXe <sub>x</sub>  | 1.52 Max.          |                          | CUB               |                    | ▽1657                                       |
| Cr <sub>0-18 ppm</sub> Zn  | 0.85-<0.037        | HF                       |                   |                    | 1322 598                                    |
| Cr <sub>2</sub> Zr   |                    |                          | C15               | 0.025              | 1586 1988                                   |
| Cr <sub>2</sub> Zr   |                    |                          | C14               | 0.35               | 270   |
| Cs   |                    |                          | A2                | 0.011              | 494 270                                     |
| Cs(V, >~125 kbar)  | ~1.5               |                          |                   |                    | 781   |
| Cs <sub>0.1</sub> F <sub>0.1+y</sub> Li <sub>y</sub> O <sub>2.9-y</sub> W  | 3.4-2.0            | HF                       |                   |                    | 1242  |
| Cs <sub>0.08-0.3</sub> F <sub>0.08-0.3</sub> O <sub>2.92-2.7</sub> W       | 4.5-1.4            | HF                       |                   |                    | 1242  |
| Cs <sub>0.3</sub> MoS <sub>2</sub>   | 6.8                | HF(1532)                 | HEX               |                    | 1532 1728<br>1920                           |
| Cs <sub>0.32</sub> O <sub>3</sub> W  | 1.12(broad)        |                          | HEX               |                    | 500 1080                                    |
| Cu   |                    |                          | A1                | 0.02               | ▽1526 ▽1055<br>573 012<br>537# 713#<br>▽756 |
| Cu <sub>0.75-0</sub> Fe <sub>0.25-1</sub> Se <sub>2</sub>                  |                    |                          |                   | 0.32               | 1517  |
| CuGa <sub>2</sub>  |                    |                          | TET               | 1.27               | 270   |
| Cu <sub>3</sub> Ga   |                    |                          |                   | 1.4                | 533   |
| Cu <sub>0.86-0.81</sub> Ge <sub>0.14-0.19</sub>                            | 0.03-0.25          |                          | HEX               |                    | 1617  |
| Cu <sub>1-0</sub> Ge <sub>0-1</sub>  |                    |                          |                   | 1.5                | 1729  |
| Cu <sub>0.38-0.7</sub> Ge <sub>0.62-0.3</sub><br>(200-600 Å)               | 1.8-3.3-2.0        |                          |                   |                    | ▽1082                                       |
| Cu <sub>0.5</sub> Ge <sub>0.5</sub> (Deposit ~4K)                          | 3.3                |                          |                   |                    | ▽1179                                       |
| Cu <sub>1-0</sub> Ge <sub>0-1</sub> (Deposit 4.2K)                         | <1.1-3.3-<1.2      |                          |                   |                    | ▽1729 ▽1179                                 |
| Cu <sub>0.25-0.5</sub> Ge <sub>0.75-0.5</sub><br>(240-680 Å, Deposit 4.2K) | 2.6-3.1-2.1        |                          |                   |                    | ▽1844                                       |
| Cu <sub>1-0</sub> Ge <sub>0-1</sub> (Deposit 4.2K,<br>anneal 300K)         |                    |                          |                   | 1.2                | ▽1729                                       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)          | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                    |
|--|-----------------------------|--------------------------|-------------------|--------------------|--------------------------|
| Cu <sub>0-0.85</sub> <sup>H</sup> <sub>≈0.7</sub> Pd <sub>1-0.15</sub> | 8.6-16.6-6<br>(H implanted) |                          |                   |                    | 1901                     |
| Cu, IIg  |                             |                          |                   |                    | 084                      |
| Cu <sub>0.04-0.15</sub> In <sub>0.96-0.85</sub><br>(Deposit 6K)        | 4.4, 3.75                   |                          |                   |                    | 7351                     |
| Cu <sub>4</sub> K <sub>3</sub> S <sub>3</sub>                          | 1.4                         |                          | TET               |                    | 1374                     |
| Cu <sub>x</sub> K <sub>y</sub> W                                       |                             |                          |                   | 1.32               | 084                      |
| CuLa   | 5.85                        |                          |                   |                    | 658                      |
| Cu <sub>0.3</sub> La <sub>0.7</sub> (Liquid quench)                    | 3.5                         |                          |                   |                    | 1908                     |
| Cu <sub>x</sub> Li <sub>y</sub> W                                      |                             |                          |                   | 1.32               | 084                      |
| Cu <sub>2</sub> Mg   |                             |                          | C14               | 1.00               | 037 011 270              |
| CuMgSb   |                             |                          |                   | 1.28               | 011                      |
| Cu <sub>0.4</sub> Mg <sub>0.3</sub> Si <sub>0.3</sub>                  |                             |                          |                   | 0.03               | 1604                     |
| Cu <sub>1.64</sub> MgZn <sub>0.36</sub>                                |                             |                          |                   | 0.03               | 1604 037                 |
| Cu <sub>1.5</sub> Mo <sub>4.5</sub> S <sub>6</sub>                     | 10.0-10.8                   | HF                       | RHOMB             |                    | 1664 1163                |
| CuMo <sub>3</sub> S <sub>4</sub>                                       | 10.8                        | HF                       |                   |                    | 1725                     |
| CuMo <sub>3</sub> S <sub>4</sub> (0-18 kbar)                           | 10.5-11.8-10.5              |                          |                   |                    | 614                      |
| CuMo <sub>4</sub> S <sub>5</sub>                                       | 11.0                        |                          |                   |                    | 1831                     |
| Cu <sub>3</sub> N  |                             |                          |                   | 1.38               | 558                      |
| Cu <sub>3</sub> Na <sub>2</sub> S <sub>3</sub>                         | 0.3                         |                          |                   |                    | 1374                     |
| Cu <sub>0-0.6</sub> Nb <sub>1-0.4</sub>                                |                             | HF                       |                   |                    | 960 1518                 |
| Cu <sub>1-x</sub> Ni <sub>x</sub> Zr <sub>2</sub>                      | 1.7 Max.                    |                          | C16<br>(x ≥ 0.6)  |                    | 1377                     |
| CuO, Cu <sub>2</sub> O   |                             |                          |                   | 1.28               | 011 099 119              |
| Cu <sub>0.287</sub> O <sub>0.14</sub> Ti <sub>0.573</sub>              |                             | E9 <sub>3</sub>          |                   | 1.02               | 270                      |
| CuP  |                             |                          |                   | 1.28               | 011                      |
| Cu <sub>0.9-0</sub> Pb <sub>0.1-1</sub>                                | 5.7-7.7-7.2                 |                          |                   |                    | 088                      |
| CuPb(Eutectic)   |                             | HF(1395)                 |                   | 2.25               | 111 085 088<br>1395      |
| Cu <sub>0.1</sub> Pb <sub>0.9</sub> (Deposited 2K)                     | 6.5                         |                          |                   |                    | 71218 7756               |
| Cu <sub>x</sub> Pd <sub>1-x</sub>                                      |                             |                          |                   | 1.0                | 037                      |
| Cu <sub>x</sub> Pt <sub>1-x</sub>                                      |                             |                          |                   | 1.0                | 037 572#                 |
| Cu <sub>4</sub> RbS <sub>3</sub>                                       |                             |                          | TET               | 0.05               | 1374                     |
| Cr <sub>x</sub> Rb <sub>1-x</sub> W                                    |                             |                          |                   | 1.32               | 084                      |
| CuRh <sub>2</sub> S <sub>4</sub>                                       | 4.07, 4.8                   |                          | H1 <sub>1</sub>   |                    | 1898 983 984             |
| CuRh <sub>2-x</sub> S <sub>4</sub> Ti <sub>x</sub>                     | ~3                          |                          |                   |                    | 984                      |
| CuRh <sub>2</sub> Se <sub>4</sub>                                      | 3.50                        |                          | H1 <sub>1</sub>   |                    | 1760 1898<br>983 984 924 |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)   | H <sub>o</sub> (oersted) | Crystal Structure                 | T <sub>n</sub> (K)  | Refs.            |
|---|--|--------------------------|-----------------------------------|---------------------|------------------|
| CuRh <sub>2-1.5</sub> Se <sub>4</sub> Sn <sub>0-0.5</sub>   | 3.7-<0.05  |                          | H1 <sub>1</sub>                   | 714 924             |                  |
| CuRh <sub>1.95</sub> Se <sub>4</sub> Sn <sub>0.05</sub>     | 2.70   |                          | H1 <sub>1</sub>                   | 1760                |                  |
| Cu <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>    | 2.5  |                          |                                   | 1060                |                  |
| CuS <sub>2</sub>  | 1.56   |                          | C2                                | 1130 643            |                  |
| CuS(P study, 0-10 kbar)                                     | 1.65(Pressure decreases)<br>((1130) questions s.c. of CuS) |                          | B18                               | 1354 074 077<br>120 |                  |
| Cu <sub>1.8</sub> S   |  |                          |                                   | 1.3                 | 077              |
| CuSSe   | 1.5-2.0  |                          | C18                               |                     | 643              |
| CuS <sub>4</sub> Ti <sub>2</sub>                            |  |                          | H1 <sub>1</sub>                   | 0.05                | 984              |
| CuS <sub>4</sub> V <sub>2</sub>                             | 4.45-3.95  |                          | H1 <sub>1</sub>                   |                     | 984              |
| Cu <sub>1-0.8</sub> S <sub>2</sub> Zn <sub>0-0.2</sub>      | 1.48-2.5   |                          | C2                                |                     | 1665             |
| Cu <sub>0.6,0.2</sub> S <sub>2</sub> Zn <sub>0.4,0.8</sub>  |  |                          | C2                                | 1.3                 | 1665             |
| Cu <sub>3</sub> Sb  | 1.3-1.8  |                          | CUB                               |                     | 1589             |
| Cu <sub>2</sub> Sb  | 0.037-0.041  |                          | ORTHO                             |                     | 1589 769         |
| Cu <sub>2</sub> Sb  | 0.085  |                          | C38                               |                     | 1589 769 001     |
| Cu <sub>0.845</sub> Sb <sub>0.155</sub>                     | 0.127-0.184  |                          | DO <sub>3</sub> , L2 <sub>1</sub> |                     | 1617             |
| Cu <sub>0.844</sub> Sb <sub>0.156</sub>                     | 0.067  |                          | A3                                |                     | 769              |
| Cu <sub>0.786</sub> Sb <sub>0.214</sub>                     | 0.028-0.047  |                          | HEX                               |                     | 769              |
| Cu <sub>0.810</sub> Sb <sub>0.190</sub>                     | 0.045-0.070  |                          | HEX                               |                     | 769              |
| CuSb  |  |                          |                                   | 1.80                | 002              |
| CuSe  |  |                          | B18                               | 1.28                | 011 084          |
| CuSe <sub>2</sub>   | 0.785, 2.30-2.43   |                          | C18                               |                     | 1584 1517<br>643 |
| CuSeTe  | 1.6-2.0  |                          | C18                               |                     | 643              |
| Cu <sub>0.95</sub> Se <sub>2</sub> Zn <sub>0.05</sub>       | 1.60-2.45  |                          | C2                                |                     | 1665             |
| Cu <sub>0.6,0.1</sub> Se <sub>2</sub> Zn <sub>0.4,0.9</sub> |  |                          | C2                                | 1.3                 | 1665             |
| Cu <sub>0.86</sub> Si <sub>0.14</sub>                       | 0.050-0.058  |                          | HEX                               |                     | 1617             |
| Cu <sub>0.91</sub> Si <sub>0.09</sub>                       |  |                          |                                   | 1.26                | 084              |
| Cu <sub>3</sub> Si  |  |                          |                                   | 1.28                | 084              |
| Cu <sub>0.25</sub> Si <sub>0.75</sub>                       |  |                          |                                   | 1.28                | 095              |
| CuSi  |  |                          |                                   | 1.28                | 011              |
| Cu <sub>0.55-0</sub> Sn <sub>0.45-1</sub>                   | 3.17-3.71  |                          |                                   |                     | 088              |
| Cu <sub>0.94</sub> Sn <sub>0.06</sub>                       |  |                          |                                   | 1.26                | 084 088          |
| Cu <sub>0.8</sub> Sn <sub>0.2</sub>                         |  |                          |                                   | 1.50                | 071 088 087      |
| Cu <sub>3</sub> Sn  |  |                          |                                   | 1.31                | 085 088 381      |
| Cu <sub>0.1-0.9</sub> Sn <sub>0.9-0.1</sub> (Deposit 4K)    | 7.2-<2   |                          |                                   |                     | ▽1867 ▽353       |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                     | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.            |
|--|--|--------------------------|-------------------|--------------------|------------------|
| Cu <sub>x</sub> Sn <sub>1-x</sub> (Deposit 300K)                                       | 2.8-3.7                                |                          |                   |                    | ▽ 353            |
| Cu <sub>0.1</sub> Sn <sub>0.9</sub> (Condensed 2K)                                     | 6.8                                    |                          |                   |                    | ▽ 1218           |
| Cu <sub>0.14</sub> Sn <sub>0.86</sub> (Deposit 4.2K,<br>(1620 Å))                      | 6.62                                   |                          | HF                |                    | ▽ 1744 ▽ 1949    |
| Cu <sub>4</sub> Te <sub>3</sub>  |  |                          |                   | 0.3                | 1584             |
| CuTe <sub>2</sub>  | <1.25-1.3                              |                          | C18               |                    | 643              |
| CuTe(High temp. phase)   |  |                          |                   | 0.3                | 1584 084         |
| CuTh <sub>2</sub>  | 3.44                                   |                          | C16               |                    | 1377             |
| CuTi   |  |                          | B11               | 1.02               | 270 522          |
| Cu <sub>5</sub> U  |  |                          | C15 <sub>b</sub>  | 1.02               | 270              |
| Cu <sub>0-0.05</sub> V <sub>1-0.95</sub>   | 5.20-3.85                              | 1446-986                 | CUB               |                    | 1890# 314        |
| CuY  |  |                          | B2                | 0.33               | 658              |
| Cu <sub>0.67</sub> Zn <sub>0.33</sub>  |  |                          | A1                | 0.014              | 1617             |
| Cu <sub>x</sub> Zn <sub>1-x</sub>  | 0.845-0.5                              |                          |                   |                    | 624              |
| CuZn(γ)  |  |                          |                   | 1.30               | 1009             |
| CuZn <sub>3</sub>  |  |                          |                   | 1.28               | 084              |
| D <sub>0.018</sub> Nb <sub>0.982</sub>   | ~9.23                                  |                          |                   |                    | 190              |
| D <sub>0.11</sub> Nb, D <sub>0.13</sub> Nb   | 9.12, 8.76                             |                          |                   |                    | 110              |
| D <sub>0.79</sub> , 0.80Nb(β)  |  |                          |                   | 1.94               | 110              |
| D <sub>0.96-0.88</sub> Pd  | 9.5-4.5                                |                          |                   |                    | 1905             |
| D <sub>~0-~1.3</sub> Pd(D implanted)   | 11 max.                                |                          |                   |                    | 164.1402<br>1497 |
| D <sub>3.61</sub> Th   | ~2-8.35                                |                          |                   |                    | 1187             |
| Dy(0.08% oxygen, weight)   |  |                          | A3                | 0.45               | 291              |
| Dy <sub>0.01</sub> La <sub>0.99</sub>  | 3.80                                   |                          |                   |                    | 115              |
| Er   |  |                          | A3                | 0.8                | 245              |
| Er <sub>0.01</sub> La <sub>0.99</sub>  | 5.30                                   |                          |                   |                    | 115              |
| Er <sub>0-0.08</sub> La <sub>1-0.92</sub>  | 6.3-1.4                                |                          |                   |                    | 200 171          |
| Er <sub>~0.1</sub> Th <sub>0.9</sub>   |  |                          |                   | 0.015              | 1389             |
| Eu   |  |                          | A2                | 1.3                | 339              |
| Eu <sub>0-0.015</sub> La <sub>1-0.985</sub>  | 6.3-1.5                                |                          |                   |                    | 200 115          |
| Eu <sub>0.012</sub> La <sub>0.988</sub>  | 2.15(Fccro<br>magnetic below<br>0.660) |                          |                   |                    | 1324             |
| F <sub>0.12</sub> K <sub>0.1</sub> Li <sub>0.02</sub> O <sub>2.88</sub> W              | 1.1                                    |                          |                   |                    | 1242             |
| F <sub>0.08-0.3</sub> K <sub>0.08-0.3</sub> O <sub>2.92-2.7</sub> W                    | 1.9-2.1-0.8                            |                          |                   |                    | 1242             |
| F <sub>0.12-0.2</sub> Li <sub>0.02-0.1</sub> O <sub>2.88-2.8</sub> Rb <sub>0.1</sub> W | 4.0-2.1                                |                          | HF                |                    | 1242             |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)         | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.              |
|---|----------------------------|--------------------------|-----------------------------|--------------------|--------------------|
| F <sub>0.08-0.3</sub> O <sub>2.92-2.7</sub>   | 3.7-0.9                    | HF                       |                             |                    | 1242               |
| Rb <sub>0.08-0.3</sub> W  |                            |                          |                             |                    |                    |
| Fe  |                            |                          | A2                          | 0.75               | 272 572#           |
| FeXe <sub>x</sub>   |                            |                          | A2                          | 0.003              | ▽1526 ▽443<br>▽131 |
| Fe <sub>0-0.08</sub> Ga <sub>4</sub> Mo <sub>1-0.92</sub>                           | 8.0-<1                     | HF                       |                             |                    | 1295               |
| FeGe <sub>2</sub>   |                            |                          | C16                         | 0.07               | 1377 270 572#      |
| FeHf <sub>2</sub>   |                            |                          | E <sub>9</sub> <sub>3</sub> | 1.02               | 270                |
| Fe <sub>0-0.015</sub> In <sub>1-0.985</sub><br>(Deposit r. 2K)                      | 4.2-0.8                    |                          |                             |                    | ▽351 ▽351          |
| Fe <sub>0.00033</sub> Ir  | 0.051                      |                          |                             |                    | 1624 572#          |
| Fe <sub>0-0.1</sub> Ir <sub>0.23-0.22</sub> Mo <sub>0.77</sub>                      | 8.3-<1.2                   | HF                       |                             |                    | 1756               |
| Fe <sub>x</sub> IrY <sub>y</sub>  |                            | Data given               |                             |                    | 563                |
| Fe <sub>0.008</sub> La <sub>0.992</sub>   | 4.85                       |                          |                             |                    | 068                |
| Fe <sub>0.01</sub> La <sub>0.01</sub> Li <sub>0.98</sub>                            | ~0.75                      |                          |                             |                    | 563                |
| Fe <sub>0.01</sub> La <sub>0.001</sub> Rh <sub>0.99</sub>                           | 0.75                       |                          |                             |                    | 563                |
| Fe <sub>x</sub> Mn <sub>1-x</sub> U <sub>6</sub>                                    | 2.4-2.25-3.85              |                          |                             |                    | 920                |
| Fe <sub>0.5</sub> Mn <sub>0.5</sub> U <sub>6</sub>                                  | 2.8                        |                          | D2 <sub>c</sub>             |                    | 1866               |
| Fe <sub>0-0.013</sub> Mo <sub>1-0.987</sub>   | 0.92-0.5                   | Data given               |                             |                    | 1833               |
| Fe <sub>0.01</sub> Mo <sub>0-0.3</sub> Nb <sub>1-0.7</sub>                          | 1-8                        |                          |                             |                    | 240                |
| Fe <sub>0.0008</sub> Mo <sub>0.725</sub> Nb <sub>0.061</sub><br>Re <sub>0.187</sub> | 1.85                       | HF                       |                             |                    | 881                |
| Fe <sub>0-0.04</sub> Mo <sub>0.8</sub> Re <sub>0.2</sub>                            | 10->1                      | HF                       |                             |                    | 240 364            |
| Fe <sub>0-0.006</sub> NbSe <sub>2</sub>   | 7-<1.6                     |                          |                             |                    | 626                |
| Fe <sub>0.08</sub> Nb <sub>0.05</sub> Ti <sub>0.87</sub>                            | 3.5-4.7(Variou<br>anneals) | HF                       |                             |                    | 1800 905<br>1391   |
| Fe <sub>0.04</sub> Nb <sub>0.1</sub> Ti <sub>0.86</sub>                             | 3.8-7.4(Variou<br>anneals) |                          |                             |                    | 1800               |
| Fe <sub>0.03</sub> Nb <sub>0.25</sub> Ti <sub>0.72</sub>                            | 7.2-8.5(Variou<br>anneals) |                          |                             |                    | 1800               |
| Fe <sub>0.19-0.31</sub> Ni <sub>0.60-0.48</sub> P                                   |                            |                          |                             | 0.99               | 601 217            |
| Fe <sub>0.5</sub> Ni <sub>0.5</sub> U <sub>6</sub>                                  | 2.1                        |                          | D2 <sub>c</sub>             |                    | 1866 920           |
| Fe <sub>0.25</sub> Ni <sub>0.75</sub> U <sub>6</sub>                                | 3.0                        |                          |                             |                    | 920                |
| Fe <sub>0.75</sub> Ni <sub>0.25</sub> U <sub>6</sub>                                | 1.4                        |                          |                             |                    | 920                |
| Fe <sub>1-0</sub> Ni <sub>0-1</sub> Zr <sub>2</sub>                                 | 0.3-2.5-1.6                |                          | C16                         |                    | 1377               |
| Fe <sub>0.05</sub> Ni <sub>0.05</sub> Zr <sub>0.9</sub>                             | ~3.9                       |                          |                             |                    | 032                |
| FeNp <sub>6</sub>   |                            |                          |                             |                    | 920                |
| Fe <sub>2</sub> P   |                            |                          | C22                         | 0.97               | 601 217            |
| FeP   |                            |                          | B31                         | 0.97               | 601 217            |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)       | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.  |
|--|--------------------------|--------------------------|-------------------|--------------------|--|
| Fe <sub>~0.005</sub> PPd <sub>3</sub>                            |                          |                          |                   | 0.35               | 491  |
| Fe <sub>0-0.011</sub> Pb <sub>1-0.989</sub> (500-700Å)           | 7.2-2.7                  |                          |                   |                    | ▽1053  |
| Fe <sub>0.02</sub> Re <sub>0.98</sub>                            | 1.60                     |                          |                   |                    | 712  |
| Fe <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>         | 3.9                      |                          |                   |                    | 1060   |
| Fe <sub>0-1</sub> Rh <sub>1-0</sub> Zr <sub>2</sub>              | 11.3-<1.2                |                          | C16               |                    | 1476   |
| Fe <sub>0.018-0.042</sub> Ru <sub>0.982-0.957</sub>              | 0.165-0.018              |                          |                   |                    | 788 572#   |
| Fe <sub>0.05-0.7</sub> Ru <sub>0.95-0.3</sub>                    |                          |                          |                   | 0.015              | 788#   |
| FeS  |                          |                          |                   | 1.9                | 099  |
| FeSb   |                          |                          |                   | 1.8                | 002  |
| FeSb <sub>2</sub>  |                          |                          | ORTHO             | 1.45               | 427  |
| FeSb <sub>3</sub>  |                          |                          |                   | 1.45               | 002  |
| Fe <sub>0.02</sub> Sc <sub>0.05</sub> Zr <sub>0.93</sub>         | 0.35                     |                          |                   |                    | 744  |
| FeSi   |                          |                          |                   | 1.28               | 011 572#   |
| Fe <sub>5</sub> Si <sub>2</sub> V <sub>3</sub>                   |                          |                          | A12               | 0.37               | 270  |
| Fe <sub>0.95</sub> Sn <sub>0.05</sub>                            |                          |                          |                   | 1.26               | 084 572#   |
| FeSn <sub>2</sub>  |                          |                          | C16               | 0.07               | 1377   |
| Fe, Sn(Superimposed films)                                       | 3.5-1.5                  |                          |                   |                    | ▽1141  |
| Fe <sub>2</sub> Te <sub>3</sub>                                  |                          |                          |                   | 1.8                | 1626   |
| Fe <sub>3</sub> Th <sub>7</sub>                                  | 1.86                     |                          | D10 <sub>2</sub>  |                    | 173  |
| FeTi   |                          |                          | A2                | 0.35               | 270 572#   |
| Fe <sub>0.05-0.2</sub> Ti <sub>0.95-0.8</sub> ( <sup>9</sup> )   | 2.7-3.9-<1.5             |                          | CUB               |                    | 1941# 1800<br>572# 522 093<br>171 126            |
| Fe <sub>0-0.025</sub> Ti <sub>1-0.975</sub> ( <sup>a</sup> )     | 0.4-3.5                  |                          | HEX               |                    | 1941# 962<br>477# 522 093<br>572# 171 126<br>554 |
| Fe <sub>0-0.06</sub> Ti <sub>0.6</sub> V <sub>0.4</sub>          | 6.8 Max.                 |                          |                   |                    | 171  |
| Fe <sub>2</sub> U  |                          |                          | C15               | 1.06               | 021  |
| FeU <sub>6</sub>   | 3.9                      |                          | D2 <sub>c</sub>   |                    | 021 1426<br>1152 920#<br>1866 1427               |
| FeU <sub>6</sub> (3×10 <sup>12</sup> neutrons/cm <sup>2</sup> s) | 1.6<br>3.9(Aannealed)    |                          |                   |                    | 907  |
| FeXe <sub>x</sub>  |                          |                          |                   | 0.003              | ▽1441  |
| Fe <sub>0-~200</sub> ppm Zn                                      | T <sub>c</sub> '(-~0.25) |                          |                   |                    | 598  |
| FeZr <sub>2</sub>  | 0.17                     |                          | C16               |                    | 1377 1476  |
| Fe <sub>0.1</sub> Zr <sub>0.9</sub>                              | ≈1                       |                          |                   |                    | 032  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                      | $T_c$ (K)                           | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|---|-------------------------------------|-----------------|-------------------|-----------|---|
| Ga(Mean free path ~ 1 cm)                     | 1.0833                              | 59.3            |                   |           | 803 791 1768<br>183 1571#<br>1003 024#<br>395 001# 390<br>537# 1267<br>938 580# 390 |
| Ga( $\beta$ )                                 | 6.07                                | 540             |                   |           | 1595# 642<br>1046 791#<br>1263#   |
| Ga( $\gamma$ )(Supercooled)                   | 6.9, 7.6                            | 950, HF         |                   |           | 1047 642  |
| Ga( $\delta$ )(Supercooled)                   | 7.85                                | 815, HF         |                   |           | 1048  |
| Ga(II)(P≥35 kbar)                             | 6.38                                |                 |                   |           | 779   |
| Ga(II')(P≥35 kbar, then P=0)                  | 7.5                                 |                 |                   |           | 779   |
| Ga(Films, amorphous)                          | 8.45                                |                 |                   |           | ▽1533 ▽1562   |
| Ga(Films, $\beta$ form)                       | 6.3                                 |                 |                   |           | ▽1562 ▽1533<br>▽1122  |
| Ga(Films, $\gamma$ -form)                     | 7.9                                 |                 |                   |           | ▽1122   |
| Ga(Deposited 4-5K, 150-3000Å)                 | 8.5, 8.4-5.4                        | HF(1949 1774)   |                   |           | ▽1545 ▽779<br>▽1327 ▽1785<br>▽1774 ▽1171<br>▽773 ▽1949<br>▽152 ▽596                 |
| Ga(Deposited 4.2K, annealed 70K)              | 6.5                                 |                 |                   |           | ▽779 ▽1327  |
| Ga(Deposited 105K, <100Å)                     | 6.72<br>6.69(oxidized)              |                 |                   |           | ▽1062   |
| Ga(Deposited 3 He temp. or 1.5K, 30Å-~1000Å)  | 8.56, 8.53-2.5                      |                 |                   |           | ▽1136 ▽1868<br>▽1893  |
| Ga(In ~70-250Å pores)                         | 1.7-2.7                             |                 |                   |           | 1687  |
| Ga(In wood pulp, zeolites, etc.)              | 6.1-6.4, 6.8-7.2                    |                 |                   |           | 1686  |
| Ga(Ne, Xe)(Deposited 10K)                     | 8.3(Decreases with Ne, Xe addition) |                 |                   |           | ▽1229   |
| $Ga_{0.1}Ge_{0.9}$ (Rapid quench)             | $T_c^{'}(+5.3,+2.4)$                |                 |                   |           | 1784  |
| $Ga_{1-0.7}Ge_{0-0.3}Nb_3$                    | 16.05-12.2                          |                 | A15               |           | 1072  |
| $Ga_{0.95-0.15}Ge_{0.05-0.85}Nb_3$ (~20,000Å) | 15.5-13                             |                 | A15               |           | ▽1954   |
| $Ga_{0.8}Ge_{0.2}Nb_3$                        | 12.9                                |                 |                   |           | 1976  |
| $Ga_{0.5}Ge_{0.5}Nb_3$                        | 7.3                                 |                 | A15               |           | 311   |
| $Ga_{1-0}Ge_{0-1}V_3$ Various anneals)        | 12-14-6.05                          |                 | A15               |           | 1369 894  |
| $Ga_{0.8}Ge_{0.2}V_3$                         | 13.6<br>14.4(Aannealed)             |                 | A15               |           | 1073  |
| $Ga_{0.01-0.19}Ge_{0.23-0.006}V_3$            | 7.58-12.9                           |                 | A15               |           | 1808  |
| $GaHf_2$                                      | 0.21                                |                 | C16               |           | 1377  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)              | $H_o$ (oersted)  | Crystal Structure | $T_n$ (K) | Refs.                     |
|---|------------------------|------------------|-------------------|-----------|---------------------------|
| $Ga_{0.0-0.009}In_{1-0.991}$                            | $T_c^1 (+0.0325)$      |                  |                   | 319 320   |                           |
| $Ga_{0.3}In_{0.7}La_3$                                  | 9.25                   |                  | $Li_2$            | 1564#     |                           |
| $Ga_{0.8}In_{0.2}V_3$                                   | <12<br>12.7 (Annealed) |                  | A15               | 1073      |                           |
| $Ga_2La$  |                        |                  |                   | 1.4       | 863                       |
| CaLa  |                        |                  |                   | 1.15      | 711                       |
| $GaLa_3$  | 5.84                   |                  |                   |           | 658                       |
| $Ga_3Lu$  | 2.3                    |                  | $Li_2$            |           | 715                       |
| $GaLu_3$  |                        |                  |                   | 1.1       | 659                       |
| $Ga_{0.03}Mg_{0.97}$                                    |                        |                  |                   | 0.013     | 1340                      |
| $Ga_5Mn_{1.85}$   |                        |                  | TET               | 1.2       | 1977                      |
| $Ga_4Mn_{0-0.012}Mo_{1-0.988}$                          | 8-1                    | HF               |                   |           | 1295 753                  |
| $Ga_5Mn_{1.82-0.22}V_{0.24-1.84}$                       |                        |                  | TET               | 1.2       | 1977                      |
| $Ga_4Mo$  | 8.0, 9.8               | HF               |                   |           | 1295 173                  |
| $Ga_2Mo$  | 9.5                    |                  |                   |           | 117                       |
| $GaMo_3$  | 0.76                   |                  | A15               |           | 270 128 117<br>142        |
| $Ga_{0.3}Mo_{0-0.15}Nb_{0.7-0.55}$<br>(Various anneals) | 14-17                  |                  |                   |           | 1952                      |
| $Ga_4Mo_{1-0.96}Nb_{0-0.04}$                            | 8.0-8.0                | HF               |                   |           | 1295                      |
| $Ga_4Mo_{1-0.96}Nb_{0-0.04}$                            | 8-7.7                  |                  |                   |           | 1295                      |
| $Ga_{0.5}Mo_5S_6Sn$                                     | 13.3                   | HF               |                   |           | 1725                      |
| GaN(gray-black)   | 5.85                   | HF               | B4                |           | 433 558                   |
| GaN(brown)  |                        |                  |                   | 1.38      | 433 528                   |
| $GaN_xO_{1-x}$ (brown)                                  |                        |                  |                   | 1.38      | 558                       |
| $Ga_3Nb_5$  | 1.35                   |                  |                   |           | 927                       |
| $GaNb_3$  | 20.3                   | HF(1339<br>1660) | A15               |           | 1970 1190<br>1339 1660    |
| $GaNb_3$  | 10-14.5                |                  |                   |           | 1446 1164<br>1066 311 142 |
| $Ga_{0.215-0.32}Nb_{0.785-0.68}$<br>(Various anneals)   | 20.3-11.0              |                  |                   |           | 1190 1952                 |
| $Ga_{0-0.32}Nb_{1-0.68}$ (Various<br>anneals)           | 5-18, 20.2             | HF(1339<br>583)  |                   |           | 1666 1339<br>1552 583     |
| $Ga_{0.37}Nb_{0.63}$                                    |                        |                  | TET               | 6.0       | 1190                      |
| $Ga_{0.4}Nb_{0.6}$ (Vapor deposition)                   | 20.3                   |                  | A15               |           | 1599                      |
| $GaNb_3$ (Deposited 700-800K)                           | 20.3-19.3              |                  |                   |           | 1902                      |
| $Ga_{0.15}Nb_3Pb_{0.15}Sn_{0.7}$                        | 18.11                  |                  |                   |           | 1982                      |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)   | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.               |
|--|--|--------------------------|-----------------------------|--------------------|---------------------|
| Ga <sub>0.15</sub> Nb <sub>3</sub> Sb <sub>0.15</sub> Sn <sub>0.7</sub>      | 16.89  |                          |                             |                    | 1982                |
| Ga <sub>1-0</sub> Nb <sub>3</sub> Si <sub>0-1</sub> (20,000Å)                | 13.5-5.2   |                          | A15                         |                    | ▽1954               |
| Ga <sub>0-0.3</sub> Nb <sub>3</sub> Sn <sub>1-0.7</sub>                      | 18.03-18.37  |                          |                             |                    | 315 299 270<br>1982 |
| Ga <sub>0-0.3</sub> Nb <sub>3</sub> Sn <sub>1-0.7</sub>                      | 18-18.1 <sub>5</sub> -17.9 <sub>5</sub><br>18-18.3-16.1 <sub>5</sub><br>(Annealed) |                          | A15                         |                    | 1982 1072           |
| Ga <sub>0-0.6</sub> Nb <sub>3</sub> Sn <sub>1-0.4</sub><br>(Various anneals) | 14.0-18.1  |                          |                             |                    | 311                 |
| Ga <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.7</sub> Tl <sub>0.15</sub>      | 18.14  |                          |                             |                    | 982                 |
| Ga <sub>0.30</sub> Nb <sub>0.70-0.55</sub> Ta <sub>0-0.15</sub>              | 10-17  |                          |                             |                    | 952                 |
| Ga <sub>0.3</sub> Nb <sub>0.7-0.55</sub> Ti <sub>0-0.15</sub>                | 6-17   |                          |                             |                    | 1952                |
| GaNb <sub>2.4</sub> V <sub>0.6</sub>   | 12.5<br>13(Aannealed)  |                          | A15                         |                    | 1073                |
| GaNb <sub>1-5</sub> V <sub>1.5</sub>   |  |                          | A15                         | 12                 | 1073                |
| Ga <sub>0.3</sub> Nb <sub>0.7-0.55</sub> Zr <sub>0-0.15</sub>                | 7-17   |                          |                             |                    | 1952                |
| GaP (See Table 4)  |  |                          |                             |                    |                     |
| Ga <sub>0.1</sub> Pb <sub>0.9</sub> (Quench<br>condensed, 4K)                | 6.33<br>7.09(Aannealed)  |                          |                             |                    | ▽1491               |
| Ga <sub>7</sub> Pt <sub>3</sub>  | 2.9(427)   |                          | C1(427)<br>Not C1<br>(1008) | 1.1<br>(1008)      | 427 1008            |
| Ga <sub>2</sub> Pt   | 1.7-1.9  |                          |                             |                    | 486                 |
| GaPt   | 1.74(427)  |                          | B20                         | 0.34<br>(486)      | 427 486             |
| GaSb(~120 kbar, 77K and anneal)  | 4.24   | HF                       |                             |                    | 695                 |
| GaSb   | 5.9  |                          |                             |                    | 695                 |
| Ga <sub>1-0.58</sub> Sb <sub>0-0.42</sub> (Deposit 77K)                      | 7.9-<1   |                          |                             |                    | ▽1904               |
| GaSc <sub>3</sub>  |  |                          |                             | 1.1                | 659                 |
| Ga <sub>1-0</sub> Si <sub>0-1</sub> V <sub>3</sub>                           | 14.5-8.7-16.7  |                          | A15                         |                    | 1896 1814<br>1976   |
| Ga <sub>1-0</sub> Si <sub>0-1</sub> V <sub>3</sub> (Various anneals)         | 13-7-16.5(as cast)   |                          | A15's                       |                    | 1369                |
| Ga <sub>0-0.3</sub> Si <sub>0-0.7</sub> V <sub>3</sub>                       | 17.0-13.3  |                          | A15                         |                    | 1073                |
| Ga <sub>0.2-0.8</sub> Si <sub>0.8-0.2</sub> V <sub>3</sub>                   | 7.2-12.3   |                          |                             |                    | 1456                |
| Ga <sub>0.25</sub> Si <sub>0.75</sub> V <sub>3</sub>                         | 18.6   |                          |                             |                    | 1955 1073           |
| Ga <sub>0.5</sub> Si <sub>0.5</sub> V <sub>3</sub>                           | 18.2   |                          |                             |                    | 1955 270            |
| GaSiV <sub>3</sub> (Various anneals)   | 10.5-18.6  |                          | A15                         |                    | 1955                |
| Ga <sub>0-1</sub> Sn <sub>1-0</sub>  | 2.6-3.85(Aannealed)<br>3.47-4.18(Quenched)   |                          |                             |                    | 576                 |
| Ga <sub>0-0.05</sub> Sn <sub>1-0.95</sub>                                    | 3.703-3.938  |                          |                             |                    | 576                 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                   | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|--|--------------------------------------|--------------------------|-------------------|--------------------|---|
| Ga <sub>1-0</sub> Sn <sub>0-1</sub> V <sub>3</sub> (Various anneals) | 1.2-3.8                              |                          | A15's             |                    | 1369  |
| Ga <sub>2</sub> Ta <sub>3</sub>                                      |                                      |                          | TET               | 0.1                | 927   |
| Ga <sub>2</sub> Th   | 2.56(711)                            |                          | C16               | 0.06               | 1377 711  |
| GaTi <sub>3</sub>  |                                      |                          | DO <sub>19</sub>  | 0.35               | 270   |
| Ga <sub>3</sub> Ti   |                                      |                          | DO <sub>22</sub>  | 1.02               | 270   |
| Ga <sub>3</sub> U  |                                      |                          | L1 <sub>2</sub>   | 1.2                | 412 1677#   |
| GaV <sub>3</sub>   | 16.5, 16.8                           |                          | A15               |                    | 578 310 117<br>142 128 1066<br>372 465#<br>572# 1693#             |
| GaV <sub>3</sub> (Various anneals)                                   | 15.4-14.4                            |                          | A15               |                    | 1343 957<br>1164 645 646<br>1075 479 310<br>406                   |
| GaV <sub>3</sub> (Various anneals)                                   | 14.19-12.0                           |                          | A15               |                    | 1407 684 877<br>787 1013<br>1446 880<br>1073 1369                 |
| Ga <sub>0.14-0.37</sub> V <sub>0.86-0.63</sub>                       |                                      |                          | B2                | 4.2                | 1916 958  |
| Ga <sub>0.18-0.32</sub> V <sub>0.82-0.68</sub>                       | 7.3-15.8-5.1                         |                          | A15               |                    | 1469# 1343<br>787 684 310   |
| G <sub>0.03-0.3</sub> V <sub>0.97-0.7</sub>                          | 10-13.7-2                            |                          |                   |                    | 901 1916 310  |
| Ga <sub>5</sub> V <sub>2</sub>                                       | 3.55(416)                            |                          | TET               | 2.1                | 416 661   |
| Ga <sub>0.71</sub> V <sub>0.29</sub>                                 | 4.2                                  | HF                       |                   |                    | 1675 1977   |
| Ga <sub>0.45</sub> V <sub>0.55</sub>                                 |                                      |                          | HEX               | 2.1                | 958 661   |
| GaV <sub>3</sub>   | 14.5-14.2                            | HF                       |                   |                    | 310 406 646<br>880 787 877<br>1407 684 872<br>1075 564 316<br>684 |
| GaV  | 14-16.45                             |                          |                   |                    | ▽460  |
| GaY <sub>3</sub>   |                                      |                          |                   | 1.1                | 659   |
| GaY  |                                      |                          |                   | 1.15               | 711   |
| Ga <sub>2</sub> Y  | 1.68                                 |                          | TET               |                    | 863   |
| Ga <sub>3</sub> Zr   |                                      |                          | DO <sub>22</sub>  | 1.02               | 270 427   |
| Ga <sub>2</sub> Zr <sub>3</sub>                                      |                                      |                          | TET               | 0.1                | 927   |
| GaZr <sub>2</sub>  | 0.38                                 |                          | C16               |                    | 1377  |
| Ga <sub>3</sub> Zr <sub>5</sub>                                      | 3.85(Aannealed)<br>2.5-4.0(Quenched) |                          |                   |                    | 711   |
| Gd(0.5% O <sub>2</sub> , weight)                                     |                                      |                          | A3                | 0.37               | 291   |
| Gd <sub>0.0016-0.0061</sub> In <sub>1-x</sub><br>(2400-1180Å)        | 3.512-2.028                          |                          |                   |                    | ▽1773   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)  | H <sub>c</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)                              | Refs.                   |
|--|---------------------|--------------------------|-------------------|---|-------------------------|
| Gd <sub>0-0.073</sub> InLa <sub>3-2.927</sub>                | 8.5-2.7             | HF                       | L1 <sub>2</sub>   | 1125 1435<br>1065                               |                         |
| Gd <sub>0-0.008</sub> La <sub>1-0.992</sub>                  | 6.5.7-1.3           |                          |                   | 115 422 172<br>572# 608<br>613# 747 915<br>1358 |                         |
| Gd <sub>0.01</sub> La <sub>0.99</sub>                        | 0.60                |                          |                   | 115   |                         |
| Gd <sub>0.005</sub> La <sub>0.995</sub>                      | 3.7                 |                          |                   | 328   |                         |
| Gd <sub>x</sub> La <sub>1-x</sub>                            |                     | HF                       |                   | 1358 1265<br>▽463                               |                         |
| Gd <sub>0.014, 0.02</sub> La <sub>0.986, 0.979</sub>         |                     |                          |                   | 2.0   | 812                     |
| Gd <sub>0.09</sub> La <sub>0.91</sub> Os <sub>2</sub>        | ≈6                  |                          |                   |   | 187                     |
| Gd <sub>0-0.05</sub> La <sub>1-0.95</sub> Ru <sub>2</sub>    | 4.0-1               |                          | C15               |   | 1490 1499               |
| Gd <sub>0-0.12</sub> La <sub>1-0.88</sub> Sn <sub>3</sub>    | 6.4-<1              | HF                       | L1 <sub>2</sub>   |   | 1131 1329               |
| Gd <sub>0.2</sub> Mo <sub>6</sub> PbS <sub>8</sub>           | 14.3                | HF                       |                   |   | 1759                    |
| Gd <sub>0.01</sub> Nb <sub>1-0.99</sub><br>(Various anneals) | 8.98-9.19           | HF                       |                   |   | 1771                    |
| Gd <sub>0-0.09</sub> Os <sub>2</sub> Y <sub>1-0.91</sub>     | 4.7-1.4             |                          |                   |   | 171 422 240<br>201      |
| Gd <sub>0-0.02</sub> Pb <sub>1-0.98</sub> (620, 1800Å)       | 7.2-2.2             |                          |                   |   | ▽377 ▽1773<br>▽251 ▽748 |
| Gd <sub>0-0.1</sub> Ru <sub>2</sub> Th <sub>1-0.9</sub>      | 3.5-2.8             |                          | C15               |   | 1499 186                |
| Gd <sub>0.001</sub> Th <sub>0.999</sub>                      | 1.110               | 123                      |                   |   | 1561 1123<br>115        |
| Gd <sub>0.002</sub> Th <sub>0.998</sub>                      | 0.714               | 73                       |                   |   | 1123 1561<br>115        |
| Gd <sub>0-0.1</sub> Y <sub>1-0.9</sub>                       |                     |                          |                   | 1.20  | 115 572#<br>812         |
| Gd <sub>1-0.7</sub> Y <sub>0-0.3</sub>                       |                     |                          |                   | 4.2   | 663                     |
| Ge   |                     |                          | A4                | 0.05  | 012                     |
| Ge(115 kbar)   | 5.35                |                          |                   |   | 1068# 540               |
| Ge(II)   |                     |                          | TET               | 0.33  | 303                     |
| Ge <sub>0.22</sub> H <sub>0.16</sub> Nb                      |                     |                          | A15               | 4.2   | 311                     |
| GeHf <sub>2</sub>  |                     |                          | C16               | 0.05  | 1377                    |
| Ge <sub>0.3</sub> In <sub>0.7</sub> (Rapid quench)           | T <sub>c</sub> '(0) |                          |                   |   | 1784                    |
| Ge <sub>0.1</sub> In <sub>0.9</sub>                          | 6.2                 |                          |                   |   | ▽1528                   |
| Ge <sub>7</sub> Ir <sub>3</sub>                              | 0.87                |                          |                   |   | 491                     |
| GeIr   | 4.70                |                          | B31               |   | 037 039                 |
| Ge <sub>2</sub> La   | 2.24                |                          | C <sub>c</sub>    |   | 916# 808#<br>572# 676#  |
| Ge <sub>2</sub> La   | 1.49                |                          | ORTHO             |   | 025                     |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Ref's.                                |
|---|--------------------|--------------------------|-------------------|--------------------|---------------------------------------|
| Ge <sub>1.78</sub> La   | 1.57               |                          | C <sub>c</sub>    |                    | 916#                                  |
| GeMo <sub>3</sub>   | 1.4-1.6            |                          | A15               |                    | 1446 474 010<br>128 1692              |
| Ge <sub>0.23</sub> Mo <sub>0.77</sub>                                       | 1.8, 2.16          |                          |                   |                    | 1692 1446                             |
| Ge <sub>2</sub> Mo  |                    |                          | C11b              | 1.20               | 010                                   |
| Ge <sub>0.41</sub> Mo <sub>0.59</sub>                                       |                    |                          |                   | 1.20               | 042 010                               |
| Ge <sub>0.07-0.67</sub> Mo <sub>0.93-0.33</sub><br>(Co-sputtered)           | <1.2-7.6-3         |                          |                   |                    | ▽1565                                 |
| Ge <sub>3</sub> N <sub>4</sub>  |                    |                          |                   | 1.38               | 558                                   |
| GeNb <sub>3</sub>   | 6.28               |                          | A15               |                    | 1446 312 498<br>1705 270<br>1660 1591 |
| Ge <sub>2</sub> Nb <sub>3</sub>   |                    |                          |                   | 1.20               | 010                                   |
| GeNb <sub>2</sub> (Plus free metal)   | 1.9                |                          |                   |                    | 010                                   |
| Ge <sub>3</sub> Nb <sub>5</sub>   |                    |                          | TET               | 1.02               | 270 262 1629                          |
| Ge <sub>0.22</sub> Nb   | 5.3                |                          | A15               |                    | 311                                   |
| Ge <sub>0.55</sub> Nb <sub>3.45</sub>                                       | 4.9                |                          |                   |                    | 311                                   |
| Ge <sub>0.72</sub> Nb <sub>3.28</sub>                                       | 5.5                |                          |                   |                    | 311                                   |
| GeNb <sub>3</sub> (Deposited 700-950°C,<br>~2000Å)                          | 22.3, 23.2         | HF(1653)                 | A15               |                    | ▽1385 ▽1668<br>▽1653 ▽1628<br>▽1600   |
| GeNb <sub>3</sub> (Chemical vapor<br>deposition, 280,000Å)                  | 21.7 Max.          |                          | A15               |                    | ▽1629 ▽1599<br>▽1695 ▽1410            |
| GeNb <sub>3</sub> (Drop quenched)   | 22.1               |                          |                   |                    | 1726                                  |
| GeNb <sub>3</sub> (Rapid quench)  | 17.6               |                          | A15               |                    | 498                                   |
| Ge <sub>0-0.3</sub> Nb <sub>3</sub> Pb <sub>0-0.3</sub> Sn <sub>1-0.4</sub> | 18-16.8            |                          |                   |                    | 1982                                  |
| Ge <sub>0.15</sub> Nb <sub>3</sub> Pb <sub>0.15</sub> Sn <sub>0.7</sub>     | 17.82              |                          |                   |                    | 1982                                  |
| Ge <sub>1-0</sub> Nb <sub>3</sub> Si <sub>0-1</sub> (~20,000Å)              | 12.5-6.5           |                          |                   |                    | ▽1954                                 |
| Ge <sub>0.9</sub> Nb <sub>3</sub> Si <sub>0.1</sub> (4000Å)                 | 20.3 Max.          |                          |                   |                    | ▽1668                                 |
| Ge <sub>0-0.6</sub> NbSn <sub>1-0.4</sub>                                   | 18.0-18.1-13.2     |                          | A15               | 1072               |                                       |
| Ge <sub>0-1</sub> Nb <sub>3</sub> Sn <sub>1-0</sub>                         | 18.1-7.1, 6        |                          |                   |                    | 1812 419                              |
| Ge <sub>0-0.3</sub> Nb <sub>3</sub> Sn <sub>1-0.7</sub>                     | 18-17.6            |                          |                   |                    | 1982 299                              |
| Ge <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.85</sub>                       | 17.8 Max.          |                          |                   |                    | 1982                                  |
| Ge <sub>0.5</sub> Nb <sub>3</sub> Sn <sub>0.5</sub>                         | 12.6, 11.3         |                          |                   |                    | 427 311                               |
| Ge <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.7</sub> Tl <sub>0.15</sub>     | 17.79              |                          |                   |                    | 1982                                  |
| Ge <sub>0-0.02</sub> Nb <sub>0.55-0.75</sub><br>Ti <sub>0.45-0.23</sub>     | 9.6 Max.           | HF                       |                   |                    | 1464 1463                             |
| Ge <sub>3</sub> Nb <sub>2.5</sub> Zr <sub>2.5</sub>                         |                    |                          | D8 <sub>8</sub>   | 1.1                | 262                                   |
| Ge <sub>2</sub> Ni <sub>5</sub> V <sub>3</sub>                              |                    |                          | A12               | 0.35               | 270                                   |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material   | $T_c$ (K)                  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.                    |
|--|----------------------------|-----------------|-------------------|-----------|--------------------------|
| $\text{Ge}_2\text{Os}$   |                            |                 | MONO              | 0.33      | 1508                     |
| $\text{Ge}_{0.5}\text{Os}_{0.5}$   |                            |                 |                   | 1.1       | ▽1683                    |
| $\text{GeP}$ (30-65 kbar, 400-900C)  | 1.8-4.2                    |                 | TET               |           | 891                      |
| $\text{GeP}_3$ (High P and temp.)  |                            |                 | RHOMB             | 1.25      | 891                      |
| $\text{GeP}_5$ (High P and temp.)  |                            |                 | RHOMB             | 1.25      | 891                      |
| $\text{Ge}_{0.3}\text{Pb}_{0.7}$ (Rapid quench)                            | $T'_c(+0.3)$               |                 |                   |           | 1784                     |
| $\text{Ge}_{0.1}\text{Pb}_{0.9}$ (Quench condensed, 0.4K)                  | 6.35                       |                 |                   |           | ▽1491                    |
| $\text{Ge}_2\text{Pd}$   |                            |                 |                   | 1.47      | 427                      |
| $\text{GePd}$  |                            |                 | B31               | 0.35      | 270                      |
| $\text{GePd}_2$  |                            |                 |                   | 0.35      | 491                      |
| $\text{Ge}_2\text{Pd}_5$   |                            |                 |                   | 0.35      | 491                      |
| $\text{Ge}_{0.98-0.02}\text{Pd}_{0.02-0.98}$<br>(Deposit 4.2K)             | <1-3.1-<1                  |                 |                   |           | ▽1683                    |
| $\text{Ge}_{0.6}\text{Pd}_{0.4}$ (Deposit 4.2K)                            | 3.1<br>2.1(Aannealed 300K) |                 | HF                |           | ▽1683                    |
| $\text{GePt}$  | 0.40                       |                 | B31               |           | 270                      |
| $\text{Ge}_{0.5}\text{Pt}_{0.5}$ (Deposit 4.2K)                            | 1.4                        |                 |                   | 1.0       | ▽1683<br>(Annealed 300K) |
| $\text{GeRh}$  | 0.96                       |                 | B31               |           | 270 141                  |
| $\text{Ge}_3\text{Rh}_5$   | 2.12                       |                 | ORTHO             |           | 141 037                  |
| $\text{Ge}_{0.5}\text{Rh}_{0.5}$   |                            |                 |                   | 1.1       | ▽1683                    |
| $\text{Ge}_{0.5}\text{Ru}_{0.5}$   |                            |                 |                   | 1.1       | ▽1683                    |
| $\text{Ge}_{0.3}\text{Sb}_{0.7}$ ("Gun" cooled)                            | 3.3                        |                 | CUB               |           | 1829                     |
| $\text{Ge}_{0.2,0.4}\text{Sb}_{0.8,0.6}$ ("Gun" Cooled)                    |                            |                 | CUB               | 1.3       | 1829                     |
| $\text{Ge}_{0.2-0.8}\text{Sb}_{0.8-0.2}\text{V}_3$                         | 4.3-5.9                    |                 |                   |           | 1456                     |
| $\text{Ge}_2\text{Sc}$   | 1.30-1.31                  |                 |                   |           | 025                      |
| $\text{Ge}_{1-0}\text{Si}_{0-1}\text{V}_3$                                 | 6.05-16.5                  |                 | A15               |           | 1369 1761<br>1456        |
| $\text{Ge}_{0-0.25}\text{Si}_{1-0.75}\text{V}_3$                           | 17-11                      |                 | A15               |           | 1983                     |
| $\text{Ge}_{0.1}\text{Si}_{0.9}\text{V}_3$                                 | 14.4<br>16.4(Aannealed)    |                 | A15               |           | 1073                     |
| $\text{Ge}_x\text{Sn}_{1-x}$ ( $\approx 3000\text{\AA}$ )                  | 3.2-4.1                    |                 |                   |           | ▽1417                    |
| $\text{Ge}_{0.3}\text{Sn}_{0.7}$ (Rapid quench)                            | $T'_c(+3.3)$               |                 |                   |           | 1784                     |
| $\text{Ge}_x\text{Sn}(0-100\text{\AA} \text{ Ge on Sn at } 315\text{\AA})$ | $T'_c(-0.08)$              |                 |                   |           | ▽989                     |
| GeSnTe(See Table 4)  |                            |                 |                   |           |                          |
| $\text{Ge}_{1-0}\text{Sn}_{0-1}\text{V}_3$                                 | 6.05-3.8-<3.8              |                 | A15               |           | 1369 1456                |
| $\text{Ge}_2\text{Ta}$   |                            |                 |                   | 1.2       | 010                      |
| $\text{GeTa}_2$ (?)  |                            |                 |                   | 1.6       | 010                      |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.  |
|--|-------------------------|--------------------------|-------------------|--------------------|--|
| GeTa <sub>3</sub> (4000 Å)                           | ~8                      |                          |                   |                    | ▽ 1410   |
| GeTe(See Table 4)                                    |                         |                          |                   |                    |  |
| Ge <sub>2</sub> Th <sub>3</sub>                      |                         |                          | TET               | 0.1                | 927  |
| GeTh <sub>2</sub>                                    |                         |                          | C16               | 0.07               | 1377 010   |
| Ge <sub>2</sub> Ti                                   |                         |                          | C54               | 1.20               | 010 522  |
| Ge <sub>3</sub> Ti <sub>5</sub>                      |                         |                          | D8 <sub>8</sub>   | 1.20               | 522 010  |
| Ge <sub>0.3</sub> Tl <sub>0.7</sub> (Rapid quench)   | T <sub>c</sub> '(0)     |                          |                   |                    | 1784   |
| GeTl(Superimposed films)                             | T <sub>c</sub> '(+0.11) |                          |                   |                    | ▽ 989  |
| Ge <sub>3</sub> U                                    |                         |                          | L1 <sub>2</sub>   | 0.35               | 270 1677#  |
| GeV <sub>3</sub>                                     | 6.10                    |                          | A15               |                    | 1446 1013<br>645 1369 578<br>474 010 894<br>572#     |
| GeV <sub>3</sub>                                     | 5.88-6.9                | HF(719)                  | A15               |                    | 1164 1015<br>894 792 719<br>1808 465 447<br>010 706# |
| GeV <sub>3</sub> (>13,000 Å)                         | 6.7                     | HF                       |                   |                    | ▽ 719  |
| Ge <sub>2</sub> Y                                    | 3.80                    |                          | C <sub>c</sub>    |                    | 025 572#   |
| GeY  |                         |                          |                   | 1.15               | 711  |
| Ge <sub>1.62</sub> Y                                 |                         |                          | C <sub>c</sub>    |                    | 676 808#   |
| Ge <sub>0.3</sub> Zn <sub>0.7</sub> (Rapid quench)   | T <sub>c</sub> '(0)     |                          |                   |                    | 1784   |
| Ge <sub>3</sub> Zr <sub>5</sub>                      |                         |                          | D8 <sub>8</sub>   | 0.35               | 270  |
| Ge <sub>2</sub> Zr                                   |                         |                          | C49               | 0.35               | 270 010  |
| GeZr   |                         |                          |                   | 1.2                | 010  |
| H <sub>2.45</sub> La                                 |                         |                          | CUB               | 1.8                | 040  |
| H <sub>1.8-2.36</sub> La                             |                         |                          |                   | 1.1                | 488  |
| H <sub>1.96</sub> La                                 |                         |                          |                   | 0.33               | 488  |
| HLiN(See Table 3)                                    |                         |                          |                   |                    |  |
| H <sub>14.4</sub> ppm Mo                             | 0.904                   |                          |                   |                    | 1947   |
| H <sub>3</sub> NNa <sub>0.01-0.12</sub>              |                         |                          | Low resistivity   |                    | 1684 066   |
| H <sub>1.33</sub> N <sub>0.33</sub> O <sub>3</sub> W | 3.2-1.4                 |                          | HEX               |                    | 1379   |
| H <sub>0-0.147</sub> Nb <sub>1-0.853</sub>           | 9.30-6.75               |                          | CUB's             |                    | 1208 049 306<br>199                                  |
| H <sub>0.33</sub> Nb <sub>0.67</sub>                 | 7.28                    | HF(631)                  | CUB               |                    | 049 097 306<br>631                                   |
| H <sub>0.7</sub> Nb <sub>0.3</sub>                   |                         |                          |                   | 0.47               | 410  |
| H <sub>0.88, 0.99</sub> Nb                           |                         |                          |                   | 1.94               | 110  |
| H <sub>~1-1.5</sub> Nb <sub>3</sub> Sn               | 4.2-18.2                |                          | A15               |                    | 1077   |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                               |
|---|--------------------|--------------------------|-------------------|--------------------|-------------------------------------|
| H <sub>x</sub> Ni <sub>0.015</sub> Pd                               | 5.5-<1.5           |                          |                   |                    | 1311                                |
| H <sub>x</sub> Ni <sub>0.05</sub> Pd                                | 3-<1.5             |                          |                   |                    | 1311                                |
| H <sub>1-0.7</sub> Pd(Electrolysis)                                 | ~8-<1.5            | HF(1727<br>1763)         |                   |                    | 1647 1727#<br>1763                  |
| H <sub>0.94</sub> Pd  | 6.6                | 1800                     |                   |                    | 1763                                |
| H <sub>0.87</sub> Pd  | 4.3-1.7            |                          |                   |                    | 1311 1670#<br>1905                  |
| H <sub>0.81</sub> Pd  | 2.5-<1.5           |                          |                   |                    | 1311                                |
| H <sub>0.73</sub> Pd  |                    |                          |                   | 1.25               | 1311                                |
| H <sub>x</sub> Pd(0.15-5.1 kbar)                                    | 2.2-7.3            |                          |                   |                    | 1498                                |
| H <sub>x</sub> Pd(Ion implantation)                                 | 1.5-9 Max.         |                          |                   |                    | 1402 164<br>1497 572#<br>1912# 1985 |
| H <sub>x</sub> Pd <sub>0.95</sub> Rh <sub>0.05</sub> (P=1-4.2 kbar) | 2.0-3.3            |                          |                   |                    | 1498                                |
| H <sub>0-0.87</sub> S <sub>2</sub> Ta(Unstable)                     | 0.8-4.2-<0.5       |                          |                   |                    | 1871                                |
| H <sub>0.11</sub> S <sub>2</sub> Ta                                 | 4.2                |                          |                   |                    | 1871                                |
| H <sub>0.04-0.12</sub> Ta <sub>0.96-0.88</sub>                      | 3.62-2.81          |                          | CUB               |                    | 049 346 097                         |
| H <sub>x</sub> Ta   |                    | HF                       |                   |                    | 346                                 |
| H <sub>2</sub> Ti   |                    |                          | CUB               | 1.02               | 270                                 |
| H <sub>0.5</sub> V  |                    |                          |                   | 1.7                | 1617#                               |
| H <sub>0.32</sub> V <sub>0.68</sub>                                 |                    |                          |                   | 4.2                | 1144                                |
| H <sub>2</sub> Zr   |                    |                          | L <sub>2</sub> b  | 1.02               | 270                                 |
| Hf(RRR 2-80)  |                    |                          | A3                | 0.015              | 942 031 001<br>031 270 266<br>572#  |
| Hf(100-7000 Å, deposit 100-400C)                                    |                    |                          |                   | 1.3                | 1273                                |
| Hf <sub>2</sub> InN   |                    |                          | HEX               | 1.1                | 632                                 |
| Hf <sub>2</sub> Ir  |                    |                          | E9 <sub>3</sub>   | 1.6                | 1299                                |
| Hf <sub>0.91-0.33</sub> Mo <sub>0.09-0.67</sub>                     | 2.1-2.9-1          |                          | CUB               |                    | 956                                 |
| H <sub>3.6-3.65</sub> Th  | 8.05-8.35          | HF                       | CUB               |                    | 1117 1187                           |
| H <sub>15</sub> Th <sub>4</sub> (P=0-28 kbar)                       | 7.63-8.45          |                          |                   |                    | 1673                                |
| Hf <sub>0.9</sub> Mo <sub>0.1</sub>                                 | 2.5                |                          |                   |                    | 266                                 |
| HfMo <sub>2</sub>   | 0.065              |                          | C36               |                    | 1586 1988<br>956 266 270            |
| HfMo <sub>2</sub> (Various anneals)                                 | 0.063-0.076        |                          | C15               |                    | 1586 956<br>1988                    |
| HfMo <sub>2</sub>   | ~1                 |                          | CUB               |                    | 956                                 |
| Hf <sub>0.15</sub> Mo <sub>0.85</sub>                               |                    |                          | CUB               | 1.02               | 266                                 |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)               | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                      |
|---|----------------------------------|--------------------------|-------------------|--------------------|----------------------------|
| HfMo <sub>0-0.44</sub> V <sub>2-1.56</sub>                                    | 9.2-9.3-8.8                      |                          |                   |                    | 1323                       |
| HfN   | 8.83, 6.2                        |                          | B1                |                    | 1542# 278<br>1238 559 558  |
| Hf <sub>0-1</sub> NNb <sub>1-0</sub>  | 14.6-5.3                         | HF                       | B1                |                    | 1203                       |
| Hf <sub>0.96-0</sub> N <sub>0.92-1.02</sub> Zr <sub>0.04-1</sub>              | 6.2-10.7                         |                          | B1                |                    | 1961 278                   |
| Hf <sub>0.97</sub> N <sub>0.76-0.85</sub> Zr <sub>0.03</sub>                  | 8.7                              |                          | B1                |                    | 1961                       |
| HfN <sub>1.118</sub> Zr <sub>500 ppm</sub>                                    |                                  |                          | B1                | 2.0                | 1961                       |
| Hf <sub>0-0.75</sub> Nb <sub>1-0.25</sub>                                     | 9.22-9.65-6.5                    |                          |                   |                    | 885 253                    |
| Hf <sub>0-0.9</sub> Nb <sub>1-0.1</sub> (Weight fraction)                     | 9.3-9.8-5.5-9                    | HF                       |                   |                    | 1559                       |
| Hf <sub>0.15</sub> Nb <sub>0.85</sub>   | 9.85                             |                          |                   |                    | 885                        |
| Hf <sub>x</sub> Nb <sub>1-x</sub>   |                                  | HF                       |                   |                    | 616 441 218<br>289 399 466 |
| Hf <sub>0.33</sub> Nb <sub>0.67</sub> (High temp. substrate)                  | 17 Max.                          |                          |                   |                    | 1438                       |
| Hf <sub>0.5</sub> Nb <sub>0.5</sub>   | 9.5 Max.                         |                          |                   |                    | 1438                       |
| Hf <sub>0.04</sub> Nb <sub>0.42</sub> Ta <sub>0.04</sub> Ti <sub>0.50</sub>   |                                  | HF                       |                   |                    | 1391                       |
| Hf <sub>0.04</sub> Nb <sub>0.32</sub> Ti <sub>0.64</sub>                      |                                  | HF                       |                   |                    | 1391                       |
| Hf <sub>0.04</sub> Nb <sub>0.40</sub> Ti <sub>0.52</sub> V <sub>0.04</sub>    |                                  | HF                       |                   |                    | 1391                       |
| Hf <sub>0.7-0</sub> Nb <sub>0.3</sub> Ti <sub>0-0.7</sub> Zr <sub>0.7-0</sub> | ~9-~5                            | HF                       |                   |                    | 1748 1092<br>1391          |
| HfNb <sub>0-0.5</sub> V <sub>2-1.5</sub>                                      | 9.2-10-9.5                       |                          |                   |                    | 1323                       |
| Hf <sub>0.33</sub> Nb <sub>0.33</sub> V <sub>0.33</sub>                       | 6.6 Max.                         |                          |                   |                    | 1438                       |
| Hf <sub>0.33</sub> Nb <sub>0.17</sub> V <sub>0.7</sub>                        |                                  |                          |                   | 4.2                | 1438                       |
| Hf <sub>0-0.5</sub> Nb <sub>0.5</sub> Zr <sub>0.5-0</sub>                     | 9.3-7, 6.6-6.5, 4.8              | HF                       |                   |                    | 1747                       |
| Hf <sub>0-0.3</sub> Nb <sub>0.7</sub> Zr <sub>0.3-0</sub>                     | 11-8.6,<br>7.3-6.5               | HF                       |                   |                    | 1747                       |
| Hf <sub>0-0.7</sub> Nb <sub>0.3</sub> Zr <sub>0.7-0</sub>                     | 9-~6, 7                          | HF                       |                   |                    | 1747                       |
| Hf <sub>0.36</sub> Nb <sub>0.62</sub> Zr <sub>0.02</sub>                      | 7.75(Quenched)<br>8.1(Aannealed) |                          |                   |                    | 1334                       |
| Hf <sub>0.3</sub> Nb <sub>0.4</sub> Zr <sub>0.3</sub>                         |                                  | HF                       |                   |                    | 1391                       |
| Hf <sub>0.13</sub> Nb <sub>0.74</sub> Zr <sub>0.13</sub>                      |                                  | HF                       |                   |                    | 1391                       |
| Hf <sub>2</sub> Ni  | 0.87                             |                          | C16               |                    | 1377                       |
| Hf <sub>0.63</sub> Ni <sub>0.25</sub> Re <sub>0.12</sub>                      |                                  |                          | E9 <sub>3</sub>   | 1.02               | 270                        |
| Hf <sub>0.67</sub> Ni <sub>0.233</sub> Ru <sub>0.1</sub>                      |                                  |                          | E9 <sub>3</sub>   | 1.02               | 270                        |
| HfOs <sub>2</sub>   | 2.69, 2.0                        |                          | C14               |                    | 127 1478                   |
| Hf <sub>0.65-0.85</sub> Os <sub>0.35-0.15</sub>                               | 2.3-2.4                          |                          | CUB               |                    | 266                        |
| Hf <sub>0.875</sub> Re <sub>0.125</sub>                                       | 1.70                             |                          | CUB               |                    | 266 468                    |
| Hf <sub>~0.5</sub> Re <sub>~0.5</sub>   |                                  |                          | A12               | 1.02               | 266 468                    |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                                   | H <sub>o</sub> (oersted) | Crystal Structure                 | T <sub>n</sub> (K) | Refs.                                 |
|---|--|--------------------------|-----------------------------------|--------------------|---------------------------------------|
| HfRe <sub>2</sub>   | 4.80, 5.61   |                          | C14                               |                    | 266 468 127<br>1478 1149              |
| Hf <sub>0.14</sub> Re <sub>0.86</sub>                           | 5.86   |                          | A12                               |                    | 266 468                               |
| Hf <sub>0.025</sub> Re <sub>0.975</sub>                         | 7.3  |                          | HEX                               |                    | 266 468                               |
| Hf <sub>0.99-0.8</sub> Rh <sub>0.01-0.2</sub>                   | 1.7-2.4-1.98<br>(Quenched)<br>1.3-1.98<br>(Annealed) |                          |                                   |                    | 1058                                  |
| Hf <sub>0.99-0.96</sub> Rh <sub>0.01-0.04</sub>                 | 0.85-1.51  |                          |                                   |                    | 216                                   |
| HfRh  | 1.73   |                          |                                   |                    | 1058                                  |
| Hf <sub>2</sub> Rh  | 1.98, 2.02   |                          | E9 <sub>3</sub>                   |                    | 1058 1299                             |
| Hf <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>        | 1.7  |                          |                                   |                    | 1060                                  |
| HfRu  |  |                          | B2                                | 1.02               | 270                                   |
| HfSb <sub>2</sub>   |  |                          |                                   | 1.1                | 1583                                  |
| Hf <sub>2</sub> Si  |  |                          | C16                               | 0.07               | 1377                                  |
| Hf <sub>3</sub> Si <sub>2</sub>                                 |  |                          |                                   | 0.1                | 927                                   |
| HfSi <sub>2</sub>   |  |                          |                                   | 1.02               | 181                                   |
| Hf <sub>0.61-0.1</sub> Ta <sub>0.39-0.9</sub> (P study)         | 5.71-6.90-5.60                                       |                          |                                   |                    | 1816 572#                             |
| Hf <sub>0-0.55</sub> Ta <sub>1-0.45</sub>                       | 4.4-6.5  |                          | CUB                               |                    | 253                                   |
| Hf <sub>0.2</sub> Ta <sub>0.8</sub>                             | 6.90   |                          | CUB                               |                    | 1816                                  |
| Hf <sub>x</sub> Ta <sub>1-x</sub>                               |  | HF                       |                                   |                    | 218 289 399<br>466                    |
| Hf <sub>x</sub> Ta <sub>1-x</sub> V <sub>2</sub>                | >9.3 Max.  |                          |                                   |                    | 1381                                  |
| HfTa <sub>0-0.5</sub> V <sub>1-1.5</sub>                        | 9.2-9.4-9.0  |                          |                                   |                    | 1323                                  |
| Hf <sub>1-0.8</sub> Ta <sub>0-0.2</sub> V <sub>2</sub>          | 8.8-9.6  |                          |                                   |                    | 1722                                  |
| HfTc <sub>2</sub>   | 5.6  |                          | C14                               |                    | 1149                                  |
| HfV <sub>2</sub>  | 9.2  | HF(1189)                 | C15(ORTHO<br>Below 20K)<br>(1486) |                    | 1323 1189#<br>1486 1381#<br>640 1400# |
| HfV <sub>2</sub> (0, 21 kbar)                                   | 8.85, 9.0  |                          | C15                               |                    | 1722                                  |
| HfV <sub>2.3</sub>  | 9.2  |                          | C15                               |                    | 1189                                  |
| Hf <sub>1-0</sub> V <sub>2</sub> Zr <sub>0-1</sub>              | 9.2-10.05-8.5<br>8.6-10.1-8.3                        | HF(1381)<br>(1630)       | C15                               |                    | 1323 1652<br>1381 1630                |
| Hf <sub>1-0</sub> V <sub>2</sub> Zr <sub>0-1</sub>              | 8.9-10, 9-7.8  |                          |                                   |                    | 1722                                  |
| Hf <sub>0.8</sub> V <sub>2</sub> Zr <sub>0.2</sub> (0, 24 kbar) | 9.7, 10.7  |                          |                                   |                    | 1722                                  |
| Hf <sub>0.6</sub> V <sub>2</sub> Zr <sub>0.4</sub>              | 9.9, 9.6   |                          |                                   |                    | 1722                                  |
| Hf <sub>0.5</sub> V <sub>2</sub> Zr <sub>0.5</sub>              | 10.1   | HF                       | C15                               |                    | 1189# 1381#                           |
| HfW <sub>2</sub>  |  |                          | C15                               | 0.033              | 1586 1988<br>270 956                  |
| Hf <sub>0.92-0.66</sub> W <sub>0.08-0.34</sub>                  | 2.3-2.8-2.5  |                          |                                   |                    | 956                                   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                         | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.  |
|--|--|--------------------------|-------------------|--------------------|--|
| Hf <sub>0.26-0.11</sub> <sup>W</sup> Zr <sub>0.74-0.89</sub>         |  |                          |                   | 1.2                | 956  |
| Hf <sub>0.99</sub> Zr <sub>0.01</sub>                                | 0.37 (Annealed)                            |                          | HEX               |                    | 001 031  |
| Hf <sub>0.985-0.977</sub> Zr <sub>0.015-0.023</sub>                  | 0.12, 0.18 (Increases with P to 150 kbar)  |                          |                   |                    | 1957   |
| HfZr <sub>0.05</sub>   |  |                          |                   | 0.22               | 047  |
| Hf <sub>0.25-0.75</sub> Zr <sub>0.75-0.25</sub>                      |  |                          | HEX               | 0.35               | 253 572#   |
| Hg(99.999%)  | 4.154                                      | 410.88                   | A10               |                    | 579# 176 114<br>001 350 527#<br>1250# 1067<br>1267 |
| Hg( $\beta$ )(Stable below 79K)                                      | 3.949                                      | 339.3                    |                   |                    | 176 114  |
| Hg(Droplets 300 Å diam.)   | 4.19                                       | HF                       |                   |                    | 350  |
| Hg(Filamentary in vycor)   |  | HF                       |                   |                    | 331  |
| Hg(Dispersed in Zeolites; size 11.4 Å, P=18, 20 kbar)                | 5-10                                       |                          |                   |                    | 1578 1285  |
| Hg(In chrysotile asbestos, 60 Å diam.)                               | 4.3  | HF                       |                   |                    | 1284 1281  |
| Hg(admixtures of HgBr <sub>2</sub> and HgCl <sub>2</sub> )           | 3.96-4.06-1.7                              |                          |                   |                    | ▽ 1083   |
| Hg(460-4000 Å)   | Data given                                 |                          |                   |                    | 387  |
| Hg <sub>0-0.05</sub> In <sub>1-0.95</sub>                            | 3.41-3.34-3.43                             |                          |                   |                    | 143 256 257#                                       |
| Hg <sub>1-0.995</sub> In <sub>0-0.005</sub>                          | 4.15-4.13                                  |                          | RHOMB             |                    | 256 257# 320                                       |
| Hg <sub>0.95-0.83</sub> In <sub>0.05-0.17</sub>                      | 3.95-3.14                                  |                          |                   |                    | 445  |
| Hg <sub>0.98-0.8</sub> In <sub>0.02-0.2</sub>                        | 4.07-3.15                                  |                          |                   |                    | 256 257#   |
| HgIn   | 3.81, 3.16                                 |                          |                   |                    | 256 257# 959                                       |
| Hg <sub>0.08-0.2</sub> In <sub>0.92-0.8</sub>                        | 3.25-4.55                                  |                          | CUB               |                    | 256 257#   |
| Hg <sub>1-x</sub> In <sub>x</sub>                                    | T <sub>c</sub> '(-0.07+0.03)               |                          |                   |                    | 1090 1097  |
| Hg <sub>1-0</sub> In <sub>0-1</sub> (36 data points)                 | 3.2-4.6 (Quenched)<br>3.15-4.17 (Annealed) |                          |                   |                    | 1049   |
| Hg <sub>x</sub> Tl <sub>0.01, 0.02</sub> Tl <sub>1-x</sub> (P study) | T <sub>c</sub> '(-0.18)                    |                          | HEX               |                    | 858  |
| Hg <sub>8</sub> K  | 3.42                                       |                          |                   |                    | 258  |
| Hg <sub>4</sub> K  | 3.27                                       |                          |                   |                    | 258  |
| Hg <sub>3</sub> K  | 3.18                                       |                          |                   |                    | 258  |
| Hg <sub>2</sub> K  | 1.20                                       |                          |                   |                    | 258  |
| HgK, Hg <sub>7</sub> K <sub>5</sub>                                  |  |                          |                   | 1.14               | 258  |
| HgLi <sub>3</sub>  |  |                          | CUB               | 1.08               | 258  |
| Hg <sub>3</sub> Li   | 1.7  |                          | HEX               |                    | 258  |
| Hg <sub>2</sub> Mg   | 4.0-3.4                                    |                          | C11b              |                    | 1232   |
| HgMg   | 1.39-1.34                                  |                          | B2                |                    | 1232   |
| HgMg <sub>2</sub>  | 0.48-0.37                                  |                          |                   |                    | 1232   |
| Hg <sub>3</sub> Mg <sub>5</sub>                                      | 0.48-0.33                                  |                          | D8 <sub>8</sub>   |                    | 1232   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                      | $T_c$ (K)               | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.                |
|---|-------------------------|-----------------|-------------------|-----------|----------------------|
| $Hg_2Mg_5$                                    |                         |                 |                   | 0.3       | 1232                 |
| $HgMg_3$                                      | 0.16                    |                 | $DO_{18}$         |           | 1232                 |
| $Hg_5Mn_2$                                    |                         |                 |                   | 2.1       | 661                  |
| $Hg_4Na$                                      | 3.05                    |                 |                   |           | 258                  |
| $Hg_2Na$                                      | 1.62                    |                 | HEX               |           | 258                  |
| $HgNa$  |                         |                 | ORTHO             | 1.08      | 258                  |
| $Hg_2Na_3$                                    |                         |                 | TET               | 1.08      | 258                  |
| $Hg_{0.0-0.03}Pb_{1-0.97}$                    | $T_c'(-0.06)$           |                 |                   |           | 1165 861             |
| $Hg_2Pt$                                      |                         |                 |                   | 1.10      | 258                  |
| $Hg_{0-1}Pb_{1-0}$                            | 7.26-4.14               |                 |                   |           | 083 089              |
| $Hg_{0.101}Pb_{0.899}$                        |                         | HF              |                   |           | 322 403 404          |
| $Hg_{0.05}Pb_{0.95}$                          |                         | HF              |                   |           | 322                  |
| $Hg_4Pt$                                      |                         |                 | Data given        | 0.32      | 489                  |
| $Hg_3Pt, Hg_5Pt_2$                            |                         |                 |                   | 1.06      | 258                  |
| $Hg_{0.12-0.20}Pt_{0.88-0.8}$                 | 3.75-3.98               |                 |                   |           | 258                  |
| $HgS$   |                         |                 |                   | 1.30      | 084                  |
| $Hg_xSb_{0.0004, 0.0008}Tl_{1-x}$<br>(P data) | $T_c'(-0.14)$           |                 | HEX               |           | 858                  |
| $Hg_{0.8-0}Sn_{0.2-1}$                        | 4.5-5.1-3.7             |                 |                   |           | 1304                 |
| $HgSn$ (1st alloy discovered)                 | 4.2                     |                 |                   |           | 091                  |
| $Hg_{0-0.01}Sn_{1-0.99}$                      | 3.726-3.734             |                 | TET               |           | 318# 1153            |
| $Hg_xSn_yTl$                                  | Data given              |                 |                   |           | 1108                 |
| $HgTi_3$                                      |                         |                 | A15               | 0.35      | 980                  |
| $Hg_{0.97}Tl_{0.03}$                          | 4.109                   |                 |                   |           | 258                  |
| $Hg_{0.935-0.734}Tl_{0.065-0.266}$            | 4.10-3.69               |                 |                   |           | 258                  |
| $Hg_{0.714}Tl_{0.286}$                        | 3.875                   |                 |                   |           | 258 071              |
| $Hg_{0.698}Tl_{0.302}$                        | 3.888                   |                 |                   |           | 258                  |
| $Hg_{0.131-0.026}Tl_{0.869-0.974}$            | 3.25-2.30               |                 |                   |           | 258                  |
| $Hg_{0-0.012}Tl$                              | $T_c'(-0.14)$           | Data given      | HEX               |           | 591 858 1095<br>1108 |
| $Hg_{\sim 0.009}Tl_{0.991}$ (P=0-25 kbar)     | $T_c'(-0.02+0.02-0.14)$ |                 |                   |           | 998 1878             |
| $Hg_{\sim 0.0045}Tl_{0.9955}$ (P=0-24 kbar)   | $T_c'(+0.05-0.12)$      |                 |                   |           | 998                  |
| $Hg_{1-x}Zn_x$                                | $T_c'(-)$               |                 |                   |           | 1097                 |
| $Hg_3Zr$                                      | 3.28                    |                 | $L1_2$            |           | 715                  |
| $HgZr_3$                                      |                         |                 | A15               | 0.35      | 980                  |
| $Ho$  |                         |                 | A3                | 0.38      | 291                  |
| $Ho_{0-0.042}La_{1-0.958}$                    | 6.3-1.3                 |                 |                   |           | 200 115              |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                  | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.  |
|---|-------------------------------------|--------------------------|-------------------|--------------------|--|
| In(RRR=9000)  | 3.4087                              | 281.53                   | A6(TET)           |                    | 1620# 932#<br>293 180# 320<br>340 206 143<br>462# 282#<br>585 749# 765<br>791 829 001#<br>024 267<br>1140# 1074#<br>1267 329#<br>391 378 |
| In(In pores - 31-80Å)                                     | 4.24-3.96                           | HF                       |                   |                    | 1642   |
| In(In pores- 65-250Å)                                     | 4.2-3.4                             | HF                       |                   |                    | 986 738 1614   |
| In(Particles - 150Å)                                      | 3.7, 3.39                           |                          |                   |                    | 1349 604   |
| IN(P = 0-62 kbar)   | 3.42-1.6<br>(Discontinuity)         | 220-~20                  |                   |                    | 1211   |
| In(Strained film)   | T <sub>c</sub> <sup>1</sup> (+0.91) |                          |                   |                    | ▽1380  |
| In(Deposit 4.2, 10-40, 000Å)                              | 4.6-3.4                             | HF(1963<br>1877<br>888)  |                   |                    | ▽1741 ▽1877<br>▽1278 ▽1207<br>▽800 ▽837<br>▽351 ▽373<br>▽378 ▽391<br>▽596 ▽602<br>▽1268 ▽1963<br>▽888 ▽532<br>▽1062 ▽220<br>▽210         |
| In(<50Å)  | 4.65 Max.                           |                          |                   |                    | ▽1648  |
| In(119-171Å)  | 3.94-3.99                           |                          |                   |                    | ▽1711  |
| In(Deposit low temp., with Cr,<br>Mn, Fe and Co)          |                                     |                          |                   |                    | ▽296 ▽748  |
| In(See Table 3)   |                                     |                          |                   |                    |  |
| In <sub>3</sub> La  | 0.70                                |                          | L1 <sub>2</sub>   |                    | 715 270 240<br>768#  |
| InLa <sub>3</sub>   | 9.54                                | 2270, HF<br>(1125)       | L1 <sub>2</sub>   |                    | 1564# 173<br>1137 1125<br>1065 658   |
| InLa <sub>3</sub> (0 35 kbar)                             | 9.75-10.55                          |                          |                   |                    | 658  |
| In <sub>3-0</sub> LaSn <sub>0-3</sub>                     | 0.7-0.3-1.3-<br>0.4-6.0             |                          |                   |                    | 1938# 1939<br>715  |
| In <sub>0-0.22</sub> La <sub>1-0.78</sub> Sn <sub>3</sub> | 6.5-<1                              |                          |                   |                    | 1183   |
| In <sub>0.8</sub> La <sub>3</sub> Sn <sub>0.2</sub>       | 7.80                                |                          | L1 <sub>2</sub>   |                    | 1564   |
| In <sub>0.5</sub> La <sub>3</sub> Tl <sub>0.5</sub>       | 8.90                                |                          | L1 <sub>2</sub>   |                    | 1564   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                       | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|---|--|--------------------------|-------------------|--------------------|---|
| In <sub>3</sub> Lu  | 0.24, 0.14                               |                          | L1 <sub>2</sub>   |                    | 715   |
| In <sub>1-x</sub> Mg <sub>x</sub>   | 3.405-3.3-3.71<br>3.63                   |                          |                   |                    | 1596 1604   |
| In <sub>1-0.863</sub> Mg <sub>0-0.137</sub>                                 | 3.395-3.363                              | 272.4-259.2              |                   |                    | 462#  |
| In <sub>0.18</sub> Mg <sub>0.82</sub>                                       |  |                          | HEX               | 0.013              | 1340#   |
| In <sub>0.62-0.3</sub> Mg <sub>0.38-0.7</sub> (4000-5000Å)                  | 3.58-3.78                                |                          |                   |                    | ▽448  |
| In <sub>1-0.9996</sub> Mn <sub>0-0.0004</sub><br>(Deposit 4.2K)             | 4.2-2.2                                  |                          |                   |                    | ▽351  |
| InMn <sub>0-0.0567</sub> (Deposit <5K,<br>900-2500Å)                        | 3.980-1.741-<br><1.15                    |                          |                   |                    | ▽1715 ▽1773   |
| In <sub>1-x</sub> Mn <sub>x</sub>   | T <sub>c</sub> '(-0.28)                  |                          |                   |                    | 598 754 765   |
| In <sub>1-x-y</sub> Mn <sub>x</sub> Pb <sub>y</sub>                         | T <sub>c</sub> '(-0.045)                 |                          |                   |                    | 754 598   |
| In <sub>1-x-y</sub> Mn <sub>x</sub> Sn <sub>y</sub>                         | T <sub>c</sub> '(-0.025+0.115)           |                          |                   |                    | 754   |
| InN   | 3.38                                     |                          | B4                |                    | 558   |
| InNTi <sub>2</sub>  |  |                          | HEX               | 1.1                | 632   |
| In <sub>0.488</sub> Na <sub>0.025</sub> Pb <sub>0.488</sub>                 | >6                                       | HF                       |                   |                    | 1886  |
| InNb <sub>3</sub> (Sputtered)   | 7.6                                      |                          | A15               |                    | 1825 277  |
| InNb <sub>3</sub> (High P and temp.)  | 4-8                                      |                          | A15               |                    | 508   |
| InNb <sub>3</sub>   |  |                          | CUB               | 2.25               | 508   |
| In <sub>0-0.3</sub> Nb <sub>3</sub> Sn <sub>1-0.7</sub>                     | 18-18.26-18                              |                          | A15               |                    | 1982 1072<br>315 299                                |
| In <sub>0.15</sub> Nb <sub>3</sub> Sn <sub>0.85</sub>                       | 18.26                                    |                          |                   |                    | 1982  |
| In <sub>0-0.3</sub> Nb <sub>3</sub> Sb <sub>0-0.3</sub> Sn <sub>1-0.4</sub> | 18-14.4                                  |                          |                   |                    | 1982  |
| In <sub>0.15</sub> Nb <sub>3</sub> Sb <sub>0.15</sub> Sn <sub>0.7</sub>     | 16.09                                    |                          |                   |                    | 1982  |
| In <sub>0.5</sub> Nb <sub>3</sub> Zr <sub>0.5</sub>                         | 6.4                                      |                          |                   |                    | 427   |
| In <sub>0.11</sub> O <sub>3</sub> W   | <1.25-2.8                                |                          | HEX               |                    | 644   |
| In <sub>1-0</sub> Pb <sub>0-1</sub>   | 3.40-7.19                                |                          |                   |                    | 1482# 080<br>089                                    |
| In <sub>1-0.992</sub> Pb <sub>0-0.008</sub>                                 | T <sub>c</sub> '(-0.015-<br>0.003)       | 271-276                  |                   |                    | 1606 319<br>462# 320 480                            |
| In <sub>1-0.75</sub> Pb <sub>0-0.25</sub>                                   | 3.4-5.45                                 | 290-660                  |                   |                    | 1388#   |
| In <sub>1-0.89</sub> Pb <sub>0-0.11</sub>                                   | 3.367-4.85                               | 280-565, HF              | TET               |                    | 969 1029<br>1074                                    |
| In <sub>1-0.88</sub> Pb <sub>0-0.12</sub>                                   | 3.4-4.8(Break<br>at Pb <sub>0.07</sub> ) | 280-390-<br>375-570      |                   |                    | 1029 445<br>1074#                                   |
| In <sub>0.3-0.8</sub> Pb <sub>0.7-0.2</sub>                                 | 6.78-5.53                                | 815-610,<br>HF(949)      |                   |                    | 1260 949 665  |
| In <sub>0.6-0</sub> Pb <sub>0.4-1</sub>                                     | 6.21-6.76-7.19                           | HF                       |                   |                    | 1610 1297<br>1632# 861<br>1225 1408<br>627 080 745# |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)                   | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)                              | Refs. |
|---|--------------------------------------|--------------------------|-------------------|---|-------|
| In <sub>0-0.028</sub> Pb <sub>1-0.972</sub>                                 | T <sub>c</sub> <sup>1</sup> (-0.085) |                          |                   | 1165 936<br>1452# 1133<br>1836                  |       |
| In <sub>0.08-0</sub> Pb <sub>0.92-1</sub>                                   | 7.025-7.190                          | HF                       |                   | 1663 1713<br>844 118 080<br>1529 401 322<br>609 |       |
| In <sub>0.955</sub> Pb <sub>0.045</sub>                                     | 3.69                                 | 353, HF                  |                   | 1140#   |       |
| In <sub>0.961</sub> Pb <sub>0.039</sub>                                     | 3.64                                 | Type I to II             |                   | 1025 662  |       |
| In <sub>0.913</sub> Pb <sub>0.087</sub>                                     | 4.2                                  | HF                       |                   | 665   |       |
| In <sub>0.6</sub> Pb <sub>0.4</sub>   | 6.36                                 | HF                       |                   | 809 745#<br>1917 1415                           |       |
| In <sub>0.35</sub> Pb <sub>0.965</sub>                                      |                                      | 850, HF                  |                   | 919 322 683                                     |       |
| In <sub>0.087</sub> Pb <sub>0.913</sub>                                     | 7.035                                | HF                       |                   | 1269  |       |
| In <sub>0.99</sub> Pb <sub>0.01</sub> (200-200,000Å)                        |                                      | 290, HF                  |                   | ▽888  |       |
| In <sub>x</sub> Pb <sub>1-x</sub>   |                                      |                          |                   | ▽1126 ▽750                                      |       |
| In <sub>0.1</sub> Pb <sub>0.9</sub> (Quench condensed)                      | 6.80<br>7.06(Aannealed)              |                          |                   | ▽1491   |       |
| In <sub>0.22</sub> Pb <sub>0.57</sub> Sn <sub>0.21</sub>                    |                                      | HF                       |                   | 1041 1972                                       |       |
| In <sub>3(1-x)</sub> Pb <sub>3x</sub> Y                                     | 4.7-1.2                              |                          | L1 <sub>2</sub>   | 715   |       |
| InPd  | 0.7                                  |                          | B2                | 489   |       |
| In <sub>0.97</sub> Pd <sub>0.03</sub> (Deposited 6K)                        | 4.45                                 |                          |                   | ▽351  |       |
| In <sub>3</sub> Rh  |                                      | TET                      | 1.02              | 270   |       |
| InRh  |                                      | B2                       | 0.32              | 489   |       |
| In <sub>3</sub> Ru  | 2.68                                 |                          |                   | 711   |       |
| InSb(II)(P phase)   | 2.0                                  |                          | TET               | 1556 1202<br>539 424 761<br>689 718             |       |
| InSb(III)(P phase, 37-125 kbar)   | 4.1                                  |                          | HEX(?)            | 1556 1202<br>689                                |       |
| InSb(IV)(P~70 kbar)   | 3.6                                  |                          | ORTHO             | 1556 689<br>1129                                |       |
| InSb  | 2.1                                  | HF                       |                   | 471 502   |       |
| In <sub>0.25</sub> Sb <sub>0.75</sub> (Rapid quench)                        | 4.1                                  |                          | CUB               | 1116  |       |
| InSb(See Table 4)   |                                      |                          |                   |   |       |
| InSbSn  | 2.5                                  |                          | A5                | 761   |       |
| In <sub>1-0</sub> Sb <sub>1-0</sub> Sn <sub>0-1</sub> (Prepared at 25 kbar) | 1.8-3.7                              |                          | A5                | 761   |       |
| (InSb) <sub>0-0.035</sub> Sn <sub>1-0.93</sub>                              | 0.372-3.66-3.74                      |                          |                   | 1050 265 341                                    |       |
| (InSb) <sub>~0.006</sub> Sn <sub>0.988</sub>                                | 3.655                                | 300.5                    |                   | 1724#   |       |
| (InSb(II)) <sub>0.95-0.1</sub> Sn <sub>0.05-0.9</sub>                       | 3.8-5.1                              |                          |                   | 539   |       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)                                  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|---|--|-----------------|-------------------|-----------|---|
| $\text{In}_2\text{SbTe}_2$  | 1.06                                       |                 | B1                |           | 1911 1007   |
| $\text{InSc}_2$   |  |                 | $\text{B8}_2$     | 4.2       | 853   |
| $\text{InSc}_3$   | .  |                 | $\text{DO}_{19}$  |           | 212   |
| $\text{In}_{0.2}\text{Si}_{0.8}\text{V}_3$  | 16.2<br>16.8 (Annealed)                    |                 | A15               |           | 1073 824  |
| $\text{In}_{0.75}\text{Sn}_{0.25}$ (s)  | 5.10 (Very slow anneal)<br>5.95 (Quenched) |                 | TET               |           | 1834 1767<br>026 261 204  |
| $\text{In}_{0.5}\text{Sn}_{0.5}$  | 6.9  |                 |                   |           | 204   |
| $\text{In}_{0.7}\text{Sn}_{0.3}$  | 7.3  |                 |                   |           | 204   |
| $\text{In}_{0.88}\text{Sn}_{0.12}$  | 5.03                                       | HF              |                   |           | 1164  |
| $\text{In}_{0.96-0.87}\text{Sn}_{0.04-0.13}$                                      | 3.7-5.03                                   |                 |                   |           | 445   |
| $\text{In}_{0.5}\text{Sn}_{0.5}$ (Weight fraction)                                | 7.45                                       | HF              |                   |           | 1917  |
| $\text{In}_{0.05}\text{Sn}_{0.95}$  | 3.625                                      | HF              |                   |           | 1612  |
| $\text{In}_{0.02}\text{Sn}_{0.98}$ (Whisker,<br>$2 \times 10^{-9} \text{ cm}^2$ ) | 3.636                                      |                 |                   |           | 1546  |
| $\text{In}_{1-0.942}\text{Sn}_{0-0.058}$  | 3.44-3.90                                  | 275-360         |                   |           | 763 609<br>1780 1184#<br>799 1258#  |
| $\text{In}_{1-0.98}\text{Sn}_{0-0.02}$  | $T_c^1 (-0.01 + 0.125)$                    |                 |                   |           | 320 345 319   |
| $\text{In}_{0.06-0.01}\text{Sn}_{0.94-0.99}$                                      | 3.645-3.625-<br>3.64                       | HF              |                   |           | 1050  |
| $\text{In}_{0.017-0.075}\text{Sn}_{0.983-0.925}$                                  | 3.620-4.885                                |                 |                   |           | 1201  |
| $\text{In}_x\text{Sn}_{1-x}$  | $T_c^1 (-0.105)$                           | Data given      |                   |           | 1618 562<br>318# 341 309<br>360 814# 912<br>910# 666<br>1724#                         |
| $\text{In}_{0.012}\text{Sn}_{0.988}$  | 3.690                                      | 307.0           |                   |           |   |
| $\text{In}_x\text{Sn}_{1-x}$ (Quenched from liquid)                               | 3.7-7.8                                    |                 |                   |           | 261 265 204   |
| $\text{InSn}_{0.02-0.03}$ (Deposit 77K,<br>$\sim 300-23,000 \text{\AA}$ )         | 3.78-3.5                                   | Data given      |                   |           | $\nabla$ 1962   |
| $\text{InSn}_{0.03}$ ( $\sim 300-7000 \text{\AA}$ )                               | 3.78-3.58                                  | Data given      |                   |           | $\nabla$ 1962   |
| $\text{In}_{1-0-0.94}\text{Sn}_{0-0.06}$  | 3.4-3.82                                   | HF (854 1619)   |                   |           | $\nabla$ 763 $\nabla$ 450<br>$\nabla$ 750 $\nabla$ 854<br>$\nabla$ 1235 $\nabla$ 1619 |
| $\text{InSnTe}$ (See Table 4)   |  |                 |                   |           |   |
| $\text{In}_{3(1-x)}\text{Sn}_{3x}\text{Th}$                                       | 3.9 Max.                                   |                 | $\text{L1}_2$     |           | 715   |
| $\text{In}_{3(1-x)}\text{Sn}_{3x}\text{Y}$  | 1.5 Max.                                   |                 | $\text{L1}_2$     |           | 715   |
| $\text{In}_2\text{Te}$  |  |                 |                   | 1.37      | 229   |
| $\text{InTe}$   | 2.2  | 800             | B1                |           | 761 442<br>770 507  |
| $\text{InTe}$   |  |                 | TET               | 1.37      | 696 229 507   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)                         | $H_o$ (oersted) | Crystal Structure           | $T_n$ (K) | Refs.   |
|---|-----------------------------------|-----------------|-----------------------------|-----------|---|
| InTe  | 3.2-3.45                          |                 | B1                          |           | 506 507   |
| In <sub>2</sub> Te <sub>3</sub>                                       |                                   |                 |                             | 1.0       | 515   |
| In <sub>3</sub> Te <sub>4</sub>                                       | 1.25-1.15                         |                 |                             |           | 515   |
| In <sub>x</sub> Te (See Table 4)                                      |                                   |                 |                             |           |   |
| In <sub>3</sub> Th  |                                   |                 | L <sub>1</sub> <sub>2</sub> | 0.05      | 715   |
| InTh <sub>2</sub>   |                                   |                 | C16                         | 0.07      | 1377  |
| In <sub>1-0.992</sub> Th <sub>0-0.008</sub>                           | $T_c^{\prime}(-0.0252)$           |                 |                             |           | 319 320   |
| In <sub>1-0.5</sub> Tl <sub>0-0.5</sub>                               | 3.374-2.7                         | 284-252         |                             |           | 044# 080 083  |
| In <sub>0.95-0.75</sub> Tl <sub>0.05-0.25</sub>                       | 3.30-3.16                         | HF              | TET                         |           | 338 1155  |
| In <sub>1-0.933</sub> Tl <sub>0-0.067</sub>                           | 3.4087-3.284                      | 281.53-272.41   | TET                         |           | 585 1155<br>1620#                                   |
| In <sub>0.78-0.69</sub> Tl <sub>0.22-0.31</sub>                       | 3.18-3.32                         |                 | TET                         |           | 692   |
| In <sub>0.69-0.62</sub> Tl <sub>0.31-0.38</sub>                       | 2.98-3.3                          | HF(1155)        | CUB                         |           | 692 1155 664  |
| In <sub>0.1-0.45</sub> Tl <sub>0.90-0.55</sub>                        | 2.9-3.7-2.5<br>(Annealed)         |                 | HEX-CUB-CUB                 |           | 1156  |
| In <sub>0-0.45</sub> Tl <sub>1-0.55</sub>                             | 2.9-4.0-2.4<br>(Quenched)         |                 | CUB, HEX, CUB               |           | 1156  |
| In <sub>x</sub> Tl <sub>1-x</sub>                                     | $T_c^{\prime}(+0.39)$             |                 | HEX                         |           | 858 1879<br>209 044 1108                            |
| In <sub>0.005</sub> Tl <sub>0.995</sub>                               | 2.418                             |                 |                             |           | 209   |
| In <sub>0-0.6</sub> Tl <sub>1-0.4</sub> (Weight fraction,<br>~1500 Å) | 2.2-3.7-<br>2.4-3.2               |                 |                             |           | ▽1865   |
| In <sub>0.1</sub> Tl <sub>0.9</sub> (Deposit 0.3K)                    | 3.27<br>2.78 (Anneal<br>300-330K) |                 |                             |           | ▽1900   |
| In <sub>1-0</sub> Tl <sub>0-1</sub> (Junction study)                  | 3.40-3.2-2.52-<br>3.64-2.33       |                 |                             |           | ▽1270   |
| In <sub>3</sub> U   |                                   |                 | L <sub>1</sub> <sub>2</sub> | 0.07      | 715 1677#<br>412                                    |
| InV <sub>3</sub>  |                                   |                 |                             |           | 824 825   |
| In <sub>3</sub> Y   | 0.78                              |                 | L <sub>1</sub> <sub>2</sub> |           | 715   |
| In <sub>3</sub> Yb  |                                   |                 | L <sub>1</sub> <sub>2</sub> | 0.05      | 715   |
| In <sub>0.85, 0.92</sub> Zn <sub>0.15, 0.08</sub><br>(Deposited 6K)   | 4.6, 4.55                         |                 |                             |           | ▽351  |
| InZr <sub>3</sub>   |                                   |                 | L <sub>1</sub> <sub>2</sub> | 1.02      | 270 572#  |
| Ir(RRR>2000)  | 0.1125                            | 16              | A1                          |           | 1492# 1624<br>1946 963#<br>1481 223 023<br>572# 302 |
| Ir(RRR=2.5->2000)   | 0.05-0.1125                       | HF              |                             |           | 1492  |
| Ir  |                                   |                 |                             | 0.3       | ▽503  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)                     | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.  |
|--|-------------------------------|-----------------|-------------------|-----------|--|
| $\text{Ir}_5\text{La}$   | 2.13                          |                 |                   |           | 469  |
| $\text{Ir}_3\text{La}$   | 2.32                          |                 | $D10_2$           |           | 658 469  |
| $\text{Ir}_2\text{La}$   | 0.48                          |                 | C15               |           | 469 127 171  |
| $\text{Ir}_3\text{La}_7$   | 2.24                          |                 | $D10_2$           |           | 469  |
| $\text{Ir}_3\text{Lu}$   | 2.89                          |                 | C15               |           | 469  |
| $\text{Ir}_2\text{Lu}$   | 2.47                          |                 | C15               |           | 469  |
| $\text{IrLu}$  |                               |                 | B2                | 0.32      | 469  |
| $\text{IrLu}_2$  | 0.84 (Portion only)           |                 |                   |           | 469  |
| $\text{Ir}_3\text{Lu}_7$   | 0.78 (Portion only)           |                 |                   |           | 469  |
| $\text{IrLu}_3$  |                               |                 |                   | 0.32      | 469  |
| $\text{IrMo}_3$ (Varies with order state)                          | 8.17, 8.8                     |                 | A15               |           | 1446 1692 707<br>033 270 352<br>292 276 465#<br>572# |
| $\text{Ir}_{0.26}\text{Mo}_{0.74}$                                 | 6.7                           |                 | $D8_b$            |           | 276 283 270  |
| $\text{IrMo}$  | ~8.8                          |                 | B19               |           | 1039   |
| $\text{IrMo}$  | ~1.85 (1039)                  |                 | HEX               | 1.0       | 033 1039   |
| $\text{Ir}_x\text{Mo}$   | ~1.7-0.15                     |                 | HEX               |           | 1570   |
| $\text{Ir}_{0.987-0.82}\text{Mo}_{0.013-0.18}$                     | 0.105-0.5                     |                 |                   |           | 1963#  |
| $\text{Ir}_{0.29}\text{Mo}_{0.41}\text{Nb}_{0.3}$                  | 8.7 Max.                      |                 |                   |           | ▽ 1438   |
| $\text{IrMo}_3\text{Nb}_3\text{Pt}$                                | 6.13                          |                 |                   |           | 707  |
| $\text{IrMo}_3\text{NbPt}$   | 5.82 (As cast)                |                 |                   |           | 707  |
| $\text{Ir}_{0.25}\text{Mo}_{0.75}\text{Nb}_{2.25}\text{Pt}_{0.75}$ | 6.5                           |                 | A15               |           | 1580   |
| $\text{Ir}_{0.3}\text{Mo}_{0.4}\text{Re}_{0.3}$                    | 9.5 Max.                      |                 |                   |           | ▽ 1438   |
| $\text{Ir}_y\text{Mo}_{0.65-0.79}\text{Re}_z$                      | 8-9.5                         |                 | A15               |           | 1692   |
| $\text{Ir}_3\text{Nb}$   |                               |                 | $L1_2$            | 1.2       | 4.2  |
| $\text{Ir}_{1.15}\text{Nb}_{0.85}$                                 | 4.6                           |                 | ORTHO             |           | 1299   |
| $\text{Ir}_{1.05}\text{Nb}_{0.95}$                                 | 4.75                          |                 | $L1_0$            |           | 1299   |
| $\text{IrNb}_3$  | 1.3-2.07                      |                 | A15               |           | 1466 922#<br>707 128 117<br>033 124 492              |
| $\text{Ir}_{0.34}\text{Nb}_{0.66}$                                 | 2.25                          |                 | $D8_b$            |           | 1625#  |
| $\text{Ir}_{0.99-0.9}\text{Nb}_{0.01-0.1}$                         | 0.084-0.172-0.049             |                 |                   |           | 963  |
| $\text{Ir}_{0.1}\text{Nb}_{0.9}$                                   | 2.3                           |                 |                   |           | 592  |
| $\text{Ir}_{0.34-0.4}\text{Nb}_{0.66-0.6}$                         | 2.25-2.20 (2nd phase 7.7-9.8) |                 | $D8_b$            |           | 1625# 557#<br>572# 276<br>(173, 182,<br>1625)        |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)      | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.                 |
|---|----------------|-----------------|-------------------|-----------|-----------------------|
| $\text{Ir}_{2.76}\text{NbPt}_{0.24}$                          |                |                 | $\text{L1}_2$     | 1.6       | 1299                  |
| $\text{Ir}_{2.55}\text{NbPt}_{0.45}$                          |                |                 | HEX               | 1.6       | 1299                  |
| $\text{Ir}_{0.45}\text{NbPt}_{2.55}$                          |                |                 | $\text{DO}_{19}$  | 1.6       | 1299                  |
| $\text{Ir}_{0.02, 0.05}\text{Nb}_3\text{Rh}_{0.98, 0.95}$     | 2.43, 2.38     |                 | A15               |           | 492                   |
| $\text{Ir}_{0.9-0.1}\text{Nb}_3\text{Rh}_{0.1-0.9}$           |                |                 | A15               | 1.7       | 492                   |
| $\text{Ir}_{0.984}\text{Ni}_{0.0165}$                         | 0.052          |                 |                   |           | 1624                  |
| $\text{Ir}_{0.287}\text{O}_{0.14}\text{Ti}_{0.573}$           | 5.5            |                 | $\text{E9}_3$     |           | 270                   |
| $\text{Ir}_{0.265}\text{O}_{0.085}\text{Zr}_{0.65}$           | 2.3            |                 | $\text{E9}_3$     |           | 270                   |
| $\text{Ir}_{0.9-0.2}\text{Os}_{0.1-0.8}$                      | 0.55-0.98-0.30 |                 | HEX, CUB          |           | 239 963#<br>572# 574# |
| $\text{Ir}_{0.5}\text{Os}_{0.5}$                              | 0.98           |                 | CUB               |           | 230                   |
| $\text{Ir}_{0.75}\text{Os}_{0.25}$                            | 0.40           |                 |                   |           | 963                   |
| $\text{Ir}_x\text{Os}_y\text{Rh}_z$ (32 samples)              | 0.026-0.55     |                 |                   |           | 963 574#              |
| $\text{Ir}_{0.18}\text{Os}_{0.47}\text{Rh}_{0.35}$            | 0.55           |                 |                   |           | 963                   |
| $\text{Ir}_{0.75}\text{Os}_{0.05}\text{Rh}_{0.2}$             | 0.047-0.055    |                 |                   |           | 963                   |
| $\text{Ir}_{0.76}\text{Os}_{0.09}\text{Rh}_{0.15}$            |                |                 |                   | 0.015     | 963                   |
| $\text{Ir}_{0.73}\text{Os}_{0.17}\text{Ru}_{0.1}$             | 0.31-0.34      |                 |                   |           | 963                   |
| $\text{Ir}_{0.825}\text{Os}_{0.1}\text{Ru}_{0.075}$           | 0.13-0.16      |                 |                   |           | 963                   |
| $\text{IrOsY}$  | 2.6            |                 |                   |           | 171 201               |
| $\text{Ir}_{1.5}\text{O}_{0.5}\text{Y}$                       | 2.4            |                 |                   |           | 201                   |
| $\text{Ir}_{1-x}\text{Os}_x\text{Zr}_2$                       | 6.8-7.2        |                 | C16               |           | 1476                  |
| $\text{Ir}_2\text{P}$   |                |                 |                   | 0.35      | 491                   |
| $\text{IrP}$  |                |                 |                   | 0.35      | 491                   |
| $\text{Ir}_{0.96-0.88}\text{Pd}_{0.04-0.12}$                  | 0.022-0.069    |                 |                   |           | 963 574#              |
| $\text{Ir}_{0.8-0.1}\text{Pd}_{0.2-0.9}$                      |                |                 |                   | 0.015     | 963                   |
| $\text{Ir}_{0.83}\text{Pd}_{0.045}\text{Pt}_{0.125}$          | 0.030-0.037    |                 |                   |           | 963                   |
| $\text{Ir}_{0.1-0.5}\text{Pd}_{0.2-0.5}\text{Rh}_{0.6-0.2}$   |                |                 |                   | 0.015     | 963                   |
| $\text{Ir}_{0.9}\text{Pt}_{0.1}$                              | 0.053-0.066    |                 |                   |           | 963# 572#             |
| $\text{Ir}_{0.8}\text{Pt}_{0.2}$                              | 0.032-0.046    |                 |                   |           | 963# 474#             |
| $\text{Ir}_{0.72}\text{Pt}_{0.08}\text{Rh}_{0.2}$             | 0.025-0.030    |                 |                   |           | 963                   |
| $\text{Ir}_{0.775}\text{Pt}_{0.175}\text{Rh}_{0.5}$           | 0.025-0.032    |                 |                   |           | 963                   |
| $\text{Ir}_{1-x}\text{Pt}_x\text{Zr}_2$                       | 7.2-8.6        |                 |                   |           | 1476                  |
| $\text{Ir}_{0.98}\text{Re}_{0.02}$                            | 0.109-1.7      |                 |                   |           | 963                   |
| $\text{Ir}_{0-0.02}\text{Re}_{1-0.98}$                        | 1.7-1.97       |                 |                   |           | 1646                  |
| $\text{Ir}_{0-1}\text{Re}_{1-0}$ (Amorphous)                  | 7.5-<1.7       |                 |                   |           | 71325                 |
| $\text{Ir}_{0.4-0.72}\text{Re}_{0.1-0.18}\text{Rh}_{0.5-0.1}$ | 0.06-0.6       |                 |                   |           | 963 574#              |
| $\text{Ir}_{1-0.58}\text{Rh}_{0-0.42}$                        | 0.103-0.005    |                 | A1                |           | 1118 574              |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)           | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.        |
|--|------------------------------|--------------------------|-------------------|--------------------|--------------|
| Ir <sub>0.9-0.7</sub> Rh <sub>0.1-0.3</sub>                          |                              |                          |                   | 0.015              | 963          |
| Ir <sub>0.75-0.95</sub> Rh <sub>0.25-0.05</sub>                      | 0.020-0.075                  |                          |                   |                    | 963          |
| Ir <sub>0.8-0.02</sub> Rh <sub>0.15-0.5</sub> Ru <sub>0.05-0.3</sub> | 0.01-0.064                   |                          |                   |                    | 963          |
| Ir <sub>0.3</sub> Rh <sub>0.5</sub> Ru <sub>0.2</sub>                |                              |                          |                   | 0.015              | 963          |
| Ir <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>             | 4.0                          |                          |                   |                    | 1060         |
| Ir <sub>0.125</sub> Rh <sub>0.125</sub> Zr <sub>0.75</sub>           | 10.2 Max.                    |                          |                   |                    | ▽1438        |
| Ir <sub>0.925-0.71</sub> Ru <sub>0.075-0.29</sub>                    | 0.105-0.18                   |                          |                   |                    | 963 574      |
| Ir <sub>x</sub> Ru   | 0.4-0.1                      |                          | HEX               |                    | 1570         |
| Ir <sub>0.2</sub> Ru <sub>0.05</sub> Zr <sub>0.75</sub>              | 6.8 Max.                     |                          |                   |                    | ▽1438        |
| IrS, IrS <sub>2.6</sub>  |                              |                          |                   | 0.32               | 552          |
| IrSb   |                              |                          | B8 <sub>1</sub>   | 0.35               | 481 396      |
| Ir <sub>2</sub> Sb   |                              |                          |                   | 0.35               | 491          |
| IrSc <sub>3</sub> , Ir <sub>3</sub> Sc, IrSe                         |                              |                          |                   | 0.32               | 469          |
| Ir <sub>0.32</sub> Sc <sub>0.68</sub>                                |                              |                          |                   | 0.32               | 469          |
| Ir <sub>2.5</sub> Sc   | 2.46, 2.13,<br>1.03, 0.42    |                          | C15               |                    | 127 469      |
| IrSe <sub>2</sub>  |                              |                          | ORTHO             | 0.32               | 552          |
| IrSe <sub>2.9</sub>  |                              |                          |                   | 0.32               | 552          |
| IrSi   |                              |                          | B31               | 1.02               | 270 412      |
| IrSi <sub>3</sub>  |                              |                          | DO <sub>18</sub>  | 1.02               | 270          |
| Ir <sub>0.2</sub> Si <sub>0.05</sub> Zr <sub>0.75</sub>              | 6.2 Max.                     |                          |                   |                    | ▽1438        |
| IrSn <sub>2</sub>  | 0.65-0.78                    |                          | C1                |                    | 486          |
| Ir <sub>2</sub> Sr   | 5.7                          |                          | C15               |                    | 028          |
| Ir <sub>0.35</sub> Ta <sub>0.65</sub>                                |                              |                          | D8 <sub>b</sub>   | 1.2                | 276 182      |
| Ir <sub>0.85</sub> Ta <sub>0.15</sub>                                |                              |                          |                   | 0.024              | 963          |
| Ir <sub>0.99-0.9</sub> Ta <sub>0.01-0.1</sub>                        | 0.096-0.15-<br>0.05          |                          |                   |                    | 963#         |
| IrTe <sub>3</sub>  | 1.18                         |                          | C2                |                    | 552 270      |
| IrTe <sub>2</sub>  |                              |                          | C6                | 0.32               | 552          |
| Ir <sub>0.5</sub> Te <sub>0.5</sub>                                  | 3.0 (Start of<br>transition) |                          | B8 <sub>1</sub>   | 0.35               | 552 270      |
| Ir <sub>5</sub> Th   | 3.93                         |                          | D2 <sub>d</sub>   |                    | 469          |
| Ir <sub>3</sub> Th   | 4.71                         |                          |                   |                    | 469          |
| Ir <sub>2</sub> Th   |                              |                          | C15               |                    | 173 478 572# |
| IrTh   | 0.37                         |                          | B <sub>f</sub>    |                    | 469          |
| Ir <sub>3</sub> Th <sub>7</sub>                                      | 1.52                         |                          | D10 <sub>2</sub>  |                    | 173          |
| IrTi <sub>3</sub>  | 4.97<br>4.18 (As cast)       |                          | A15               |                    | 1446 173 707 |
| Ir <sub>0-0.135</sub> Ti <sub>1-0.865</sub>                          | 3.9 Max.                     |                          |                   |                    | 717          |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)  | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                           |
|--|---------------------|--------------------------|-------------------|--------------------|---------------------------------|
| Ir <sub>0.10</sub> Ti <sub>0.90</sub>            | 4.3                 |                          | CUB               |                    | 717                             |
| Ir <sub>0.04</sub> Ti <sub>0.96</sub>            | 1.6                 |                          | CUB               |                    | 717                             |
| Ir <sub>3</sub> U                                |                     |                          | L1 <sub>2</sub>   | 1, 2               | 412                             |
| Ir <sub>3</sub> V                                |                     |                          | C15               | 0.35               | 270                             |
| Ir <sub>0.99-0.85</sub> V <sub>0.01-0.15</sub>   | 0.086-0.26          |                          |                   |                    | 963                             |
| Ir <sub>2</sub> U                                |                     |                          | L1 <sub>2</sub>   | 4.2                | 1299                            |
| IrV(β)   |                     |                          | L1 <sub>0</sub>   | 1.36               | 1299                            |
| IrV(α)   |                     |                          | ORTHO             | 1.6                | 1299                            |
| Ir <sub>0.31-0.37</sub> V <sub>0.69-0.63</sub>   | 0.91, 1.39, 1.71    |                          | A15               |                    | 1446 948#<br>173                |
| IrV <sub>3</sub>                                 |                     |                          | A15               | 0.015              | 948# 707<br>1578 498 270<br>173 |
| Ir <sub>0.33</sub> V <sub>2.67</sub>             | 1.39                |                          |                   |                    | 498                             |
| Ir <sub>0.987-0.85</sub> W <sub>0.013-0.15</sub> | 0.105-0.41          |                          |                   |                    | 963#                            |
| Ir <sub>0.28</sub> W <sub>0.72</sub>             | 4.46                |                          | D8 <sub>b</sub>   |                    | 295# 276<br>557# 572#           |
| Ir <sub>0.25</sub> W <sub>0.75</sub>             | 3.82-2.1            |                          |                   |                    | 033                             |
| Ir <sub>3?</sub> Y                               | 3.5                 |                          |                   |                    | 469                             |
| Ir <sub>2</sub> Y                                | 2.18, 1.09          |                          | C15               |                    | 127 469 201                     |
| Ir <sub>0.65-0.69</sub> Y <sub>0.35-0.31</sub>   | 1.38, 1.44,<br>1.98 |                          |                   |                    | 469                             |
| Ir <sub>2</sub> Y <sub>3</sub>                   | 1.61                |                          |                   |                    | 469                             |
| IrY <sub>4</sub>                                 |                     |                          |                   | 0.32               | 469                             |
| Ir <sub>0-1</sub> Y <sub>1-0</sub>               | 0.3-3.7             |                          |                   |                    | 454                             |
| Ir <sub>0.7</sub> Y <sub>0.3</sub>               | 2.16                |                          | C15               |                    | 469                             |
| Ir <sub>0.01-0.02</sub> Y <sub>0.99-0.98</sub>   | 0.49, 0.35          |                          |                   |                    | 469                             |
| Ir <sub>2</sub> Yb                               |                     |                          |                   | 1.3                | 247                             |
| Ir <sub>2</sub> Zr                               | 4.1                 |                          | C15               |                    | 173                             |
| IrZr <sub>2</sub>                                | 7.23                |                          | C16               |                    | 1476 1478                       |
| Ir <sub>3</sub> Zr <sub>5</sub>                  |                     |                          | D8 <sub>8</sub>   | 1.2                | 1476                            |
| IrZr <sub>3</sub>                                | 2.13                |                          | TET               |                    | 1476                            |
| Ir <sub>0.1</sub> Zr <sub>0.9</sub>              | 5.50                |                          | HEX               |                    | 032                             |
| Ir <sub>0-0.1</sub> Zr <sub>1-0.9</sub>          | 5.4, 3.3 Max.       |                          |                   |                    | 717                             |
| Ir <sub>0.25</sub> Zr <sub>0.75</sub>            | 8.0 Max.            |                          |                   |                    | 1438                            |
| K  |                     |                          | A2                | 0.08               | 023 494                         |
| K <sub>~0.5</sub> MoO <sub>3</sub>               | 4.2                 |                          | TET               |                    | 1212                            |
| K <sub>~0.9</sub> MoO <sub>3</sub>               |                     |                          |                   | 1.3                | 1212                            |
| K <sub>0.4</sub> MoS <sub>2</sub>                | 6.1                 |                          | HEX(2H)           |                    | 1920 1530                       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                   | T <sub>c</sub> (K)            | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)   | Refs.   |
|--|-------------------------------|--------------------------|-------------------|--|---|
| K <sub>0.4</sub> MoS <sub>2</sub>          | 5.5                           |                          | HEX(3R)           | 1920 1530  |   |
| K <sub>0.28</sub> MoS <sub>2</sub>         | ≈6.2                          |                          |                   | 1974   |   |
| KNa <sub>2</sub>                           |                               |                          |                   | 1.05   | 258   |
| K <sub>~0.3</sub> O <sub>3</sub> Re        | 3.6                           |                          | HEX               |  | 1212  |
| K <sub>~0.9</sub> O <sub>3</sub> Re        |                               |                          |                   | 1.3  | 1212  |
| KOSrTaTi(See Table 4)                      |                               |                          |                   |  |   |
| K <sub>0.27-0.31</sub> O <sub>3</sub> W    | 0.50                          |                          | HEX               | 500  |   |
| K <sub>0.40-0.57</sub> O <sub>3</sub> W    | 1.5                           |                          | TET               | 500  |   |
| K <sub>x</sub> O <sub>3</sub> W(Powder)    | 2.52-1.0<br>5.70-3.31(Etched) |                          | HEX               | 1080   |   |
| KSb  |                               |                          |                   | 1.28   | 011   |
| K <sub>2</sub> Te <sub>3</sub>             |                               |                          |                   | 1.46   | 427   |
| La( $\alpha$ )                             | 4.87                          | 798                      | HEX               | 1158# 1016<br>1182# 1358<br>1468 806#<br>676# 808#<br>747 915<br>812 022#                      | La <sub>1</sub><br>La <sub>0</sub><br>LaN<br>LaC                                |
| La( $\beta$ )                              | 6.00                          | 1096                     | A1                | 1158# 806#<br>1564# 1468#<br>1361# 1182#<br>022 009 001<br>812# 227 115<br>536 572# 328<br>092 | La <sub>1</sub><br>La <sub>0</sub><br>LaC<br>La <sub>0</sub><br>La <sub>1</sub> |
| La(Powder study)                           | 4.82                          | 1350                     |                   | 1365   | La <sub>1</sub>   |
| La   |                               | HF                       |                   | 1265 925   | La <sub>1</sub>   |
| La(with SiO <sub>2</sub> and inert metals) | 4.9-1                         |                          | HEX               | 923  | La <sub>1</sub>   |
| La(As cast, ~140 kbar)                     | 11.93                         |                          | A1, HEX           | 1016   | La <sub>1</sub>   |
| La( $\beta$ , 23-40 kbar)                  | 8.2-9.2                       |                          | A1                | 729 764  | La <sub>1</sub>   |
| La(0-~140 kbar)                            | 5.9-11.93                     |                          |                   | 1016   | La <sub>1</sub>   |
| La( $\alpha$ , 0-225 kbar)                 | 4.8-11.5                      |                          | HEX               | 1689 729   | La <sub>1</sub>   |
| La(1000-26,000 Å)                          | 4.9, 5-6.74                   |                          |                   | ▽607 ▽1255<br>▽1565  | La <sub>1</sub>   |
| La(<1000 Å)                                |                               |                          |                   | 1.2 ▽607   | La <sub>1</sub>   |
| La(Deposited 77K, 4000 Å)                  | 3.55                          |                          |                   | ▽1921  | La <sub>1</sub>   |
| La(1% Rare earths)                         | T <sub>c</sub> ' (+0.2+3.4)   |                          |                   | 1143   | La <sub>1</sub>   |
| La <sub>0.99</sub> Lu <sub>0.01</sub>      | 5.60                          |                          | HEX               | 115  | La <sub>1</sub>   |
| La <sub>0.98</sub> Lu <sub>0.02</sub>      | 4.643                         | HF                       |                   | 1271   | La <sub>1</sub>   |
| La <sub>0.8</sub> Lu <sub>0.2</sub>        | 3.4                           |                          | HEX               | 022 227  | La <sub>1</sub>   |
| La <sub>0.55</sub> Lu <sub>0.45</sub>      | 2.2                           |                          | HEX               | 022 227  | La <sub>1</sub>   |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)   | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                |
|---|----------------------|--------------------------|-------------------|--------------------|----------------------|
| La <sub>0.91-0.95</sub> Lu <sub>0.09-0.05</sub><br>(2200, 1600 Å)     | 3.28, 4.37           |                          |                   |                    | ▽ 1255               |
| La <sub>0.98</sub> Lu <sub>0.02-0.007</sub> Tb <sub>0-0.013</sub>     | 4.643-0.632          | HF                       | HEX               |                    | 1493 1271            |
| LaMg <sub>2</sub>   | 1.05                 |                          | C15               |                    | 658 270              |
| LaMg  |                      |                          |                   | 0.33               | 658                  |
| La <sub>x</sub> Mo <sub>1-x</sub> (Co-sputtered)                      | 7.6 Max.             |                          |                   |                    | ▽ 1565               |
| La <sub>0.2</sub> Mo <sub>6.35</sub> Pb <sub>0.8</sub> S <sub>8</sub> | 13.2                 | HF                       |                   |                    | 1759                 |
| LaN   | 1.35                 | HF                       |                   |                    | 668                  |
| LaN <sub>0.98, 0.99</sub>   |                      |                          | B1                | 1.38               | 559 558 040<br>067   |
| La <sub>0.94-0.32</sub> Nb <sub>0.6-0.68</sub><br>(Co-sputtered)      | 4.2-3.2-6.7          |                          |                   |                    | ▽ 1565               |
| La <sub>1-0.956</sub> Nd <sub>0-0.044</sub>                           | 6.3-1.4              |                          |                   |                    | 171 115 200          |
| La <sub>0.78</sub> Ni <sub>0.22</sub> (Liquid quench)                 | 3.0                  |                          |                   |                    | 1908                 |
| LaNiO <sub>3</sub>  |                      |                          |                   | 1.02               | 181                  |
| La(O <sub>2</sub> Si) <sub>0.05-0.13</sub><br>(Volume fraction)       | 3.3-<1               |                          |                   |                    | ▽ 1565               |
| La <sub>0.01</sub> O <sub>3</sub> Sr <sub>0.99</sub> Ti (See Table 4) |                      |                          |                   |                    |                      |
| LaOs <sub>2</sub>   | 8.9                  |                          | C15               |                    | 1897# 1376           |
| LaOs <sub>2</sub>   | 5.9, 6.5             |                          | C14               |                    | 1375 127             |
| LaP   |                      |                          | B1                | 1.68               | 558                  |
| LaPb <sub>3</sub>   | 4.07                 |                          | L1 <sub>2</sub>   |                    | 768# 715<br>1240 099 |
| La <sub>1-0.7</sub> Pb <sub>3</sub> Pr <sub>0-0.3</sub>               | 4.07-<0.3            |                          | L1 <sub>2</sub>   |                    | 768#                 |
| LaPb <sub>3(1-x)</sub> Sn <sub>3x</sub>                               | 6.0 Max.<br>3.5 Min. |                          | L1 <sub>2</sub>   |                    | 715                  |
| La <sub>1-x</sub> Pb <sub>3</sub> Th <sub>x</sub>                     | Max. 4.2, 5.6        |                          | L1 <sub>2</sub>   |                    | 715                  |
| LaPb <sub>3x</sub> Tl <sub>3(1-x)</sub>                               | Max. 2.1, 4.4        |                          | L1 <sub>2</sub>   |                    | 715                  |
| LaPd <sub>3</sub>   |                      |                          | L1 <sub>2</sub>   | 0.32               | 469                  |
| La <sub>0.99</sub> Pr <sub>0.01</sub>                                 | 5.3                  |                          |                   |                    | 115 608              |
| La <sub>0.98</sub> Pr <sub>0.02</sub> Ru <sub>2</sub>                 | 1.92, 1.82           |                          | C15               |                    | 1490                 |
| La <sub>3-2.58</sub> Pr <sub>0-0.42</sub> S <sub>4</sub>              | 8.1-2.7              |                          |                   |                    | 1965                 |
| La <sub>1-0.8</sub> Pr <sub>0-0.2</sub> Se                            | 10.2-<0.5            |                          |                   |                    | 1965                 |
| La <sub>3-2.25</sub> Pr <sub>0-0.75</sub> Tl                          | 7.7-0.8              |                          |                   |                    | 1965                 |
| La <sub>3-2.25</sub> Pr <sub>0-0.75</sub> Tl                          | 8.95-1.24            |                          | CUB               |                    | 1154#                |
| La <sub>1-0.1</sub> Pr <sub>0-0.1</sub> Tl <sub>3</sub>               | 1.51-0.55            |                          | L1 <sub>2</sub>   |                    | 768                  |
| LaPt <sub>2</sub>   | 0.46                 |                          | C15               |                    | 469 127              |
| LaPt <sub>5</sub>   |                      |                          | D2 <sub>d</sub>   | 0.32               | 469                  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                                      | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.  |
|--|---|--------------------------|-------------------|--------------------|--|
| LaRh <sub>2</sub>  |   |                          | C15               | 0.32               | 469 127  |
| LaRh <sub>3</sub>  | 2.60  |                          |                   |                    | 469  |
| LaRh <sub>5</sub>  | 1.62  |                          |                   |                    | 469  |
| La <sub>7</sub> Rh <sub>3</sub>                                      | 2.58  |                          | D10 <sub>2</sub>  |                    | 469 658  |
| La <sub>0.001-0.01</sub> Rh <sub>0.999-0.99</sub>                    | 1.6(broad)  |                          |                   |                    | 563  |
| LaRu <sub>2</sub>  | 3.08.4.1  | HF                       | C15               |                    | 1026 1783#<br>115 127                            |
| La <sub>0-0.04</sub> Ru <sub>2</sub> Th <sub>1-0.96</sub>            | 3.2-4   |                          | C15               |                    | 1499   |
| LaS  | 0.84  |                          | B1                |                    | 1965# 1370#<br>534 730                           |
| La <sub>3</sub> S <sub>4</sub>                                       | 8.06  | HF                       | D7 <sub>3</sub>   |                    | 1965# 1370#<br>730 534                           |
| La <sub>2</sub> S <sub>3</sub>                                       |   |                          | CUB               | 1.25               | 534 558  |
| La <sub>2</sub> S <sub>3</sub> (P=30-100 kbar),<br>Temp. 1500-1800°C | 5.9-6.6<br>7.2-7.6<br>8.3-8.6<br>10.4-10.7<br>14.1-14.5 |                          | CUB               |                    | 1279   |
| LaS <sub>2</sub> (See Table 4)                                       |   |                          |                   |                    | La   |
| La <sub>2.4</sub> S <sub>4</sub> Y <sub>0.6</sub>                    | 4.77  |                          | D7 <sub>3</sub>   |                    | 1965# 1370#                                      |
| LaSb   |   |                          | B1                | 1.02               | 270  |
| LaSe   | 1.02  |                          | B1                |                    | 1965# 1370#<br>534                               |
| La <sub>3</sub> Se <sub>4</sub>                                      | 7.8, 8.6  | HF(534)                  | D7 <sub>3</sub>   |                    | 1965# 1370#<br>534 770                           |
| La <sub>2</sub> Se <sub>3</sub>                                      |   |                          |                   | 1.25               | 534  |
| La, Se(See Table 4)  |   |                          |                   |                    | La   |
| La <sub>2.4</sub> Se <sub>4</sub> Y <sub>0.6</sub>                   | 3.92  |                          | D7 <sub>3</sub>   |                    | 1965# 1370#                                      |
| La <sub>5</sub> Si <sub>3</sub>                                      | 1.6   |                          |                   |                    | 288  |
| LaSi <sub>2</sub>  | 2.3   |                          | C <sub>c</sub>    |                    | 808# 1353<br>288 147 238<br>025 010 676#<br>572# |
| LaSi <sub>1.82</sub>   |   |                          | C <sub>c</sub>    | 1.2                | 1353   |
| LaSi <sub>2.1.75</sub>   |   |                          | ORTHO             | 1.2                | 1353   |
| La <sub>0.006</sub> SiV <sub>2.994</sub>                             | 16.48   |                          | A15               |                    | 1913   |
| La <sub>0.06</sub> SiV <sub>2.94</sub>                               | 15.92   |                          | A15               |                    | 1913   |
| La <sub>1-0.98</sub> Sn <sub>0-0.02</sub>                            | 6.3-1.3   |                          |                   |                    | 200 115  |
| LaSn <sub>3</sub>  | 6.5   | HF(1329)                 | L1 <sub>2</sub>   |                    | 1240 768<br>1131 715<br>1329                     |
| La <sub>5</sub> Sn <sub>3</sub>                                      |   |                          |                   | 1.4                | 863  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)     | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)  | Refs.                   |
|---|------------------------|--------------------------|-------------------|---------------------|-------------------------|
| La <sub>1-0.98</sub> Sn <sub>3</sub> Pr <sub>0-0.02</sub> | 6.55-<0.3              |                          | L1 <sub>2</sub>   | 768                 |                         |
| La <sub>1-x</sub> Sn <sub>3</sub> Th <sub>x</sub>         | 6.3 Max., ~7           |                          | L1 <sub>2</sub>   | 715, 1329           |                         |
| LaSn <sub>3x</sub> Tl <sub>3(1-x)</sub>                   | Max. 1.8, 6.0          |                          | L1 <sub>2</sub>   | 715                 |                         |
| La <sub>1-0.9</sub> Sn <sub>3</sub> Tm <sub>0-0.1</sub>   | 6.55-4.2               |                          | L1 <sub>2</sub>   | 768 1329            |                         |
| La <sub>0.84</sub> Sn <sub>3</sub> Tm <sub>0.16</sub>     | 3.3                    | HF                       |                   | 1329                |                         |
| La <sub>1-0.987</sub> Tb <sub>0-0.013</sub>               | 6.3-1.4                |                          |                   | 200 115             |                         |
| LaTe  | 1.48                   |                          | B1                | 1370# 1965#         |                         |
| La <sub>3</sub> Te <sub>4</sub>                           | 5.3                    | HF(1024)                 | D7 <sub>3</sub>   | 1370# 1965#<br>1024 |                         |
| La <sub>2.4</sub> Te <sub>4</sub> Y <sub>0.6</sub>        |                        |                          | D7 <sub>3</sub>   | 1.7                 | 1965#                   |
| La <sub>0-1</sub> Th <sub>1-0</sub>                       | 1.28-6.0               |                          | A1                |                     | 1182# 1361#             |
| La <sub>3</sub> Tl  | 8.86                   | 1900                     | L1 <sub>2</sub>   |                     | 1564# 1154              |
| LaTl <sub>3</sub>   | 1.57                   |                          | L1 <sub>2</sub>   |                     | 1240 768#<br>715        |
| La <sub>1-0.6</sub> Y <sub>0-0.4</sub>                    | 4.9-1.3                |                          | HEX               |                     | 1182# 572#<br>1350# 227 |
| La <sub>0.95</sub> Y <sub>0.05</sub>                      | 5.40<br>4.4(Aannealed) |                          |                   |                     | 022 227                 |
| La <sub>0.85</sub> Y <sub>0.15</sub>                      | 3.06, 2.7              |                          | HEX               |                     | 856 808# 022            |
| La <sub>0.75</sub> Y <sub>0.25</sub>                      | 2.0, 2.5               |                          |                   |                     | 808# 022                |
| La <sub>0.7</sub> Y <sub>0.3</sub>                        | 1.85                   |                          | HEX               |                     | 1856                    |
| La <sub>0.6</sub> Y <sub>0.4</sub>                        | 1.29                   |                          |                   |                     | 1856 808 022            |
| La <sub>0.48</sub> Y <sub>0.52</sub>                      | 1.0                    |                          | RHOMB             |                     | 808# 1182#<br>1350#     |
| La <sub>0.35</sub> Y <sub>0.65</sub>                      | 0.4                    |                          | HEX               |                     | 1350# 1182#<br>808#     |
| La <sub>0.15</sub> Y <sub>0.85</sub>                      | 0.1                    |                          | HEX               | 0.1                 | 808# 1182#<br>1350#     |
| La <sub>0.99</sub> Y <sub>0.01</sub>                      | 5.5                    |                          |                   |                     | 115 608                 |
| LaZn  | 1.04                   |                          | B2                |                     | 658                     |
| Li(RRR~4000)  |                        |                          | A3                | 0.006               | 887 023                 |
| Li <sub>0.4</sub> MoS <sub>2</sub>                        | 3.7                    |                          | HEX               |                     | 1920                    |
| Li <sub>0.3</sub> O <sub>3</sub> W                        | 2.2-<1.3               |                          | HEX               |                     | 1379                    |
| LiPb  | 7.2                    |                          |                   |                     | 085                     |
| Li <sub>0-1.3</sub> Pd(Ion implant)                       |                        |                          |                   | 0.1                 | 164                     |
| LiS   |                        |                          |                   | 1.0                 | 1191                    |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)      | Refs.                                 |
|--|-------------------------|--------------------------|-------------------|-------------------------|---------------------------------------|
| Li <sub>0.1≤0.3</sub> S <sub>2</sub> Ti <sub>1.1</sub>         | 10-13                   |                          | HEX               | 1191                    | 0.94 <sup>a</sup>                     |
| Li <sub>1.0-1.5</sub> STi                                      | 2                       |                          |                   | 1191                    | 0.85                                  |
| Li <sub>0.5-1</sub> S <sub>2</sub> Ti <sub>1.1</sub>           |                         |                          | TET               | 1.12                    | 1191                                  |
| LiTi   |                         |                          |                   | 1.0                     | 1191                                  |
| Li <sub>1.33-0.8</sub> Ti <sub>1.67-2.2</sub> O <sub>4</sub>   | 1.5-13.7                |                          | H1 <sub>1</sub>   | 1305                    | Y                                     |
| LiZn   |                         |                          | B32               | 1.14                    | 2.58                                  |
| Lu(RRR=15)   | 0.10                    | <400                     | A3                | 1682 270 115<br>660 234 | 1682 270 115<br>660 234               |
| Lu(0.0005%Fe)  |                         |                          |                   | 0.03                    | 1682                                  |
| Lu(80-145 kbar)  | <0.018-~0.6             |                          |                   |                         | 1994                                  |
| LuOs <sub>2</sub>  | 3.49                    |                          | C14               |                         | 127                                   |
| Lu <sub>3</sub> Rh   |                         |                          |                   | 0.32                    | 469                                   |
| Lu <sub>2</sub> Rh   |                         |                          |                   | 0.32                    | 469                                   |
| LuRh   |                         |                          | B1                | 0.32                    | 469                                   |
| LuRh <sub>2</sub>  |                         |                          | C15               | 0.32                    | 469                                   |
| LuRh <sub>5</sub>  | 0.49                    |                          |                   |                         | 469                                   |
| Lu <sub>0.275</sub> Rh <sub>0.725</sub>                        | 1.27                    |                          | C15               |                         | 469                                   |
| LuRu <sub>2</sub>  | 0.86                    |                          | C14               |                         | 270 127 247                           |
| LuS  | 1.1-0.8                 |                          | B1                |                         | 1219                                  |
| LuSe   | 0.44-0.56               |                          | B1                |                         | 1219                                  |
| LuTe   |                         |                          | B1                | 0.35                    | 1219                                  |
| Mg(99.99%)   |                         |                          | A3                | 0.002                   | 1830 1655<br>1340 1214                |
| Mg(RRR ~10 <sup>6</sup> )                                      |                         |                          | A3                | 0.006                   | 887# 012<br>1233 1213<br>1654<br>1166 |
| Mg(Deposited 1K)   |                         |                          |                   | 0.35                    | ▽1467                                 |
| Mg(Deposit 4.2K, 100Å)   | 5.5                     | HF                       |                   |                         | ▽710                                  |
| Mg <sub>x</sub> Mo <sub>1-x</sub> (Co-sputtered)               | 6.3 Max.                |                          |                   |                         | ▽1565                                 |
| Mg <sub>0.9</sub> Mo <sub>5.1</sub> S <sub>6</sub>             | 2.5-2.4                 |                          | RHOMB             |                         | 1163                                  |
| Mg <sub>2</sub> Pb   | 5.6                     |                          |                   |                         | 427                                   |
| Mg <sub>0.98</sub> Pb <sub>0.02</sub>                          |                         |                          |                   | 1.26                    | 084                                   |
| Mg <sub>0.93</sub> Pb <sub>0.07</sub>                          |                         |                          |                   | 0.013                   | 1340                                  |
| Mg <sub>0.1</sub> Pb <sub>0.9</sub> (Quench<br>condensed 0.4K) | 4.87<br>6.61(Aannealed) |                          |                   |                         | ▽1491                                 |
| MgRh   |                         |                          | B2                | 1.02                    | 279                                   |
| Mg <sub>0.97</sub> Sn <sub>0.03</sub>                          |                         |                          |                   | 0.013                   | 1340                                  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                     | $T_c$ (K)          | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.                             |
|--|--------------------|-----------------|-------------------|-----------|-----------------------------------|
| $Mg_{0.94}Tl_{0.06}$                         |                    |                 |                   | 1.26      | 084                               |
| $Mg_{0.85}Tl_{0.15}$                         |                    |                 |                   | 0.013     | 1340                              |
| $Mg_{\sim 0.47}Tl_{\sim 0.53}$               | 2.75               | 220             | B2                |           | 013                               |
| $Mg_{24}Y_5$                                 |                    |                 | A12               | 1.3       | 557                               |
| $MgY$  |                    |                 | B2                | 0.33      | 658                               |
| $Mg_{0.97}Zn_{0.03}$                         |                    |                 |                   | 0.013     | 1340                              |
| $Mg_7Zn_3$                                   | 0.26-0.28          |                 |                   |           | 1604                              |
| $MgZn$                                       | 0.87-0.92          |                 |                   |           | 1604                              |
| $Mg_2Zn_3$                                   | 0.72-0.76          |                 |                   |           | 1604                              |
| $MgZn$                                       | 0.89-0.93          |                 | C14               |           | 1604 037                          |
| $Mg_2Zn_{11}$                                | 0.83-0.88          |                 | CUB               |           | 1604                              |
| $Mn(\alpha)$                                 |                    |                 | A12               | 0.15      | 023 572#                          |
| $Mn(\beta)$                                  |                    |                 | A13               | 0.32      | 303 228 572#                      |
| $Mn$ (Sputtered in Xe)                       |                    |                 | A12               | 0.08      | ▽1526                             |
| $Mn_{0.63}, 0.73 Mo_{0.37}, 0.27$            |                    |                 | D8 <sub>b</sub>   | 1.30      | 557                               |
| $Mn_x Mo_{1-x}$                              | (Rapid decrease)   |                 |                   |           | 1833                              |
| $Mn_{0-0.005}NbSe_2$                         | 7-<1.6             |                 |                   |           | 626                               |
| $Mn_{0.24}Ni_{0.76}$                         |                    |                 |                   | 1.30      | 076 572#                          |
| $Mn_{0.67}Ni_{0.33}U_6$                      | 2.7                |                 | D2 <sub>c</sub>   |           | 1866                              |
| $Mn_{0.33}Ni_{0.67}U_6$                      | 1.6                |                 | D2 <sub>c</sub>   |           | 1866                              |
| $MnNiZr$                                     |                    |                 | C15               | 0.35      | 270                               |
| $Mn_2O_3$                                    |                    |                 |                   | 1.28      | 011                               |
| $Mn_x O_x Pb_{1-x}$ (500-700 Å)              | 7.2-1.9            |                 |                   |           | ▽1053                             |
| $MnP$  |                    |                 | B31               | 1.01      | 601 217                           |
| $Mn_{0-0.003}Pb_{1-0.997}$<br>(Deposited 7K) | 7.2-2.3            |                 |                   |           | ▽354 ▽1601<br>▽748 ▽1085<br>▽1054 |
| $Mn_{0-1400 \text{ ppm}} Pd_{1-x} Sb$        | 1.66-<0.1          |                 |                   |           | 1296                              |
| $MnRe$                                       |                    |                 | D8 <sub>b</sub>   | 1.02      | 270                               |
| $Mn_{0.05}Rh_{0.04}Ti_{0.91}$                | 2.4                |                 |                   |           | 1060                              |
| $Mn_{0.2}Ru_{0.8}$                           |                    |                 |                   |           | 788#                              |
| $MnSb$                                       |                    |                 | B8 <sub>1</sub>   | 1.0       | 037                               |
| $Mn_{0.03}SiV_{2.97}$                        | 16.25              |                 | A15               |           | 1913                              |
| $Mn_{0.21}SiV_{2.79}$                        | 15.5               |                 | A15               |           | 1913                              |
| $MnSn_2$                                     |                    |                 | C16               | 0.07      | 1377 229                          |
| $Mn_x Sn_{1-x}$                              | $T_c' (\approx 0)$ |                 |                   |           | 598                               |
| $Mn_{0-0.007}Sn_{1-0.993}$ (300-3000 Å)      | Data given         |                 |                   |           | ▽1417 ▽1085                       |
| $MnSnTe$ (See Table 4)                       |                    |                 |                   |           |                                   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)     | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)   | Refs.        |
|---|------------------------|--------------------------|-------------------|--|--------------|
| Mn <sub>0-0.07</sub> Ti <sub>1-0.93</sub> (α)               | 0.6-2.3                |                          |                   | 093 171 126  |              |
| Mn <sub>~0.08-0.25</sub> Ti <sub>0.92-0.75</sub> (β)        | 1.1-3.0                |                          |                   | 093 171 126  |              |
| Mn <sub>0.14</sub> Ti <sub>0.86</sub>                       | 2.55                   |                          |                   | 759#   |              |
| Mn <sub>0.02</sub> Ti <sub>0.98</sub>                       | 1.9, 1.7               |                          |                   | 477 523 759#   |              |
| Mn <sub>0.01</sub> Ti <sub>0.99</sub>                       | 1.2                    |                          |                   | 490  |              |
| Mn <sub>0-0.0065</sub> Ti                                   |                        |                          |                   | 0.06   | 490          |
| Mn <sub>0.0028-0.04</sub> Ti <sub>0.997-0.96</sub>          | ~3(quenched from 690C) |                          |                   | 1.1<br>(quenched from 1000C)   | 523 522 572# |
| Mn <sub>0.002</sub> Ti <sub>0.499</sub> Zr <sub>0.499</sub> |                        |                          |                   | 1.24   | 759 572#     |
| MnU <sub>6</sub>  | 2.32                   |                          | D2 <sub>c</sub>   | 021 920 1866<br>1152   |              |
| MnXe <sub>x</sub>   |                        |                          |                   | 0.08   | ▽1441        |
| Mn <sub>0-28 ppm</sub> Zn                                   | 0.85-0.12              | 54.1-4.5, HF             |                   | 1322 1475<br>1835 1777<br>598 1030   |              |
| Mn <sub>0.5 ppm</sub> Zn                                    | 0.835                  | 52.7                     |                   | 1778#  |              |
| Mo(RRR=17,000)  | 0.916                  | 96, 86                   | A2                | 1031 1572<br>1635# 1960<br>1833 228#<br>543# 300#<br>1159<br>788 566 464<br>972 1267 389<br>465# 572#<br>017 211 250<br>179 292<br>▽503 ▽921 |              |
| Mo(Deposited 4.2K)  | 4-6.7                  |                          |                   | ▽1274 ▽1565  |              |
| Mo(400-21,000Å)   | 3.3-3.8                |                          | CUB               | ▽1526 ▽1441  |              |
| Mo(Ne, Ar, Kr, Xe) <sub>x</sub>                             | 4.85, 6.4,<br>6.8, 7.2 |                          | A2                | 923  |              |
| Mo(with SiO <sub>2</sub> and inert metals)                  | 1.7-6.5-<1             |                          | A2                | 1681   |              |
| Mo(with ~2x10 <sup>-4</sup> %Fe)                            | ~0.7                   |                          |                   | 011 095 815  |              |
| Mo <sub>2</sub> N   | 5.0                    |                          | CUB               | 011 815  |              |
| MoN   | 12.0                   |                          | HEX               | 1841   |              |
| MoN(P preparation)  | 14.8-13                |                          | HEX               | 1.3  | 1212         |
| MoNa <sub>~0.9</sub> O <sub>3</sub>                         |                        |                          |                   | 1920 1974  |              |
| MoNa <sub>0.3</sub> S <sub>2</sub>                          | 4.1                    |                          | HEX               | 1530   |              |
| MoNa <sub>x</sub> S <sub>2</sub>                            | ~1.3(broad)            |                          | HEX               | 253 240 207<br>885 1298<br>1081 811#<br>572# 441<br>465# 452   |              |
| Mo <sub>1-0</sub> Nb <sub>0-1</sub>                         | 0.915-0.016-<br>9.22   |                          |                   |  |              |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                                 |
|--|-------------------------|--------------------------|-------------------|--------------------|---------------------------------------|
| Mo <sub>0.70</sub> Nb <sub>0.30</sub>                              | 0.016                   | 2.7                      |                   | 432 300#           |                                       |
| Mo <sub>0.6</sub> Nb <sub>0.4</sub>                                |                         |                          |                   | 0.05               | 300#                                  |
| Mo <sub>0.43-0.51</sub> Nb <sub>0.57-0.49</sub>                    | 0.181-~0.07             | Data given,<br>(1298)    |                   |                    | 369 1818#<br>1298                     |
| Mo <sub>0.4</sub> Nb <sub>0.6</sub>                                | 0.60                    |                          |                   |                    | 300#                                  |
| Mo <sub>0.25</sub> Nb <sub>0.75</sub>                              | 3.47<br>3.36(P=27 kbar) |                          |                   |                    | 1696                                  |
| Mo <sub>0.2</sub> Nb <sub>0.8</sub>                                | 4.23                    | 747, HF                  |                   |                    | 1103 1513<br>1298 1547#<br>1550 1452# |
| Mo <sub>0.15</sub> Nb <sub>0.85</sub>                              | 5.30                    | Data given, HF           |                   |                    | 1103 1513<br>1298 572#                |
| Mo <sub>0.1</sub> Nb <sub>0.9</sub>                                | 6.30                    | Data given, HF           |                   |                    | 1298 1103                             |
| Mo <sub>0.05</sub> Nb <sub>0.95</sub>                              | 7.84, 8.0               | HF                       |                   |                    | 1157# 1298<br>1103                    |
| Mo <sub>0.02</sub> Nb <sub>0.98</sub>                              | 8.58                    |                          |                   |                    | 1513                                  |
| Mo <sub>0.01-0.07</sub> Nb <sub>0.99-0.93</sub>                    | 8.7-7.1                 | HF                       | A2                |                    | 1929 441<br>▼1325                     |
| Mo <sub>0-1</sub> Nb <sub>1-0</sub> (Deposit 4.2K,<br>amorphous)   | 6-9                     |                          |                   |                    |                                       |
| Mo <sub>0.725</sub> Nb <sub>0.061</sub> Re <sub>0.187</sub>        | 5.0                     | HF                       |                   |                    | 881                                   |
| Mo <sub>0.3</sub> Nb <sub>0.1</sub> Re <sub>0.6</sub>              | 10.1 Max.               |                          |                   |                    | ▼1438                                 |
| Mo <sub>0.2</sub> Nb <sub>0.2</sub> Re <sub>0.6</sub>              | 7.6 Max.                |                          |                   |                    | ▼1438                                 |
| Mo <sub>x</sub> Nb <sub>1-x</sub> Se <sub>2</sub>                  | 7.5 Max.                |                          |                   |                    | 1872                                  |
| Mo <sub>0.03-0.39</sub> Nb <sub>0.02-0.62</sub> Ti                 | 0.02-9.9                | HF(1391)                 |                   |                    | 1862 1391                             |
| Mo <sub>0.04-0.2</sub> Nb <sub>0.5-0.3</sub> Ti <sub>0.6-0.4</sub> | 4.2-8.3                 |                          |                   |                    | 1553                                  |
| Mo <sub>0.85</sub> Ni <sub>0.15</sub>                              |                         |                          |                   | 4.2                | 084                                   |
| Mo <sub>0.8</sub> Ni <sub>0-0.02</sub> Re <sub>0.2</sub>           | ~8-10                   |                          |                   |                    | 240                                   |
| Mo <sub>0.18</sub> Np <sub>0-0.36</sub> U <sub>1-0.64</sub>        | 2.0-0.48                |                          | CUB               |                    | 1669                                  |
| Mo <sub>0.28</sub> O <sub>0.72</sub>                               |                         |                          |                   |                    | 1.28 069                              |
| MoO <sub>2</sub>   |                         |                          |                   |                    | 1.30 84 119                           |
| Mo <sub>1-x</sub> O <sub>2x</sub> Si <sub>x</sub> (Co-sputtered)   | 6.4 Max.                |                          |                   |                    | ▼1565                                 |
| MoOs <sub>2</sub>  | 5.2                     |                          |                   |                    | 182                                   |
| Mo <sub>0.62</sub> Os <sub>0.38</sub>                              | 5.65                    |                          | D8 <sub>b</sub>   |                    | 276 557#<br>572#                      |
| Mo <sub>3</sub> Os(Different anneals)                              | 12.5, 11.7, 7.2         |                          | A15               |                    | 1692 1446<br>707 033                  |
| MoP  |                         |                          | E <sub>h</sub>    | 1.03               | 035 011 601                           |
| MoP <sub>2</sub>   |                         |                          |                   | 1.1                | 1583                                  |
| Mo <sub>3</sub> P  | 5.31                    |                          | DO <sub>e</sub>   |                    | 601 217 035<br>270                    |
| Mo <sub>4</sub> P <sub>3</sub>                                     | 2.5                     |                          | ORTHO             |                    | 1995                                  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure                     | T <sub>n</sub> (K) | Refs.                    |
|---|--------------------|--------------------------|---------------------------------------|--------------------|--------------------------|
| Mo <sub>0.15</sub> Pa <sub>0.85</sub>                                     | 3.08               |                          |                                       |                    | 1936                     |
| Mo <sub>5.1</sub> Pb <sub>0.9</sub> S <sub>6</sub>                        | 13.2, 11.7         | HF                       |                                       |                    | 1597 1163<br>1664        |
| Mo <sub>5.1</sub> Pb <sub>1.0</sub> S <sub>6</sub>                        | 14.4               | HF                       |                                       |                    | 1597                     |
| Mo <sub>5</sub> PbS <sub>7</sub>  | 12.5               | HF                       |                                       |                    | 1725                     |
| Mo <sub>6</sub> Pb <sub>0.92</sub> S <sub>7.5</sub>                       | 15.2 . . . . .     |                          | RHOMB                                 |                    | 1309                     |
| Mo <sub>6</sub> Pb <sub>0.92</sub> S <sub>7.5</sub> (P=0-5-21 kbar)       | 13.5-14-11.8       |                          |                                       |                    | 614                      |
| Mo <sub>6.35</sub> PbS <sub>8</sub>                                       | 12.6, 11.0         | HF                       |                                       |                    | 1759                     |
| Mo <sub>6</sub> PbS <sub>7</sub>  | 14.0               | HF                       |                                       |                    | 1831                     |
| Mo <sub>6.3</sub> PbS <sub>6</sub> Se <sub>2</sub>                        | 5.4                | HF                       |                                       |                    | 1759                     |
| Mo <sub>6.35</sub> Pb <sub>0.9</sub> S <sub>8</sub> Sn <sub>0.12</sub>    | ~11                | HF                       |                                       |                    | 1759                     |
| Mo <sub>6.35</sub> Pb <sub>0.7</sub> S <sub>8</sub> Sn <sub>0.36</sub>    | 10.0               | HF                       |                                       |                    | 1759                     |
| Mo <sub>0.5</sub> Pd <sub>0.5</sub>                                       | 3.52               |                          | HEX                                   |                    | 270 572#<br>465#         |
| Mo <sub>1-0.8</sub> Pt <sub>0-0.2</sub>                                   | 1-2.7              |                          | A2                                    |                    | 1721                     |
| Mo <sub>0.93</sub> Pt <sub>0.17</sub>                                     | 2.8                |                          | A2                                    |                    | 1420                     |
| Mo <sub>0.91-0.915</sub> Pt <sub>0.185-0.19</sub>                         | 4.65-4.53          |                          | A15                                   |                    | 1420#                    |
| Mo <sub>0.85</sub> Pt <sub>0.15</sub>                                     | 4.59, 8.8          |                          | A15                                   |                    | 707 1231                 |
| Mo <sub>0.815</sub> Pt <sub>0.185</sub>                                   | 4.62               |                          | A15                                   |                    | 1692                     |
| Mo <sub>0.8</sub> Pt <sub>0.2</sub>                                       | 4.56               |                          | A15                                   |                    | 707                      |
| Mo <sub>0.72</sub> Pt <sub>0.28</sub>                                     | 4.3, 5.6           |                          |                                       |                    | 845                      |
| Mo <sub>0.72-0.58</sub> Pt <sub>0.28-0.42</sub>                           | 7.8-0.7            |                          | DO <sub>19</sub>                      |                    | 1721 1420                |
| Mo <sub>0.69</sub> Pt <sub>0.31</sub>                                     |                    |                          | A3                                    | 1.2                | 1721                     |
| MoPt <sub>2</sub>   |                    |                          | ORTHO                                 | 1.0                | 845                      |
| Mo <sub>0.65-0.49</sub> Pt <sub>0.35-0.51</sub>                           |                    |                          | HEX<br>(ordered<br>and<br>disordered) | 1.0                | 845                      |
| Mo <sub>0.55-0.47</sub> Pt <sub>0.45-0.53</sub>                           |                    |                          | ORTHO                                 | 1.0                | 845                      |
| Mo <sub>0.45-0</sub> Pt <sub>0.55-1</sub>                                 |                    |                          | CUB's                                 | 1.0                | 845                      |
| Mo <sub>0.8, 0.75</sub> Pt <sub>0.2, 0.25</sub>                           | 8.3, 8.0 Max.      |                          |                                       |                    | ▼1438                    |
| Mo <sub>1-x</sub> Pt <sub>x</sub> (Co-sputtered)                          | 7.0 Max.           |                          |                                       |                    | ▼1565                    |
| Mo <sub>0.35-0.8</sub> Pt <sub>0.05-0.15</sub><br>Re <sub>0.05-0.45</sub> | 5.0-11.25-5.32     |                          |                                       |                    | 1602                     |
| Mo <sub>0.5</sub> Pt <sub>0.05</sub> Re <sub>0.45</sub>                   | 5.32               |                          | D8 <sub>b</sub>                       |                    | 1692                     |
| Mo <sub>0.55</sub> Pt <sub>0.05</sub> Re <sub>0.425</sub>                 | 11.25              |                          |                                       |                    | 1692                     |
| Mo <sub>0.18</sub> Pu <sub>0-0.2</sub> U <sub>1-0.8</sub>                 | 2-<0.39            |                          | CUB                                   |                    | 1669                     |
| MoRb <sub>0.3</sub> S <sub>2</sub>  | 6.25               |                          | HEX                                   |                    | 1920                     |
| Mo <sub>0.95-0.62</sub> Re <sub>0.05-0.38</sub>                           | 1.2-12.2           | HF(453)                  | CUB                                   |                    | 266 253 1696<br>465# 453 |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)         | H <sub>c</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                    |
|--|----------------------------|--------------------------|-------------------|--------------------|--------------------------|
| Mo <sub>0.9</sub> Re <sub>0.1</sub>                              | 2.92<br>2.97 (P=27.9 kbar) |                          |                   |                    | 1696                     |
| Mo <sub>0.865</sub> Re <sub>0.135</sub>                          | 6.1                        | HF                       |                   |                    | 881                      |
| Mo <sub>0.815</sub> Re <sub>0.185</sub>                          | 8.27                       | HF                       |                   |                    | 881                      |
| Mo <sub>0.66</sub> Re <sub>0.34</sub>                            | 11.8                       | HF                       |                   |                    | 1331# 429<br>406 310 455 |
| Mo <sub>0.6</sub> Re <sub>0.4</sub>                              | 10.6                       | HF                       |                   |                    | 555                      |
| Mo <sub>0.57</sub> Re <sub>0.43</sub>                            | 14.0                       |                          |                   |                    | 592                      |
| Mo <sub>0.52</sub> Re <sub>0.48</sub>                            | 11.1                       |                          |                   |                    | 555 1151                 |
| Mo <sub>0.5</sub> Re <sub>0.5</sub>                              | 11.6, 7.3, 6.4             |                          |                   |                    | 276 266 253<br>182 202   |
| Mo <sub>0.5</sub> Re <sub>0.5</sub>                              | 6.5                        |                          | D8 <sub>b</sub>   |                    | 1692 182                 |
| Mo <sub>3</sub> Re   | 10.0, 9.8                  | HF(383)                  |                   |                    | 327 136 383              |
| Mo <sub>0.42</sub> Re <sub>0.58</sub>                            | 6.35, 6.5, 8.4             |                          |                   |                    | 557# 572#<br>295# 276    |
| Mo <sub>0.45-0.33</sub> Re <sub>0.55-0.67</sub>                  | 5.7-8.6                    |                          | D8 <sub>b</sub>   |                    | 266 253<br>1625# 276     |
| MoRe <sub>3</sub>  | 9.26, 9.89                 |                          | A12               |                    | 182 270 1478             |
| Mo <sub>0.28</sub> Re <sub>0.72</sub>                            | 6.5                        |                          |                   |                    | 266 253 572#             |
| Mo <sub>0.23</sub> Re <sub>0.77</sub>                            | 9.25                       |                          | A12               |                    | 557# 266 253             |
| Mo <sub>0-0.12</sub> Re <sub>1-0.88</sub>                        | 1.6-7.9                    |                          | HEX               |                    | 266 253                  |
| Mo <sub>0-0.01</sub> Re <sub>1-0.99</sub>                        | 1.69-1.70                  |                          |                   |                    | 1257 1646                |
| Mo <sub>1-0</sub> Re <sub>0-1</sub> (~50,000Å)                   | <1-~15                     |                          |                   |                    | ▽1950                    |
| Mo <sub>0.38</sub> Re <sub>0.62</sub> (5000-190,000Å)            | ~9-15                      |                          |                   |                    | ▽1320                    |
| Mo <sub>~0.7</sub> Re <sub>~0.3</sub>                            | ~15                        |                          | A15               |                    | ▽1384                    |
| Mo <sub>1-0</sub> Re <sub>0-1</sub> (Deposit 4.2K,<br>amorphous) | 9-9.5-7.5                  |                          |                   |                    | ▽1325                    |
| Mo <sub>0.8</sub> Re <sub>0.2</sub> Rh <sub>x</sub>              | ~10->10                    |                          |                   |                    | 240                      |
| Mo <sub>0.8</sub> Re <sub>0.2</sub> Ru <sub>x</sub>              | ~10->10                    |                          |                   |                    | 240                      |
| Mo <sub>0.97-0.85</sub> Rh <sub>0.03-0.25</sub>                  | 1.5-8.2                    |                          | CUB               |                    | 128                      |
| MoRh   | 1.97                       |                          | HEX               |                    | 033 352                  |
| MoRh <sub>x</sub>  | ~1.7-0.03                  |                          | HEX               |                    | 1570                     |
| Mo <sub>0.75</sub> Rh <sub>0.25</sub>                            | 6.6 Max.                   |                          |                   |                    | ▽1438                    |
| Mo <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>         | 3.3                        |                          |                   |                    | 1060                     |
| Mo <sub>0.61</sub> Ru <sub>0.39</sub>                            | 7.18                       |                          | D8 <sub>b</sub>   |                    | 557# 572#<br>465#        |
| Mo <sub>0.6</sub> Ru <sub>0.4</sub> (Plasma jet sprayed)         | 8.7                        |                          | HEX               |                    | 1033                     |
| Mo <sub>0.6</sub> Ru <sub>0.4</sub>                              | 7.0                        |                          | D8 <sub>b</sub>   |                    | 276 572#                 |
| MoRu   | 9.5-10.5                   |                          | IIIX              |                    | 033 352                  |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                           |
|---|--------------------|--------------------------|-------------------|--------------------|---------------------------------|
| Mo <sub>0.39</sub> Ru <sub>0.61</sub>                                       | 6.9                |                          | D8 <sub>b</sub>   |                    | 182                             |
| Mo <sub>0.25-0.025</sub> Ru <sub>0.75-0.975</sub>                           | 2.6-0.59           |                          | HEX               |                    | 224 033 465#                    |
| Mo <sub>1-0</sub> Ru <sub>0-1</sub> (Deposit 4.2K)                          | 9-9.5-<1.7         |                          |                   |                    | ▽1325                           |
| Mo <sub>0.69-0.56</sub> Ru <sub>0.31-0.44</sub>                             | 8.4, 8.0 Max.      |                          |                   |                    | ▽1438                           |
| MoS <sub>2</sub>  |                    |                          | HEX's             | 1.25               | 918 011 084<br>572#             |
| Mo <sub>2</sub> S <sub>3</sub>  |                    |                          | TRI               | 0.3                | 1584                            |
| MoS <sub>2</sub> (See Table 3)  |                    |                          |                   |                    |                                 |
| Mo <sub>3</sub> SSe <sub>3</sub>  | 3.4                |                          | RHOMB             |                    | 1309                            |
| Mo <sub>3</sub> S <sub>2</sub> Se <sub>2</sub>                              | 3.3                |                          | RHOMB             |                    | 1309                            |
| Mo <sub>6</sub> S <sub>7</sub> Sn   | 13.0               |                          |                   |                    | 1831                            |
| Mo <sub>5</sub> S <sub>6</sub> Sn   | 10.9-13.4          | HF                       | RHOMB             |                    | 1163 1193#<br>1597 1664<br>1725 |
| Mo <sub>3</sub> S <sub>4</sub> Sn <sub>0.6</sub>                            | 14.2, 12.9         |                          |                   |                    | 614                             |
| Mo <sub>3</sub> S <sub>4</sub> Sn <sub>0.6</sub> (P=0-22 kbar)              | 14.2-10.2          |                          |                   |                    | 614                             |
| MoS <sub>2</sub> Sr <sub>0.2</sub>  | 5.6                | HF                       |                   |                    | 1728 1532                       |
| MoS <sub>2</sub> Sr <sub>0.06-0.1</sub>                                     | 5.6                | HF                       | TET               |                    | 1928                            |
| Mo <sub>2</sub> S <sub>4</sub> V  |                    |                          |                   | Data given         | 1824                            |
| Mo <sub>5</sub> S <sub>6</sub> Zn   | 3.0-2.7            |                          | RHOMB             |                    | 1163                            |
| Mo <sub>5</sub> S <sub>6</sub> Zn (P=0-7-21 kbar)                           | 3-3.2-2.7          |                          |                   |                    | 614                             |
| Mo <sub>3</sub> Sb <sub>7</sub>   | 2.31               |                          |                   |                    | 1583                            |
| Mo <sub>3</sub> Sb <sub>4</sub>   | 2.10               |                          |                   |                    | 117                             |
| MoSe <sub>2</sub>   |                    |                          | HEX               | 1.25               | 1918 084                        |
| Mo <sub>3</sub> Se <sub>4</sub>   | 6.3                |                          | RHOMB             |                    | 1309                            |
| Mo <sub>3</sub> Se <sub>4</sub>   | 5.8                |                          | MONO              |                    | 1584                            |
| MoSe <sub>2</sub> (See Table 3)   |                    |                          |                   |                    |                                 |
| Mo <sub>3</sub> Si  | 1.30, 1.402        |                          | A15               |                    | 010 474 1446<br>1692 323        |
| Mo <sub>0.77</sub> Si <sub>0.23</sub>                                       | 1.70               |                          | A15               |                    | 1692                            |
| Mo <sub>3</sub> Si <sub>2</sub>   |                    |                          |                   | 1.20               | 010                             |
| Mo <sub>0.59</sub> Si <sub>0.41</sub>                                       | 1.34               |                          |                   |                    | 042                             |
| MoSi <sub>2</sub>   |                    |                          |                   | 1.20               | 010 042 119                     |
| Mo <sub>0.15-0.009</sub> Si <sub>0.25-0.248</sub><br>V <sub>0.6-0.745</sub> | 4.54-16-14.0       |                          | A15               |                    | 323                             |
| Mo <sub>0.25-0.65</sub> Si <sub>0.25</sub> V <sub>0.5-1</sub>               |                    |                          | A15               | 1.9                | 323                             |
| Mo <sub>0.03-0.6</sub> SiV <sub>2.97-2.4</sub>                              | 16.0-4.54          |                          |                   |                    | 1913                            |
| Mo <sub>0.99</sub> SiV <sub>2.01</sub>                                      |                    |                          |                   | 1.9                | 1913                            |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|--|-------------------------|--------------------------|-------------------|--------------------|---|
| Mo <sub>3</sub> Sn                                 |                         |                          | A15               | 0.35               | 509   |
| Mo <sub>3</sub> Sn                                 |                         |                          | CUB               | 1.0                | 509   |
| Mo <sub>0.6-0</sub> Tc <sub>0.4-1</sub>            | 12.5-14.5-<br>12-16-9.3 |                          |                   |                    | 615 202 408   |
| Mo <sub>0.5</sub> Tc <sub>0.5</sub>                | 14.0                    | HF                       |                   |                    | 202 465#<br>572#                                      |
| Mo <sub>0.45</sub> Tc <sub>0.55</sub>              | 14.0                    |                          |                   |                    | 202 408   |
| Mo <sub>0.4</sub> Tc <sub>0.6</sub>                | 13.5, 14.7              | A15                      |                   |                    | 1656 202  |
| Mo <sub>0.3</sub> Tc <sub>0.7</sub>                | 12.0                    |                          | D <sub>b</sub>    |                    | 202 408   |
| Mo <sub>0.25</sub> Tc <sub>0.75</sub>              | 15.8                    |                          |                   |                    | 202 408   |
| Mo <sub>0.1</sub> Tc <sub>0.9</sub>                | 13.4                    |                          |                   |                    | 202 408   |
| Mo <sub>0.05</sub> Tc <sub>0.95</sub>              | 10.8                    |                          |                   |                    | 202 408   |
| Mo <sub>3</sub> Te <sub>4</sub>                    |                         |                          |                   | 0.31               | 1584  |
| MoTe <sub>2</sub>                                  | ≈0.3                    |                          |                   |                    | 1584  |
| Mo <sub>1-0</sub> Ti <sub>0-1</sub>                | <1.5-3.85-<1.5          |                          |                   |                    | 1712# 522<br>399 252 268<br>301 289 126<br>218        |
| Mo <sub>0.71-0.05</sub> Ti <sub>0.29-0.95</sub>    | <1.5-3.85-<1.5          |                          |                   |                    | 1712#   |
| Mo <sub>0.91</sub> Ti <sub>0.09</sub>              | 2.95                    | HF                       |                   |                    | 600 466   |
| Mo <sub>0.6-0.06</sub> Ti <sub>0.4-0.94</sub>      | 3.7-1.3                 |                          | CUB               |                    | 275 572#  |
| Mo <sub>0.25-0</sub> Ti <sub>0.75-1</sub>          | 3.6-3.9-2.1             |                          |                   |                    | 929 126 218   |
| Mo <sub>0.16</sub> Ti <sub>0.84</sub>              | 4.246, 4.1              | HF                       |                   |                    | 805# 740#<br>616 565#<br>1803 985                     |
| Mo <sub>0.1</sub> Ti <sub>0.9</sub>                | 3.25                    |                          | A3                |                    | 274 1188#   |
| Mo <sub>0.0625-0.086</sub> Ti <sub>0.94-0.92</sub> | 2.04-3.09               |                          | CUB               |                    | 335# 178#<br>1412#                                    |
| Mo <sub>0-0.05</sub> Ti <sub>1-0.95</sub>          | 1.8-3.3                 |                          |                   |                    | 931# 275<br>1412# 1613#<br>274 477                    |
| Mo <sub>0.003-0.3</sub> U <sub>0.997-0.7</sub>     | 1.2-0.38-<br>2.11-1.84  |                          |                   |                    | 134 027 157<br>177 349 252<br>152 179 879<br>466 572# |
| Mo <sub>0.3</sub> U <sub>0.7</sub>                 | 1.84, 1.97              | HF                       | A2                |                    | 177 349   |
| Mo <sub>0.22</sub> U <sub>0.78</sub>               | 2.06                    | HF                       | A2                |                    | 349 177   |
| Mo <sub>0.18</sub> U <sub>0.82</sub>               | 2.07, 2.113             |                          | A2                |                    | 177 1252  |
| Mo <sub>0.14</sub> U <sub>0.86</sub>               | 2.02                    |                          |                   |                    | 177 1152  |
| Mo <sub>0.12</sub> U <sub>0.88</sub>               | 1.95                    | HF                       | A2                |                    | 349   |
| Mo <sub>0.003-0.07</sub> U <sub>0.997-0.93</sub>   | 0.827-0.38-1.2          |                          |                   |                    | 879#  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)                    | $H_o$ (oersted) | Crystal Structure   | $T_n$ (K)                       | Refs.   |
|---|------------------------------|-----------------|---------------------|---------------------------------|---|
| $\text{Mo}_{0.006}\text{U}_{0.944}$                         | 1.20<br>1.46 ( $P=11$ kbar)  |                 |                     |                                 | 879#  |
| $\text{Mo}_{0-0.05}\text{V}_{1-0.95}$                       | 5.3-1.9                      |                 | Data given<br>(441) | 130 441                         |   |
| $\text{Mo}_{0.5}\text{V}_{0.5}$                             | 0.11                         |                 |                     |                                 | 788#  |
| $\text{Mo}_{0.3}\text{V}_{0.7}$                             | 0.76                         |                 |                     |                                 | 788#  |
| $\text{Mo}_{0.15}\text{V}_{0.85}$                           | 2.28                         |                 |                     |                                 | 788#  |
| $\text{Mo}_{0-0.5}\text{V}_{2-1.5}\text{Zr}$                | 8.5-9.1-8.4                  |                 |                     |                                 | 1323  |
| $\text{Mo}_{0.75}\text{W}_{0.75}$                           |                              |                 |                     | 4.2                             | 084   |
| $\text{Mo}_{0.5-0.83}\text{Y}_{0.5-0.17}$<br>(Co-sputtered) | <1.2-6.3 Max.                |                 |                     |                                 | ▽1565   |
| $\text{Mo}_3\text{Zr}$                                      |                              |                 |                     | 1.2                             | 010   |
| $\text{Mo}_2\text{Zr}$                                      | 0.125 (1 hour<br>at 1700°C)  |                 | C15                 | 0.025<br>(2 hours<br>at 1840°C) | 1988 1586<br>956  |
| $\text{Mo}_2\text{Zr}$ (Arc quenched)                       | 4.6, 4.75-4.27               |                 |                     |                                 | 956 640   |
| $\text{Mo}_{0.03-0.41}\text{Zr}_{0.97-0.59}$                | 2.2-5.3-4.5                  | HF              | CUB                 |                                 | 956 289 399   |
| $\text{Mo}_{0.033-0.13}\text{Zr}_{0.97-0.87}$               | 2.12-5.00-4.91               |                 | CUB                 |                                 | 1855#   |
| $\text{Mo}_{1-x}\text{Zr}_x$                                | 5.4 Max. (at $x=0.27, 0.4$ ) |                 |                     |                                 | ▽1565   |
| $\text{N Hf}_{0-1}\text{Nb}_{1-0}$                          |                              |                 |                     |                                 | 1238  |
| $\text{N Nb}$   | 16.0, 15.6                   | HF              | B1                  |                                 | 1473# 037<br>343 1038<br>1044 1079<br>1107 1234<br>1196 815<br>1542# 873<br>243 079 306<br>343 097 040<br>243 011 048<br>451 483 553<br>559 558 |
| $\text{N Nb}$   | 5.1                          |                 | B <sub>i</sub>      | 1.94                            | 096 110   |
| $\text{N}_{0.92}\text{Nb}$                                  | 16.3, 16.5,<br>15.6          | HF              | B1                  |                                 | 1070 1510#<br>880# 110 096<br>572# 559 558  |
| $\text{N}_{0.84}\text{Nb}$                                  | 13.5-12.95                   |                 | B1                  |                                 | 1510# 063   |
| $\text{N}_{0.8}\text{Nb}$                                   | 8.9, 7.12                    |                 | TET. plus           |                                 | 096 110 010<br>559 558  |
| $\text{N}_{0.48}\text{Nb}$                                  | 5.5                          |                 | HEX                 |                                 | 096   |
| $\text{N Nb}_2$   | 8.6                          |                 | HEX                 |                                 | 1527 815 110<br>010   |
| $\text{N}_{0-0.186}\text{Nb}_{1-0.814}$                     | 9.30-8.58                    | HF              | CUB's               |                                 | 1208 771 248<br>190   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)      | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|--|----------------|-----------------|-------------------|-----------|---|
| $N_{0.003}Nb_{0.997}$  | 9.120          |                 |                   |           | 248 190   |
| $N_{0.85-1.04}Nb$  | 14.3-16.5-15.7 |                 |                   |           | 1070 1940 588   |
| NNb(Whiskers)  | 10-14.5        | HF              |                   |           | 582#  |
| $N_{0.8-1.1}Nb(>500\text{\AA})$  | 12.3-16.2-8.7  | HF              |                   |           | $\nabla_{1786} \nabla_{1439}$<br>$\nabla_{1433} \nabla_{1443}$<br>$\nabla_{1527} \nabla_{1275}$ |
| NNb (1780\text{\AA})   | 15.23          | HF              |                   |           | $\nabla_{1406} \nabla_{1473\#}$   |
| $N_xNb(1000-8000\text{\AA})$   | 1.5-15         | HF              | B1                |           | $\nabla_{1445} \nabla_{1174}$<br>$\nabla_{941} \nabla_{505}$<br>$\nabla_{1524} \nabla_{1501}$   |
| NNb (25-10,000\text{\AA})  | 6.5-15.2-17    |                 |                   |           | $\nabla_{1461} \nabla_{1567}$<br>$\nabla_{1828} \nabla_{1694}$                                  |
| NNb(RF reactive sputtering)  | 17.3, 15.25    |                 |                   |           | $\nabla_{1175} \nabla_{819}$<br>$\nabla_{1396}$   |
| $N_6Nb_5$  |                |                 | HEX               | 1.77      | $\nabla_{1439}$   |
| $N_5Nb_4$  | 8.0-8.5        |                 | TET               |           | $\nabla_{1439}$   |
| $N_{0.9-1.34}NbO_{0.02-0.27}$  | 14.7-9.6       |                 | CUB               |           | $\nabla_{622}$  |
| $N_{0.998}NbO_{0.002}$   | 17.2-17.3      |                 |                   |           | 1234  |
| $N_xNbO_y$   | 6.0-11         |                 |                   |           | 110   |
| $NNb_xO_y$   | 13.5-17.0      | HF              |                   |           | 483   |
| $N_{0.91}Nb_{1-0.75}Ta_{0-0.25}$                                       | 16.5-11.3      |                 | CUB               |           | 1070 1737   |
| $N_{0.91-0.92}Nb_{0.99-0.82}Ta_{0.01-0.18}$                            | 15.62-10.9     | HF              | B1                |           | 880   |
| $NNb_{1-0}Ti_{0-1}$  | 14.7-18-5.5    | HF              |                   |           | 1511 1203<br>588 1238   |
| $N_{0.85-0.95}Nb_{1-0.12}Ti_{0-0.88}$                                  | 16.2-17.8-10.5 |                 | CUB               |           | 1070  |
| $N_{0.90}Nb_{0.114}Ti_{0.886}$   | 10.1           | HF              | B1                |           | 880#  |
| $N_{0.88}Nb_{0.256}Ti_{0.744}$   | 14.72          | HF              | B1                |           | 880#  |
| $N_{0.85}Nb_{0.66}Ti_{0.34}$   | 17.61          | HF              |                   |           | 880# 1044   |
| $N_xNb_yTi_{1-x-y}$ (Deposited hot substrate)                          | 15.5-17-5      | HF              |                   |           | $\nabla_{1344} \nabla_{1405}$<br>$\nabla_{839}$   |
| $N_xNb_{0.88}Ti_{0.12}$ (Deposited hot substrate, 1000-8000\text{\AA}) | 7-12           |                 |                   |           | $\nabla_{1445} \nabla_{1543}$   |
| $NNb_{0.7}Ti_{0.3-x}Zr_x$  | 17-12.5        |                 |                   |           | 1238  |
| $NNb_{0.9}V_{0.1}$   | 6.6-4.6        |                 |                   |           | 1511  |
| $N_{0.92-0.7}Nb_{1-0.34}Zr_{0-0.66}$                                   | 16.4-10.5      | HF              | CUB               |           | 1070 652 588<br>553 517 880#  |
| $NNb_{1-0}Zr_{0-1}$  | 14.7-9.6       |                 |                   |           | 1511 1238   |
| $N_xNb_yZr_{1-x-y}$ (on hot substrate)                                 | $\sim 15-9$    | HF              |                   |           | $\nabla_{1344} \nabla_{839}$  |
| $N_{0.47-0.49}O_{0.03-0.01}Ti$   | 2.9-5.58       |                 | CUB               |           | 010   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                           | $T_c$ (K)  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|------------------------------------|------------|-----------------|-------------------|-----------|---|
| $N_x O_y V_{1-x-y}$                | 5.8-8.2    |                 | CUB               |           | 010   |
| $N_{0.2} Pd$ (Ion implant)         |            |                 |                   | 0.2       | 164   |
| $N_{0.98} Pr$                      |            |                 | B1                | 1.38      | 559 558                                       |
| $N_{0.34} Re$ (Particles, 20-26 Å) | 4-5        |                 |                   |           | 146   |
| NS                                 | 0.26       |                 |                   |           | 1986 1975#                                    |
| $N_{0.97} Sc$                      |            |                 | B1                | 1.38      | 069 559 558                                   |
| NSe                                |            |                 |                   | 1.30      | 119   |
| NTa                                |            |                 |                   | 1.20      | 010 691                                       |
| NTa <sub>2</sub>                   |            |                 | HEX               | 1.2       | 010 906                                       |
| $N_{0-0.018} Ta_{1-0.982}$         | 4.483-3.63 |                 |                   |           | 169   |
| NTa (P=30-100 kbar, 1800°C)        | 6.5        |                 | B1                |           | 906   |
| NTa                                |            |                 | B <sub>h</sub>    | 4.2       | 906   |
| $N_6 Tb$                           |            |                 |                   | 1.28      | 1815  |
| NTb                                |            |                 |                   |           | 1971  |
| $N_4 Th_3$                         |            |                 |                   | 1.20      | 010   |
| NTa(1200 Å)                        | 4.84       |                 | B1                |           | ▽505  |
| NTa <sub>2</sub> (1200 Å)          |            |                 |                   | 1.2       | ▽505  |
| NTi                                | 5.49       |                 | B1                |           | 1542# 010<br>011 559 694<br>1238              |
| $N_{0.99-0.6} Ti$                  | 4.35-<1.17 |                 | B1                |           | 694   |
| $N_{0.84} Ti$                      | 1.2        |                 |                   |           | 694   |
| $N_{0.8-0.6} Ti$                   |            |                 |                   | 1.17      | 694   |
| NU                                 |            |                 | B1                | 1.20      | 010   |
| NV                                 | 8.5        |                 | B1                |           | 1542# 010<br>011 694 1592<br>1593# 1238       |
| $N_{0.99-0.785} V$                 | 8-2        |                 | B1                |           | 694 1592 559<br>558                           |
| $N_{0.75} V$                       | 2.3        |                 | B1                |           | 1592  |
| $N_2 V_5$                          |            |                 | HEX               | 1.20      | 010   |
| $N_{0.97} W$                       |            |                 | B1                | 1.38      | 559 558                                       |
| NW <sub>2</sub>                    |            |                 | CUB               | 1.28      | 011   |
| NY                                 |            |                 | B1                | 1.4       | 694   |
| NZr                                | 10.7       | HF              | B1                |           | 278 1961<br>1542# 1968<br>652 011 010<br>1238 |
| $N_{0.984-0.932} Zr$               | 9.5-3.0    |                 | B1                |           | 559 558                                       |
| $N_{0.906} Zr$                     |            |                 | B1                | 1.38      | 559 558                                       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                              | $T_c$ (K)       | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|---------------------------------------|-----------------|-----------------|-------------------|-----------|---|
| Na                                    |                 |                 | A2                | 0.09      | 023   |
| $Na_{\sim 0.9}O_3Re$                  |                 |                 | TET               | 1.3       | 1212  |
| $Na_{0.28-0.35}O_3W$                  | 0.56            |                 | TET               |           | 625 1080  |
| $Na_{0.2}O_3W$                        | 0.55            |                 | TET               |           | 500 1080  |
| $Na_{0.2-0.4}O_3W$                    | 3.05-0.7        |                 | TET(I)            |           | 1672  |
| $Na_{0.10}O_3W$                       |                 |                 | TET(II)           | 0.040     | 500   |
| $Na_xO_3W$                            | 5.4-<1.3        |                 | HEX               |           | 1379  |
| $Na_xO_3W$                            |                 |                 | E2 <sub>1</sub>   | 0.011     | 500 575   |
| $NaPb_3$                              | 5.62            |                 | L1 <sub>2</sub>   |           | 715   |
| $Na_{0.08-0.02}Pb_{0.92-0.98}$        |                 | HF              |                   |           | 1312 322 113  |
| $Na_{0.1}Pb_{0.9}$ (Quench condensed) | 5.93            |                 |                   |           | ▽1491   |
|                                       | 7.04 (Annealed) |                 |                   |           |   |
| $Na_3Sb$                              |                 |                 | HEX               | 1.45      | 427   |
| NaTe                                  |                 |                 |                   | 1.3       | 427   |
| $Na_{0.1}Tl_{0.9}$ (Deposit 0.3K)     | 3.13            |                 |                   |           | ▽1900   |
|                                       | 2.69 (Annealed) |                 |                   |           |   |
| Nb(RRR 500-16, 500)                   | 9.26 9.27, 9.23 | 2061, HF        | A2                |           | 1870# 1892<br>1021 1359<br>1577 1157#<br>743 722 1574<br>1639 133 913<br>1979 1771<br>620# 1775<br>572# 525#<br>465#  |
| Nb                                    | 9.20-9.23       | HF              |                   |           | 1300 1298<br>1209 1237<br>954 994<br>1099# 544<br>721# 864#<br>928# 720#<br>727#  |
| Nb                                    | 8.6-9.6         | HF              |                   |           | 001# 1087#<br>1002# 1017<br>771 1208<br>1513 1805<br>1638 1550<br>531 505 300<br>293 276 244<br>170 096 344<br>1197 1248<br>417 190 191<br>1326 110<br>024# 722<br>1147 995<br>1805 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)        | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.   |
|---|---------------------------|--------------------------|-----------------------------|--------------------|---|
| Nb  |                           | HF                       |                             |                    | 1560 538<br>1549 679#<br>400 334 1839<br>1316 883 751<br>895 832 827<br>1142 1135<br>1929 |
| Nb(Deformed)  | 9.07-8.8                  |                          |                             |                    | 1347  |
| Nb(with Cr, Hf, Mo, Ta, Ti, V,<br>W or Zr) <sub>y</sub>   | Data given                | Data given               |                             |                    | 441   |
| Nb(95-10, 250Å)   | 6.3- .6                   | HF                       |                             |                    | ▽1328 ▽913<br>▽1293 ▽1251<br>▽1199 ▽1436<br>▽921 ▽719<br>▽505 ▽518<br>▽529 ▽503           |
| Nb(1500-2000Å)  | 8.2-10.1                  |                          |                             |                    | ▽1206 ▽505<br>▽1411   |
| Nb(4000-12,000)   | 8.20-9.81, 10.0           |                          |                             |                    | ▽1199 ▽819<br>▽719 ▽505<br>▽529   |
| Nb(Substrate 200, 400C,<br>5000-20.000Å)                  | 7.95-9.46                 |                          |                             |                    | ▽529  |
| Nb(Deposited 700C)  | 9.3                       |                          |                             |                    | ▽1345   |
| Nb(He, Ar, Kr, Xe) <sub>x</sub>                           | <1.1, 1.98, 2.92,<br>4.45 |                          |                             |                    | ▽1526 ▽1441   |
| Nb <sub>0.22</sub> NP <sub>0-0.3</sub> U <sub>1-0.7</sub> | 2-0.55                    |                          | CUB                         |                    | 1669  |
| NbO   | 1.2, 1.38, 1.50           |                          | B1                          |                    | 1993 1843<br>1450 481 010<br>084  |
| NbO <sub>2</sub>  |                           |                          |                             | Not given          | 1450  |
| Nb <sub>1-0.965</sub> O <sub>0-0.035</sub>                | 9.23-6.13                 | HF                       | A2                          |                    | 1776# 1208<br>1788 771 190  |
| Nb <sub>1-0.987</sub> O <sub>0-0.013</sub>                |                           | HF                       |                             |                    | 1523 944 771<br>772 441 190   |
| Nb <sub>0.45</sub> O <sub>0.0024</sub> Ti <sub>0.54</sub> |                           | HF                       |                             |                    | 1796  |
| Nb <sub>3</sub> Os  | 0.94, 1.05                | HF                       | A15                         |                    | 707 922#<br>1023 492<br>128 117 124<br>270  |
| NbO <sub>2</sub>  | 2.52                      |                          | A12                         |                    | 173   |
| Nb <sub>0.5</sub> Os <sub>0.5</sub>                       | 2.86                      |                          | A12                         |                    | 276   |
| Nb <sub>0.6</sub> Os <sub>0.4</sub>                       | 1.78, 1.85                |                          | D <sub>b</sub> <sup>8</sup> |                    | 173 557#<br>572# 276 182  |
| NbOs <sub>0.42</sub> Pt <sub>2.58</sub>                   |                           |                          | DO <sub>19</sub>            | 1.6                | 1299  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure                 | T <sub>n</sub> (K) | Refs.                                   |
|---|--------------------|--------------------------|-----------------------------------|--------------------|---|
| Nb <sub>3</sub> Os <sub>0.02-0.1</sub> Rh <sub>0.98-0.9</sub>   | 2.42-2.30          |                          | A15                               | 492                |   |
| Nb <sub>3</sub> Os <sub>0.3-0.5</sub> Rh <sub>0.7-0.1</sub>     |                    |                          | A15                               | 1.7                | 492                                     |
| NbP <sub>2</sub>  |                    |                          | MONO                              | 0.3                | 1508 1583                               |
| Nb <sub>3</sub> P, (NbP)  | 2.0                |                          | TET                               | (1.1)              | 1995 (1583)                             |
| NbPS(Prepared 65 kbar, Temp. 1100-1300C)                        | 7.5-12.5           |                          | ORTHO                             |                    | 892                                     |
| NbPSe   |                    |                          |                                   | 1.25               | 892                                     |
| Nb <sub>3</sub> Pb  |                    |                          | A15(Weak diffraction lines)       | 9                  | 1825                                    |
| Nb <sub>2</sub> Pb <sub>2</sub> (Shock wave product)            | ~8                 |                          |                                   |                    | 1591                                    |
| NbPbS <sub>3</sub>  | 2.62-2.66          |                          | TET                               |                    | 778# 795#                               |
| Nb <sub>0.67</sub> PbS <sub>3</sub> Ta <sub>0.33</sub>          | 2.01               |                          | TET                               |                    | 795#                                    |
| Nb <sub>1-x</sub> PbS <sub>3</sub> Ta <sub>x</sub>              | 2.7-2.0-3.3        |                          |                                   |                    | 795                                     |
| Nb <sub>3</sub> Pb <sub>0-0.3</sub> Sn <sub>1-0.7</sub>         | 18.0-18.16-18.1    |                          |                                   |                    | 299 1982                                |
| Nb <sub>3</sub> Pb <sub>0.15</sub> Sn <sub>0.85</sub>           | 18.16              |                          |                                   |                    | 1982                                    |
| Nb <sub>0.9</sub> Pd <sub>0.1</sub>                             | 3.5                |                          |                                   |                    | 592                                     |
| Nb <sub>0.6</sub> Pd <sub>0.4</sub>                             | 2.47-2.04, 1.7     |                          | A12                               |                    | 276 295# 572#                           |
| Nb <sub>0.6</sub> Pd <sub>0.4</sub>                             | 1.60               |                          | D <sub>8</sub> <sub>b</sub> , CUB |                    | 557                                     |
| Nb <sub>2</sub> Pd <sub>?</sub>                                 | 2.0                |                          | D <sub>8</sub> <sub>b</sub>       |                    | 182                                     |
| Nb <sub>3</sub> Pd <sub>0.02-0.1</sub> Rh <sub>0.98-0.9</sub>   | 2.50-2.55          |                          | A15                               |                    | 492                                     |
| Nb <sub>3</sub> Pt  | 10.5, 10.9-8.11    |                          | A15                               |                    | 1446 922# 707<br>492 033 128<br>117 124 |
| NbPt  |                    |                          | B19                               | 1.39               | 1299                                    |
| NbPt <sub>2</sub>   |                    |                          | ORTHO                             | 1.46               | 1299                                    |
| Nb <sub>0.8</sub> Pt <sub>0.1</sub>                             | 2.5                |                          |                                   |                    | 592                                     |
| N <sub>0.62</sub> Pt <sub>0.38</sub>                            | 4.21, 3.73         |                          | D <sub>8</sub> <sub>b</sub>       |                    | 557# 572#<br>295# 276<br>173 182        |
| Nb <sub>3</sub> Pt(rf sputtered, 10,000Å)                       | 11.0               |                          | A15                               |                    | 1410                                    |
| Nb <sub>3</sub> Pt <sub>0.02-0.98</sub> Rh <sub>0.98-0.02</sub> | 2.52-9.6           |                          | A15                               |                    | 492                                     |
| NbPt <sub>1.8</sub> Ru <sub>1.2</sub>                           |                    |                          | HEX                               | 1.6                | 1299                                    |
| NbPt <sub>2.58</sub> Ru <sub>0.42</sub>                         |                    |                          | DO <sub>19</sub>                  | 1.6                | 1299                                    |
| Nb <sub>0.45</sub> Pt <sub>3</sub> Zr <sub>2.55</sub>           |                    |                          | HEX                               | 1.6                | 1299                                    |
| Nb <sub>0.65</sub> Pt <sub>3</sub> Zr <sub>0.35</sub>           |                    |                          | DO <sub>19</sub>                  | 1.6                | 1299                                    |
| NbPu <sub>0-0.2</sub> U <sub>1-x</sub>                          | 2-<0.39            |                          | CUB                               |                    | 1669                                    |
| Nb <sub>0.9</sub> Re <sub>0.1</sub>                             | 4.5                |                          |                                   |                    | 592                                     |
| Nb <sub>0.5</sub> Re <sub>0.5</sub>                             | 2.0-3.8            |                          | D <sub>8</sub> <sub>b</sub>       |                    | 276                                     |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure    | T <sub>n</sub> (K)           | Refs.                             |
|---|--------------------|--------------------------|----------------------|------------------------------|-----------------------------------|
| Nb <sub>0.4</sub> Re <sub>0.6</sub>                           | 2.5, 2.0           |                          | D8 <sub>b</sub>      | 2.76                         | 182                               |
| Nb <sub>0.4</sub> Re <sub>0.6</sub>                           | 2.36               |                          | A12                  | 276                          |                                   |
| Nb <sub>0.38</sub> Re <sub>0.62</sub>                         | 2.45               |                          | A12                  | 557# 572#<br>418 295         |                                   |
| Nb <sub>0.29</sub> Re <sub>0.71</sub>                         | 5.60               |                          | A12                  | 557# 572#<br>295             |                                   |
| Nb <sub>0.26-0.14</sub> Re <sub>0.74-0.86</sub>               | 7.2-9.7-8.5        |                          | A12                  | 418 295 557#<br>572# 182 173 |                                   |
| Nb <sub>0.05</sub> Re <sub>0.75</sub> Ta <sub>0.2</sub>       | 9.8                |                          | A12                  | 1990                         |                                   |
| Nb <sub>0.11</sub> Re <sub>0.78</sub> Ta <sub>0.11</sub>      | 8.8                |                          | A12                  | 1990                         |                                   |
| Nb <sub>0.9</sub> Rh <sub>0.1</sub>                           | 2.8                |                          |                      | 592                          |                                   |
| Nb <sub>0.85</sub> Rh <sub>0.15</sub>                         | 3.00               |                          | B19                  | 1299                         |                                   |
| Nb <sub>3</sub> Rh  | 2.79, 2.64, 2.50   |                          | A15                  | 1446 492 128<br>117          |                                   |
| Nb <sub>0.6</sub> Rh <sub>0.4</sub>                           | 4.21               |                          | D8 <sub>b</sub>      | 557# 572#<br>276 182         |                                   |
| Nb <sub>0.48</sub> Rh <sub>0.52</sub>                         | 3.76               |                          | L1 <sub>0</sub>      | 1299                         |                                   |
| Nb <sub>0.45</sub> Rh <sub>0.55</sub>                         | 3.07               |                          | ORTHO                | 1290                         |                                   |
| Nb <sub>0.375</sub> Rh <sub>0.625</sub>                       | 2.7                |                          | MONO(HEX)            | 1299                         |                                   |
| NbRh <sub>3</sub>   |                    |                          | L1 <sub>2</sub>      | 1.2                          | 1299 412                          |
| Nb <sub>0.45</sub> Re <sub>0.55</sub>                         | 6.2 Max.           |                          |                      |                              | ▽1438                             |
| Nb <sub>3</sub> Rh <sub>0.98-0.9</sub> Ru <sub>0.02-0.1</sub> | 2.42-2.44          |                          | A15                  | 492                          |                                   |
| Nb <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>      | 2.4                |                          |                      | 1060                         |                                   |
| Nb <sub>0.925</sub> Ru <sub>0.075</sub>                       | 4.2                |                          |                      | 293#                         |                                   |
| Nb <sub>0.9</sub> Ru <sub>0.1</sub>                           | 2.8                |                          | A2                   | 417 293#<br>572#             |                                   |
| Nb <sub>0.8</sub> Ru <sub>0.2</sub>                           | 4.8(427)           |                          | A2                   | 1.0                          | 417 293 427                       |
| Nb <sub>0.7</sub> Ru <sub>0.3</sub>                           |                    |                          |                      | 1.0                          | 417 293#                          |
| Nb <sub>0.6</sub> Ru <sub>0.4</sub>                           | 1.2                |                          | TET                  |                              | 417 293#<br>572#                  |
| Nb <sub>0.4</sub> Ru <sub>0.6</sub>                           | 2.5                |                          |                      | 276                          |                                   |
| NbRu <sub>3</sub> (P=100 kbar, Temp. 1200-1300C)              | 15-16              |                          | L1 <sub>2</sub> plus | 667                          |                                   |
| NbRu <sub>3</sub>   | 11-12              |                          | HEX                  | 667                          |                                   |
| NbS   |                    |                          |                      | 1.28                         | 010                               |
| NbS <sub>2</sub>  | 6.0, 6.2           | HF                       | HEX(2H)              |                              | 1853 1266<br>1192 1027<br>778 675 |
| NbS <sub>2</sub>  | 5.0-5.5            |                          | HEX(3H)              |                              | 675 796#<br>1951# 572#<br>810#    |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)   | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|--|---|-----------------|-------------------|-----------|---|
| $\text{NbS}_2$ ( $P=0, 7, 13$ kbar)                            | 6.23, 6.20, 6.26  | HF              |                   |           | 1853  |
| $\text{NbS}_2$ (See Table 3)                                   |   |                 |                   |           |   |
| $\text{Nb}_3\text{Sn}$   | 2.85-2.63   |                 | TET               |           | 1150#   |
| $\text{Nb}_{0.9-0.7}\text{Sb}_{0.1-0.3}$                       | 5.8-<0.5  |                 | A15               |           | 1002  |
| $\text{Nb}_{0.83}\text{Sb}_{0.17}$                             | 1.95, 2.0   |                 | A15               |           | 1002#   |
| $\text{Nb}_3\text{Sb}$   |   |                 | A15               | 0.4       | 801 128 142<br>370 117  |
| $\text{Nb}_3\text{Sb}$ (Sputter or evaporate)                  | 2.2-1.8   |                 | A15               |           | 1825  |
| $\text{Nb}_5\text{Sb}_4$                                       | 8.60  |                 | Data given        |           | 1582  |
| $\text{NbSb}_2$  |   |                 | MONO              | 0.3       | 1584 1508<br>711  |
| $\text{Nb}_3\text{Sb}_{0-0.3}\text{Sn}_{1-0.7}$                | 18.05-14.7  |                 | A15               |           | 315 299 947<br>1982   |
| $\text{Nb}_3\text{Sb}_{0-0.7}\text{Sn}_{1-0.3}$                | 18.0-6.8  |                 | A15               |           | 311 419   |
| $\text{Nb}_3\text{Sb}_{0-0.3}\text{Sn}_{1-0.7}$                | 18.2-15.8   |                 | A15               |           | 1236  |
| $\text{Nb}_3\text{Sb}_{0.3-0.8}\text{Sn}_{0.7-0.2}$            | 15.8-<4.2   |                 | A15's             |           | 1236  |
| $\text{Nb}_3\text{Sb}_{0.8-1}\text{Sn}_{0.2-0}$                |   |                 | A15               | 4.2       | 1236 311  |
| $\text{Nb}_3\text{Sb}_{0.15}\text{Sn}_{0.7}\text{Ti}_{0.15}$   | 16.04   |                 |                   |           | 1982  |
| $\text{Nb}_{\sim 0.8-0}\text{Sb}_{0.2-0.25}\text{Ti}_{0-0.75}$ | 5.3-2-3-1.95<br>(quenched)<br>6.5-1.8-3.1-2<br>(annealed) |                 | A15               |           | 1002#   |
| $\text{Nb}_{0.50}\text{Sb}_{0.25}\text{Ti}_{0.25}$             | 3.05  |                 |                   |           | 1002#   |
| $\text{Nb}_{0.25}\text{Sb}_{0.25}\text{Ti}_{0.5}$              | 1.95, 2.05  |                 | A15               |           | 1002#   |
| $\text{NbSc}$  |   | HF              |                   |           | 399 289   |
| $\text{Nb}_3\text{Se}_4$                                       | 1.61  |                 | Data given        |           | 1582  |
| $\text{Nb}_2\text{Se}_3$                                       | 2.1   |                 | Data given        |           | 1584  |
| $\text{NbSe}_2$  | 7.3   | HF              | HEX(2H)           |           | 1500 1869<br>1891 1514<br>1094  |
| $\text{Nb}_{0.96-1.06}\text{Se}_{2-2.2}$                       | 7.0, 5.9-6.3  |                 | HEX(4H)           |           | 1758 647  |
| $\text{NbSe}_2$  | 5.15-6.95   |                 | HEX(2H)           |           | 1695 1094<br>636 1885 992   |
| $\text{NbSe}_2$  | 7.0-7.38  | HF              |                   |           | 1505# 1557<br>1827 1826#<br>1809 1423<br>647 1536#<br>1262 1723<br>996 1717<br>1503 |
| $\text{NbSe}_2$  | 2.2-7   |                 |                   |           | 1809 1317<br>996 796#<br>636 647 654  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                       | $T_c$ (K)      | $H_o$ (oersted)         | Crystal Structure | $T_n$ (K) | Refs.  |
|--|----------------|-------------------------|-------------------|-----------|--|
| $\text{NbSe}_2$ ( $P=0-6.5-0$ kbar)            | 7.16-7.77-7.35 |                         | HEX(2H)           |           | 1891   |
| $\text{NbSe}_2$ ( $P=0-60$ kbar)               | 6.4-8.8        |                         | HEX(2H)           |           | 1283 1758<br>1321 1266<br>1853 1869  |
| $\text{NbSe}_2$ ( $P=60-100$ kbar)             | 8.9-8.4, 7.35  |                         | New modification? |           | 1283 1423  |
| $\text{NbSe}_2$ (12-30 Å)                      | 4.7-7          |                         |                   |           | ▽ 1535   |
| $\text{NbSe}_3\text{Sn}$                       | 3.09-2.96      |                         | TET               |           | 1150#  |
| $\text{NbSe}_{2-1.64}\text{Te}_{0-0.36}$       | 7-7.18-3.0     |                         |                   |           | 992  |
| $\text{NbSe}_{1.38-0}\text{Te}_{0.62-2}$       | 0.74-2.7       |                         |                   |           | 992  |
| $\text{Nb}_{0.67}\text{Si}_{0.33}$             |                |                         |                   | 1.20      | 010  |
| $\text{Nb}_3\text{Si}$                         | 1.5            |                         | L1 <sub>2</sub>   |           | 409 311 1958   |
| $\text{Nb}_5\text{Si}_3$                       |                |                         | TET               | 1.02      | 270  |
| $\text{Nb}_{0.63}\text{Si}_{0.37}$             |                |                         |                   | 1.20      | 042  |
| $\text{Nb}_3\text{Si}_2$                       |                |                         |                   | 1.20      | 010  |
| $\text{NbSi}_2$                                |                |                         |                   | 1.20      | 010  |
| $\text{Nb}_{0.79, 0.75}\text{Si}_{0.21, 0.25}$ | 0.3, 0.0 Max.  |                         | A15               |           | ▽ 1438 ▽ 1953  |
| $\text{Nb}_3\text{Si}_{0.6}\text{Sn}_{0.4}$    | 6.5            |                         | A15               |           | 255  |
| $\text{Nb}_3\text{Si}_{0.5}\text{Sn}_{0.5}$    | 8.3, 7.0       |                         | A15               |           | 419 255  |
| $\text{Nb}_3\text{Si}_{0.27}\text{Sn}_{0.73}$  | 13.9           |                         | A15               |           | 419  |
| $\text{Nb}_3\text{Si}_{0.25}\text{Sn}_{0.75}$  | 16.4           |                         | A15               |           | 419  |
| $\text{Nb}_3\text{Si}_{0.06}\text{Sn}_{0.94}$  | 17.8           |                         | A15               |           | 419  |
| $\text{Nb}_3\text{SiSnV}_3$                    | 4.0            |                         | A15               |           | 255  |
| $\text{Nb}_{0.03}\text{SiV}_{2.97}$            | 15.8           |                         | A15               |           | 1913   |
| $\text{Nb}_{0.39}\text{SiV}_{2.61}$            |                |                         |                   | 14        | 1913   |
| $\text{Nb}_{2.5}\text{Si}_3\text{Zr}_{2.5}$    |                |                         | D8 <sub>8</sub>   | 1.1       | 262  |
| $\text{Nb}_3\text{Sn}$                         | 18.07, 18.02   | HF                      | A15               |           | 149 196 147<br>1079 1164   |
| $\text{Nb}_3\text{Sn}$                         | 18.0-18.3      | HF, 5350<br>(Ref. 1253) | A15               |           | 185 181 311<br>473 787 877<br>880 1064<br>1075 1164<br>1236 1239<br>1253# 1522<br>1850                   |
| $\text{Nb}_3\text{Sn}$                         | 16.7-18        | HF, 5300<br>(Ref. 1973) | A15               |           | 1742 1346#<br>1446 1040#<br>1093 1051<br>1063 593<br>572# 434<br>465# 467 447<br>419 383 386<br>316 1982 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.  |
|---|--|-----------------|-------------------|-----------|--|
| $\text{Nb}_3\text{Sn}$ (Cont'd)   |  |                 |                   |           | 1973 1982<br>1834 498 033<br>034 124 128<br>242 298 406<br>365 298 189 |
| $\text{Nb}_3\text{Sn}$  |  | HF              |                   |           | 310 326 365<br>321 434 485<br>564 1034<br>1743 174                     |
| $\text{Nb}_{1-0.975}\text{Sn}_{0-0.025}$                                | 9.2-7  |                 | B2                |           | 1522   |
| $\text{Nb}_{0.94-0.28}\text{Sn}_{0.06-0.72}$                            | 6-18.1-<4.2  |                 |                   |           | 1699 1056<br>1059 139 242  |
| $\text{Nb}_{0.75-0.81}\text{Sn}_{0.25-0.10}$                            | 17.9-18.2-17.82<br>(18.2 at $\text{Nb}_{0.77-8}$ ) |                 |                   |           | 1742   |
| $\text{Nb}_{0.83-0.5}\text{Sn}_{0.17-0.5}$                              | 17.95 Max.   |                 |                   |           | 479  |
| $\text{Nb}_{3+x}\text{Sn}_{1-x}$ (order study)                          | 5.9-18.4   |                 | A15               |           | 1798   |
| $\text{Nb}_{0.92}\text{Sn}_{0.08}$                                      | 5.6  |                 | CUB               |           | 270  |
| $\text{Nb}_{0.9-0.6}\text{Sn}_{0.1-0.4}$                                | 17.9 Max.  |                 |                   |           | 1066   |
| $\text{Nb}_{0.84}\text{Sn}_{0.16}$                                      | 5.6, 4.8   |                 | A15               |           | 311 593  |
| $\text{Nb}_{0.8}\text{Sn}_{0.2}$  | 7.5(long anneal)<br>5.5 (short anneal)             |                 |                   |           | 593  |
| $\text{Nb}_{0.8}\text{Sn}_{0.2}$ (Various anneals)                      | 5.5-18.5   |                 |                   |           | 311 139 242<br>1064 1982<br>593  |
| $\text{Nb}_{0.71}\text{Sn}_{0.29}$ (Weight fractions,<br>vapor deposit) | 18.3, 15.5   |                 |                   |           | 1849 1847  |
| $\text{Nb}_{\sim 0.8}\text{Sn}_{\sim 0.2}$ (Shock wave<br>preparation)  | 17.3   |                 |                   |           | 1591   |
| $\text{Nb}_{0.76}\text{Sn}_{0.74}$ (Different anneals)                  | 18.1, 17.5   |                 |                   |           | 311  |
| $\text{Nb}_{0.72}\text{Sn}_{0.28}$ (Different anneals)                  | 18.2, 16.0   |                 |                   |           | 311  |
| $\text{Nb}_3\text{Sn}_2$  | 17.2, 16.6   |                 | TET               |           | 355 1695   |
| $\text{Nb}_6\text{Sn}_5$  | 2.07, <2.8   |                 | ORTHO             | 0.3       | 964 1210<br>1522   |
| $\text{Nb}_{0.5}\text{Sn}_{0.5}$  | 17.91, 17.63                                       |                 |                   |           | 139 242  |
| $\text{Nb}_{\sim 0.5}\text{Sn}_{\sim 0.5}$ (Shock wave<br>preparation)  | 17.5   |                 |                   |           | 1591   |
| $\text{Nb}_2\text{Sn}_3$  |  |                 | TET               | ~5        | 355  |
| $\text{NbSn}_2$   | 2.6, 2.68  | 620             | ORTHO             |           | 1522 964 461<br>407  |
| $\text{Nb}_3\text{Sn}$ (Strain and torsion study)                       | 18-16.1  |                 |                   |           | 359  |
| $\text{Nb}_3\text{Sn}$ (0-18 kbar)                                      | 17.77-17.5   |                 | A15               |           | 1603 970 816<br>1079 1446<br>977                                       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                                 |
|---|--------------------|--------------------------|-------------------|--------------------|---------------------------------------|
| Nb <sub>3</sub> Sn( $0.5 \times 10^{19}$ n <sup>-1</sup> /cm <sup>2</sup> )             | 18.2-6             | HF                       |                   |                    | 1660                                  |
| Nb <sub>3</sub> Sn(Al <sub>2</sub> O <sub>3</sub> Powder)                               | 17.7-18.1          | HF                       |                   |                    | 831                                   |
| Nb <sub>3</sub> Sn(Fe <sub>2</sub> Mn <sub>0.5</sub> Zn <sub>0.5</sub> O <sub>4</sub> ) | 14.7-17.0          | HF                       |                   |                    | 831                                   |
| Nb <sub>3</sub> Sn(rf sputtered, 3000Å)   | 17.4               |                          | A15               |                    | ▽1410 ▽1825                           |
| Nb <sub>3</sub> Sn(Deposited 800-950C,<br>~10,000Å)                                     | 18.3-5             |                          |                   |                    | ▽1807 ▽1744<br>▽1848 ▽298             |
| Nb <sub>0.96-0.33</sub> Sn <sub>0.044-0.67</sub><br>(300-10,000Å)                       | 7.2-17.8-10.2      |                          |                   |                    | ▽1751                                 |
| Nb <sub>0.75-0.82</sub> Sn <sub>0.25-0.18</sub><br>(Vapor deposit)                      | 18.31-8.2          | HF                       |                   |                    | ▽1167                                 |
| Nb <sub>3</sub> Sn(Ri, Mo, Si, Ta, Ti, V)   | 15.2-16.8          | HF                       |                   |                    | ▽1437                                 |
| Nb <sub>3</sub> Sn (See Table 3)  |                    |                          |                   |                    |                                       |
| Nb <sub>0.69</sub> Sn <sub>0.25</sub> Ta <sub>0.06</sub>                                | 17.8               |                          | A15               |                    | 473 185                               |
| Nb <sub>0.625</sub> Sn <sub>0.25</sub> Ta <sub>0.125</sub>                              | 17.6               |                          | A15               |                    | 473 185                               |
| Nb <sub>0.5</sub> Sn <sub>0.25</sub> Ta <sub>0.25</sub>                                 | 16.4               |                          | A15               |                    | 473 185                               |
| Nb <sub>0.25</sub> Sn <sub>0.25</sub> Ta <sub>0.5</sub>                                 | 10.8               |                          | A15               |                    | 473 185                               |
| Nb <sub>(1-x)3</sub> SnTa <sub>3x</sub>   | 17.9-18.1-14.3     |                          |                   |                    | 1066 242 139                          |
| Nb <sub>0.5</sub> Sn <sub>0.25</sub> Ta <sub>0.125</sub> V <sub>0.125</sub>             | 12.2               |                          | A15               |                    | 185 473                               |
| Nb <sub>0.25</sub> Sn <sub>0.25</sub> Ta <sub>0.25</sub> V <sub>0.25</sub>              | 6.2                |                          | A15               |                    | 185 473                               |
| Nb <sub>(1-x)3</sub> SnTi <sub>3x</sub>   | 17.9 Max.          |                          |                   |                    | 1066                                  |
| Nb <sub>3</sub> Sn <sub>1-0.7</sub> Tl <sub>0-0.3</sub>                                 | 18-18.17-18.05     |                          |                   |                    | 1982 299                              |
| Nb <sub>3</sub> Sn <sub>0.85</sub> Tl <sub>0.15</sub>                                   | 18.2 Max.          |                          |                   |                    | 1982                                  |
| Nb <sub>0.625</sub> Sn <sub>0.25</sub> V <sub>0.125</sub>                               | 14.2               |                          | A15               |                    | 473 185                               |
| Nb <sub>0.5</sub> Sn <sub>0.25</sub> V <sub>0.25</sub>                                  | 9.8                |                          | A15               |                    | 473 185                               |
| Nb <sub>0.375</sub> Sn <sub>0.25</sub> V <sub>0.375</sub>                               | 7.4                |                          | A15               |                    | 255                                   |
| Nb <sub>0.25</sub> Sn <sub>0.25</sub> V <sub>0.5</sub>                                  | 5.5                |                          | A15               |                    | 185 473                               |
| Nb <sub>(1-x)3</sub> SnV <sub>3x</sub>  | 17.9 Max.          |                          |                   |                    | 1066                                  |
| Nb <sub>3</sub> Sn <sub>x</sub> Zn <sub>1-x</sub>                                       | ~6.9-17.8          |                          |                   |                    | 420                                   |
| Nb <sub>0.75</sub> Sn <sub>0.125</sub> Zr <sub>0.125</sub>                              | 16.7               |                          | A15               |                    | 427                                   |
| Nb <sub>0.71-0.68</sub> Sn <sub>0.25</sub> Zr <sub>0.04-0.075</sub>                     | 17.98, 18.07       | HF                       | A15               |                    | 880                                   |
| Nb <sub>(1-x)3</sub> SnZr <sub>3x</sub>   | 17.9 Max.          |                          |                   |                    | 1066                                  |
| Nb <sub>3</sub> SnZr <sub>x</sub> (10,000Å)   | 15.5-17.9          |                          |                   |                    | ▽1838                                 |
| Nb <sub>1-0</sub> Ta <sub>0-1</sub>   | 9.18-4.33          |                          | 1880-7 0          |                    | 1307# 940#<br>253 1920 011<br>441 834 |
| Nb <sub>1-0.79</sub> Ta <sub>0-0.21</sub>   | 9.15-7.5           |                          |                   |                    | 1991 1662<br>833                      |
| Nb <sub>1-0.6</sub> Ta <sub>0-0.4</sub>   | 9.23-6.56          | HF                       |                   |                    | 928#                                  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)   | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.  |
|---|----------------------|--------------------------|-------------------|--------------------|--|
| Nb <sub>0.9913</sub> Ta <sub>0.0087</sub>                         | 8.87                 | 2050, HF                 |                   |                    | 864#   |
| Nb <sub>0.9844</sub> Ta <sub>0.0156</sub>                         | 8.76                 | 2030, HF                 |                   |                    | 864#   |
| Nb <sub>0.9575</sub> Ta <sub>0.0425</sub>                         | 8.55                 | 1980, HF                 | B2                |                    | 964# 1550<br>928 1611 011                        |
| Nb <sub>0.9378</sub> Ta <sub>0.0622</sub>                         | 8.42                 | 1890                     |                   |                    | 864#   |
| Nb <sub>0.87</sub> Ta <sub>0.13</sub>                             | 8.15                 | 1690, HF                 | B2                |                    | 911  |
| Nb <sub>0.803</sub> Ta <sub>0.197</sub>                           | 7.50, 7.85           | 1750                     |                   |                    | 864# 911<br>1837                                 |
| Nb <sub>0.64</sub> Ta <sub>0.36</sub>                             | 6.8                  | HF                       |                   |                    | 244 410  |
| Nb <sub>0.58-0</sub> Ta <sub>0.42-1</sub>                         | 6.54-4.425           | 1295-815                 |                   |                    | 1781# 455<br>428 410 911                         |
| Nb <sub>0.5</sub> Ta <sub>0.5</sub>                               | 6.25                 | 1220, HF                 |                   |                    | 722 544 439<br>455 428 627                       |
| Nb <sub>0.47</sub> Ta <sub>0.53</sub>                             | 6.2                  |                          |                   |                    | 244 410  |
| Nb <sub>0.4-0</sub> Ta <sub>0.6-1.0</sub>                         | 5.40-4.48            | HF                       | B2                |                    | 1513 911<br>1837                                 |
| Nb <sub>0.37</sub> Ta <sub>0.63</sub>                             | 5.31                 | HF                       | B2                |                    | 911  |
| Nb <sub>0.29</sub> Ta <sub>0.71</sub>                             | 4.94                 |                          | B2                |                    | 911 244 1576<br>410                              |
| Nb <sub>0.2</sub> Ta <sub>0.8</sub>                               | 4.64                 | HF                       |                   |                    | 1103 441   |
| Nb <sub>0.17</sub> Ta <sub>0.83</sub>                             | 4.65, 4.82           | HF                       |                   |                    | 911 1837   |
| Nb <sub>0.16-0</sub> Ta <sub>0.84-1</sub>                         | 4.67-4.465-<br>4.480 | 882-795, HF              | B2                |                    | 1356 244 478<br>911 410 1103<br>1330 981<br>1837 |
| Nb <sub>0.025</sub> Ta <sub>0.975</sub>                           | 4.465                | 800, HF                  |                   |                    | 1356   |
| Nb <sub>1-0.99</sub> Ta <sub>0-0.01</sub>                         | 9.273-9.079          | HF                       |                   |                    | 1775   |
| Nb <sub>x</sub> Ta <sub>y</sub> Ti <sub>z</sub>                   | <5-10.1              | HF                       |                   |                    | 1398 1391  |
| Nb <sub>0.31</sub> Ta <sub>0.06</sub> Ti <sub>0.62</sub>          | ~9                   | HF                       |                   |                    | 1398 1391  |
| Nb <sub>0-0.36</sub> Ta <sub>0.36-0</sub> Ti <sub>0.64</sub>      | 7.5-9.0              | HF                       |                   |                    | 1398   |
| Nb <sub>0.05-0.65</sub> Ta <sub>0.04-~0.35</sub>                  | 7.7-9.8              | HF                       |                   |                    | 1465 1391  |
| Ti <sub>x</sub> Zr <sub>0.04-~0.1</sub>                           |                      |                          |                   |                    |  |
| Nb <sub>0.65-0.73</sub> Na <sub>0.1-0.02</sub> Zr <sub>0.25</sub> | >4.2                 | HF                       |                   |                    | 225  |
| Nb <sub>0.97</sub> Tc <sub>0.03</sub>                             | 7.6                  |                          | A2                |                    | 1147   |
| Nb <sub>0.93</sub> Tc <sub>0.07</sub>                             | 7.0                  |                          | A2                |                    | 1147   |
| Nb <sub>0.69</sub> Tc <sub>0.31</sub>                             |                      |                          | A2                | 2.0                | 1147   |
| Nb <sub>0.42</sub> Tc <sub>0.58</sub>                             | 10.9                 |                          | A12, A2           |                    | 1147   |
| Nb <sub>0.24</sub> Tc <sub>0.76</sub>                             | 12.9, 10.5           |                          | A12               |                    | 1147 202   |
| Nb <sub>0.06</sub> Tc <sub>0.94</sub>                             | 12.8                 |                          | A3                |                    | 1147   |
| Nb <sub>0.03</sub> Tc <sub>0.97</sub>                             | 12.8                 |                          | A3                |                    | 1147   |

TABLE II (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                    | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|--|---------------------------------------|--------------------------|-------------------|--------------------|---|
| Nb <sub>3</sub> Te(P>59 kbar, temp. 1330-1430C)          |                                       |                          | A15               | 2.5                | 1585  |
| Nb <sub>5</sub> Te <sub>4</sub>                          |                                       |                          |                   | 1.1                | 1583  |
| Nb <sub>3</sub> Te <sub>4</sub>                          | 1.49                                  |                          |                   |                    | 711 1582  |
| NbTe <sub>2</sub>  | 0.6-0.66<br>0.5-0.74(Vapor transport) |                          | HEX               |                    | 796# 797 992<br>675   |
| NbTe <sub>4</sub>  |                                       |                          |                   | 0.025              | 1584  |
| Nb <sub>1.0-0.25</sub> Ti <sub>0-0.75</sub>              | 9.22-10.02-7.6<br>9.2-9.7 7.2         |                          | CUB               |                    | 901 253 885<br>441 1700#<br>1873 399 289<br>290 218 439<br>466 441 522<br>390 |
| Nb <sub>0.95</sub> Ti <sub>0.05</sub>                    | 9.41, 9.2                             |                          | HF                |                    | 1241 1611<br>1371# 1216   |
| Nb <sub>0.9</sub> Ti <sub>0.1</sub>                      | 9.61                                  |                          | HF                |                    | 1241 1371#<br>289 1611 1754   |
| Nb <sub>0.85-0.25</sub> Ti <sub>0.15-0.75</sub>          | 9.7-9.75-7.6                          |                          |                   |                    | 1745 1391   |
| Nb <sub>0.75</sub> Ti <sub>0.25</sub>                    | 10.02, 9.93, 9.8                      | HF                       |                   |                    | 885 1241<br>1371#   |
| Nb <sub>0.7</sub> Ti <sub>0.3</sub>                      | 10.1 Max.                             |                          | HF                |                    | 1398 310 455  |
| Nb <sub>0.6</sub> Ti <sub>0.4</sub>                      | 9.2, 9.8 Max.                         |                          | HF                |                    | 592 725   |
| Nb <sub>0.55</sub> Ti <sub>0.45</sub>                    | 9.4                                   |                          | HF                |                    | 830 818 321   |
| Nb <sub>0.5</sub> Ti <sub>0.5</sub>                      | 9.5, 10.3                             |                          | HF                |                    | 841 253 968   |
| Nb <sub>0.44</sub> Ti <sub>0.56</sub>                    | 8.99                                  |                          | HF                |                    | 874 725 830<br>1391 1409  |
| Nb <sub>0.33</sub> Ti <sub>0.67</sub> (Various anneals)  | 8.4-6.5,<br>9.3                       |                          |                   |                    | 1803 841 968<br>991 253   |
| Nb <sub>0.36-0.02</sub> Ti <sub>0.64-0.98</sub>          | 7.5-1.7                               |                          |                   |                    | 253   |
| Nb <sub>0.25</sub> Ti <sub>0.75</sub>                    | 6.3, 5.8-7.4                          |                          |                   |                    | 1800 253 815<br>999#  |
| Nb <sub>0.22</sub> Ti <sub>0.8</sub>                     | 6.15-6.6(as cast)<br>6.5, 6.9-7.8     | HF                       |                   |                    | 965 991 993<br>1414 1575<br>1442 682  |
| Nb <sub>0.15-0</sub> Ti <sub>0.85-1</sub>                | 5.5-0.6(quenched)                     |                          | A3                |                    | 301 274 1638<br>1216 572#<br>554# 477#  |
| Nb <sub>0.025</sub> Ti <sub>0.975</sub>                  | 1.5                                   |                          |                   |                    | 499   |
| Nb <sub>x</sub> Ti <sub>1-x</sub> (On hot substrate)     | 9-10.3-~5                             |                          | HEX               |                    | ▽ 1344  |
| Nb <sub>x</sub> Ti <sub>y</sub> V <sub>z</sub>           | 3.8->10                               |                          | HF                | A2(where noted)    | 1399 1409   |
| Nb <sub>0.55</sub> Ti <sub>0.45</sub> <sup>V</sup> <0.03 | >10                                   |                          |                   |                    | 1399  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.  |
|--|-------------------------|--------------------------|-----------------------------|--------------------|--|
| Nb <sub>0.5</sub> Ti <sub>0.3</sub> V <sub>0.2</sub>   | 7.8                     | HF                       |                             |                    | 1792   |
| Nb <sub>0.5</sub> Ti <sub>0.3</sub> V <sub>0.2</sub> (after 3.7x<br>10 <sup>19</sup> n <sup>1</sup> /cm <sup>2</sup> ) | 7.5                     | HF                       |                             |                    | 1792   |
| Nb <sub>0.5</sub> Ti <sub>0.2</sub> V <sub>0.3</sub>   | 8.5<br>8.0(Irradiated)  |                          |                             |                    | 1792   |
| Nb <sub>0.4</sub> Ti <sub>0.4</sub> V <sub>0.2</sub>   | 7.6<br>7.35(Irradiated) |                          |                             |                    | 1792   |
| Nb <sub>0.1</sub> Ti <sub>0.4</sub> V <sub>0.5</sub>   | 5.3<br>5.05(Irradiated) |                          |                             |                    | 1792   |
| Nb <sub>0.35</sub> Ti <sub>0.64</sub> W <sub>0.01</sub>  |                         | HF                       |                             |                    | 1391   |
| Nb <sub>x</sub> Ti <sub>y</sub> Zr <sub>z</sub>  | Data given              | HF                       |                             |                    | 830 1876                                       |
| Nb <sub>0.8-0.55</sub> Ti <sub>0.1-0.4</sub> Zr <sub>0.01-0.13</sub>   |                         | HF                       |                             |                    | 1391 1463                                      |
| Nb <sub>0.75</sub> Ti <sub>0.15</sub> Zr <sub>0.1</sub>  | 9.7                     | HF                       |                             |                    | 830  |
| Nb <sub>0.7-0.2</sub> Ti <sub>0-0.8</sub> Zr <sub>0.8-0</sub>  | 6.2-12                  |                          |                             |                    | 1738   |
| Nb <sub>0.69-0.52</sub> Ti <sub>0.14-0.33</sub><br>Zr <sub>&lt;0.1-0.32</sub>  | 9.1-9.8                 | HF                       |                             |                    | 1391 1438<br>830                               |
| Nb <sub>0.5</sub> Ti <sub>0.1</sub> Zr <sub>0.4</sub>  | 10.3                    | HF                       |                             |                    | 1789 1391                                      |
| Nb <sub>0.48-0.41</sub> Ti <sub>0.48-0.15</sub><br>Zr <sub>0.05-0.44</sub>   | 8.6-8.9                 | HF                       |                             |                    | 830  |
| Nb <sub>0.35</sub> Ti <sub>0.15</sub> Zr <sub>0.5</sub>  | 8.6, 9.3                | HF                       |                             |                    | 830  |
| Nb <sub>0.35</sub> Ti <sub>0.6</sub> Zr <sub>0.05</sub>  | 8.6                     | HF                       |                             |                    | 1789 965                                       |
| Nb <sub>0.35</sub> Ti <sub>0.45</sub> Zr <sub>0.20</sub>   |                         | HF                       |                             |                    | 1391   |
| Nb <sub>0.21</sub> Ti <sub>0.61</sub> Zr <sub>0.18</sub>   | 6.53-7.21               |                          |                             |                    | 965  |
| Nb <sub>0.19</sub> Ti <sub>0.74</sub> Zr <sub>0.07</sub>   | 6.75-9.1(as cast)       |                          |                             |                    | 965 1205                                       |
| NbTl(Sputtered)  |                         |                          | A15(Weak diffraction lines) | 9                  | 1825 311                                       |
| Nb <sub>x</sub> U <sub>1-x</sub> ( $\alpha$ )  | 0.9-1.0                 |                          |                             |                    | 134 027  |
| Nb <sub>0.18-0.22</sub> U <sub>0.82-0.78</sub> ( $\gamma$ )  | 2.009-2.025             |                          | CUB                         |                    | 1252 134 027<br>177 466                        |
| Nb <sub>0.222</sub> U <sub>0.778</sub>   | 1.98                    | HF                       | A2                          |                    | 349 572#                                       |
| Nb <sub>0.26</sub> U <sub>0.74</sub> ( $\gamma$ )  | 1.85                    |                          |                             |                    | 177  |
| Nb <sub>0-1</sub> V <sub>1-0</sub>   | 5.19-3.97-9.29          | HF                       | A2                          |                    | 1307 1979<br>1623# 1875<br>253 441 027<br>572# |
| Nb <sub>0-1</sub> V <sub>1-0</sub>   | 5.17-4.03-<br>9.18      | 1336-957-<br>1890        |                             |                    | 1307#  |
| Nb <sub>x</sub> V <sub>y</sub> Zr <sub>z</sub>   | 6-11.5                  |                          |                             |                    | 1889   |
| Nb <sub>0-0.5</sub> V <sub>2-1.5</sub> Zr  | 8.5-9.7-9.2             |                          |                             |                    | 1323   |

TABLE 2 (Cont'd.). Properties of Superconductive Materials

| Material   | $T_c$ (K)                        | $H_o$ (oersted) | Crystal Structure | $T_n$ (K)  | Refs. |
|--|----------------------------------|-----------------|-------------------|--|-------|
| $\text{Nb}_{0.03-0.32}\text{V}_{0.64-0.46}$  | 9.65-4.34-5.42                   |                 | C15               | 1707 1652  |       |
| $\text{Zr}_{0.32-0.23}$  |                                  |                 |                   |  |       |
| $\text{Nb}_{0.5}\text{V}_{1.5}\text{Zr}$   | 4.30                             |                 | C14               | 1707   |       |
| $\text{Nb}_{0-0.31}\text{V}_{0.67-0.36}\text{Zr}_{0.33}$                                 | 9.64-4.36-5.45                   |                 | C15               | 1707   |       |
| $\text{Nb}_{1-0.65}\text{W}_{0-0.35}$  | 9.2-1.5                          |                 |                   | 253 441  |       |
| $\text{Nb}_{0.6-0}\text{W}_{0.4-1}$  |                                  |                 |                   | 1.0 253 441  |       |
| $\text{Nb}_{1-0.8}\text{W}_{0-0.2}$  | Data given                       | HF              | A2                | 441  |       |
| $\text{Nb}_{1-0.98}\text{Y}_{0-0.02}$  | 9.25-9.38                        | HF              |                   | 1771   |       |
| $\text{NbZn}_3$  |                                  |                 | L1 <sub>2</sub>   | 1.02 270 311   |       |
| $\text{Nb}_{1-0}\text{Zr}_{0-1}$ (α and β)   | 9.2-10.7-0.5                     | HF              |                   | 1806 465# 321 383 455 218 289 399 268 686            |       |
| $\text{Nb}_{0\sim 0.05}\text{Zr}_{1-0.95}$ (α)   | 0.7-4                            |                 | A3(358)           | 1806 847 358   |       |
| $\text{Nb}_{1-0.75}\text{Zr}_{0-0.25}$   | 9.2-10.98-8,3                    |                 |                   | 1352# 885 441 253 1984                               |       |
| $\text{Nb}_{0.5-0.1}\text{Zr}_{0.5-0.9}$   | 10.2-6.4                         |                 |                   | 1579   |       |
| $\text{Nb}_{0.0125-0.06}\text{Zr}_{0.99-0.94}$<br>(α plus β precipitate)                 | 3.2-10.0                         |                 |                   | 847  |       |
| $\text{Nb}_{0.06-0.88}\text{Zr}_{0.94-0.12}$   | 10-10.5 Max.                     | HF              |                   | 847  |       |
| $\text{Nb}_{0.9-0.6}\text{Zr}_{0.1-0.4}$ (weight fractions, practical starting elements) | 10.2-11                          |                 |                   | 1736   |       |
| $\text{Nb}_{0.85}\text{Zr}_{0.15}$   | 10.8                             |                 |                   | 1352# 572#   | N     |
| $\text{Nb}_{0.75}\text{Zr}_{0.25}$   | 10.75, 11.0                      | HF              | A2                | 1157# 1387 1509 975 253 690 597 572# 429 368 406 310 | N     |
| $\text{Nb}_{0.7-0.66}\text{Zr}_{0.3-0.34}$   | 10.55-10.98                      | HF              |                   | 1313 885 597 429 1594 1509 037                       |       |
| $\text{Nb}_{0.68}\text{Zr}_{0.32}$   | 10.05<br>10.55 (after draw-down) |                 |                   | 1313   |       |
| $\text{Nb}_{0.6}\text{Zr}_{0.4}$ (Various anneals)                                       | 10.58-10.05-10.75                |                 |                   | 1333   |       |
| $\text{Nb}_{0.5}\text{Zr}_{0.5}$   | 10.75                            | HF              |                   | 1301 1081 1818# 739 572# 429 441                     |       |
| $\text{Nb}_{0.5}\text{Zr}_{0.5}$ (0-3.8 kbar)  | $T_c' (+0.04)$                   |                 |                   | 970  |       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)                       | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.             |
|---|---------------------------------|-----------------|-------------------|-----------|-------------------|
| $\text{Nb}_{0.38}\text{Zr}_{0.62}$  | 8.7                             |                 |                   |           | 1157# 572#        |
| $\text{Nb}_{0.25}\text{Zr}_{0.75}$  | 10.45 Max.                      | HF              |                   |           | 971 429           |
| $\text{Nb}_{0.2}\text{Zr}_{0.8}$  | 8.0(Quenched)<br>8.5(Aannealed) | HF              |                   |           | 1579 971<br>991   |
| $\text{Nb}_{0.15}\text{Zr}_{0.85}$ (Various anneals)                      | 6.2-10.2                        |                 |                   |           | 1806 1579         |
| $\text{Nb}_{0.13}\text{Zr}_{0.87}$  | 6.42(quenched)                  |                 |                   |           | 1579              |
| $\text{Nb}_{0.1}\text{Zr}_{0.9}$ (Various anneals)                        | 4-7.6                           |                 |                   |           | 1806              |
| $\text{Nb}_{0.04}\text{Zr}_{0.96}$ (Various anneals)                      | 4.9-8                           |                 |                   |           | 1740              |
| $\text{NbZr}(\text{Deposit } 350, 630\text{C},$<br>$3000-4000\text{\AA})$ | 1.6-9.3                         | HF              |                   |           | <sup>v</sup> 1275 |
| $\text{Nb}_{0.2}\text{Zr}_{0.8}$  | 9.2 Max.                        |                 |                   |           | <sup>v</sup> 1438 |
| $\text{Nb}_x\text{Zr}_{1-x}$ (Deposit, hot substrate)                     | 9-~11.5-6                       |                 |                   |           | <sup>v</sup> 1344 |
| $\text{Nb}_{1-0}\text{Zr}_{0-1}$ (Deposit 4.2K,<br>amorphous)             | 6-3                             |                 |                   |           | <sup>v</sup> 1325 |
| $\text{Nd}(\alpha)$   |                                 |                 | A3'               | 0.25      | 023               |
| $\text{Nd}_2\text{S}_3$   |                                 |                 | CUB               | 1.68      | 558               |
| $\text{NdSi}_2$   |                                 |                 | C <sub>c</sub>    | 1.0       | 025               |
| Ni  |                                 |                 |                   | 0.35      | 270 272<br>572#   |
| NiO   |                                 |                 |                   | 1.28      | 011               |
| $\text{Ni}_3\text{P}$   |                                 |                 | DO <sub>e</sub>   | 1.01      | 217 601           |
| $\text{Ni}_2\text{P}$   |                                 |                 | C22               | 1.01      | 601 217           |
| NiP   |                                 |                 |                   | 1.57      | 427               |
| $\text{Ni}_{0.05}\text{Pd}_{0.95}\text{Te}_2$                             | 1.40                            |                 | C6                |           | 301               |
| $\text{Ni}_{0.1}\text{Pd}_{0.9}\text{Te}_2$                               | 1.30                            |                 | C6                |           | 301               |
| $\text{Ni}_{0.05}\text{Rh}_{0.04}\text{Ti}_{0.91}$                        | 3.5                             |                 |                   |           | 1060              |
| $\text{Ni}_{0-1}\text{Rh}_{1-0}\text{Zr}_2$                               | 11.3-1.7                        |                 | C16               |           | 1476              |
| $\text{Ni}_x\text{Ru}$  | 0.45-0.2                        |                 | HEX               |           | 1570              |
| NiS   |                                 |                 |                   | 1.28      | 011 084           |
| NiSb  |                                 |                 | B8 <sub>1</sub>   | 0.35      | 270 037 002       |
| $\text{NiSb}_3$   |                                 |                 |                   | 1.45      | 427               |
| $\text{Ni}_{0.12, 0.16}\text{Sb}_{0.88, 0.84}$ ("Gun"<br>cooled)          | 1.5, 1.4                        |                 | CUB,<br>plus      |           | 1829              |
| $\text{NiSi}_2$   |                                 |                 | C1                | 1.00      | 037               |
| NiSi  |                                 |                 |                   | 1.90      | 119               |
| $\text{Ni}_{0.93}\text{Sn}_{0.07}$  |                                 |                 |                   | 1.26      | 084               |
| $\text{NiTa}_2$   | 0.90                            |                 | C16               |           | 1377              |
| NiTe  |                                 |                 | B8 <sub>1</sub>   | 1.0       | 037               |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|---|-------------------------|--------------------------|-------------------|--------------------|---|
| NiTe <sub>2</sub>   |                         |                          | C6                | 1.2                | 301   |
| Ni <sub>3</sub> Th <sub>7</sub>   | 1.98                    |                          | D10 <sub>2</sub>  |                    | 173   |
| NiTi  |                         |                          | A2                | 1.02               | 270   |
| NiU <sub>6</sub>  | 0.86, 0.41, 0.33        |                          | D2 <sub>c</sub>   |                    | 1866 920 021                                  |
| NiU   |                         |                          |                   | 1.12               | 021   |
| Ni <sub>0.03</sub> <sup>V</sup> <sub>1-0.97</sub>                               | 5.3-2.1                 |                          | CUB               |                    | 314 572#                                      |
| Ni <sub>0.22</sub> <sup>V</sup> <sub>0.78</sub>                                 | 0.3, 0.35               |                          | A15<br>(~80%)     |                    | 707 948                                       |
| Ni <sub>0.175-0.225</sub> <sup>V</sup> <sub>0.825-0.775</sub>                   | 0.3-0.78                |                          | A15, plus         |                    | 707 948 1023                                  |
| Ni <sub>0.5</sub> <sup>V</sup> <sub>0.16</sub> <sup>Zr</sup> <sub>0.34</sub>    | 0.43                    |                          | C15               |                    | 270   |
| Ni <sub>0-~400 ppm</sub> <sup>Zn</sup>  | T <sub>c</sub> ' (~0.1) |                          |                   |                    | 598   |
| NiZr <sub>2</sub>   | 1.6                     |                          | C16               |                    | 1355 1377<br>1476 914<br>1478 032             |
| Ni <sub>0.1</sub> <sup>Zr</sup> <sub>0.9</sub>                                  | 1.50                    |                          | HEX               |                    | 032   |
| Np  |                         |                          | ORTHO             | 0.4                | 581 495 226<br>1669                           |
| O <sub>2</sub> <sup>Mo</sup>  |                         |                          |                   | 1.28               | 011   |
| O <sub>2</sub> <sup>Mo</sup> <sub>5</sub>                                       |                         |                          |                   | 1.28               | 119   |
| ONb   | 1.39                    |                          | B1                |                    | 1542#   |
| O <sub>3</sub> NbSr (See Table 4)   |                         |                          |                   |                    |   |
| O <sub>2</sub> Pb   |                         |                          |                   | 1.02               | 181 119                                       |
| O <sub>0.105</sub> <sup>Pd</sup> <sub>0.285</sub> <sup>Zr</sup> <sub>0.61</sub> | 2.09                    |                          | E9 <sub>3</sub>   |                    | 270   |
| O <sub>3</sub> <sup>Rb</sup> <sub>0.33-0.20</sub> <sup>W</sup>                  | 2.15-2.9-<br><1.2-4.35  | HF                       | HEX               |                    | 1882  |
| O <sub>3</sub> <sup>Rb</sup> <sub>~0.26-~0.33</sub> <sup>W</sup>                | 1.6-2.0, 2.9            | HF                       | HEX               |                    | 1882 1967#<br>1943# 1942#<br>1186 1080<br>500 |
| O <sub>3</sub> <sup>Rb</sup> <sub>0.27-0.29</sub> <sup>W</sup>                  | 1.98                    |                          |                   |                    | 500   |
| O <sub>3</sub> <sup>Rb</sup> <sub>~0.33</sub> <sup>W</sup> (acid etched)        | 2.84-2.36,<br>4.75, 7.7 | HF                       |                   |                    | 1883 1943<br>1080                             |
| O <sub>2</sub> <sup>Re</sup>  |                         |                          |                   | 1.3                | 1212  |
| O Re Ti   | 5.74                    |                          |                   |                    | 181   |
| O <sub>3</sub> <sup>Rh</sup> <sub>2</sub>                                       |                         |                          |                   | 1.28               | 011   |
| O <sub>0.14</sub> <sup>Rh</sup> <sub>0.287</sub> <sup>Ti</sup> <sub>0.573</sub> | 3.37                    |                          | E9 <sub>3</sub>   |                    | 270   |
| O <sub>0.105</sub> <sup>Rh</sup> <sub>0.285</sub> <sup>Zr</sup> <sub>0.61</sub> | 11.8                    |                          | E9 <sub>3</sub>   |                    | 270   |
| O <sub>3</sub> <sup>Sn</sup> <sub>2</sub>                                       |                         |                          |                   | 1.30               | 119   |
| O Sn  | 3.81(?)                 |                          |                   |                    | 084   |
| O <sub>3</sub> <sup>Sn</sup> <sub>0.21, 0.24</sub> <sup>W</sup>                 |                         |                          | HEX               | 1.3                | 1379  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)                    | $H_c$ (oersted) | Crystal Structure | $T_n$ (K)        | Refs.   |
|--|------------------------------|-----------------|-------------------|------------------|---|
| $O_3Sn_{0.19}W$  |                              |                 | TET               | 1.3              | 1379  |
| $O_3SrTi$ (See Table 4)                                |                              |                 |                   |                  |   |
| $O_3Sr_{0.08}W$  | 2.0-4.0                      |                 | HEX               | 644              |   |
| $O_{0.006-0.028}Ta_{0.944-0.972}$                      | 4.185-3.48                   |                 | A2                | 248              |   |
| $O_2Ti$  | 0.60                         |                 | B1                | 1542# 481<br>010 |   |
| $O_2Ti$  | 1.28, 0.7                    |                 | MONO              | 1472             |   |
| $O_{0.86-1.25}Ti$                                      | 0.66-1.06                    |                 | B1                | 1472             |   |
| $O_{0.85-1.25}Ti$ (Quenched from<br>50-60 kbar)        | <1.3-2.0                     |                 |                   | 1272             |   |
| $O_{0.85-1.20}Ti$                                      | 0.05-1-0.08                  |                 |                   | 1450# 1272       |   |
| $O_{1.07}Ti$   | 1.0 Max.                     |                 | B1                | 1450             |   |
| $O_{1-x}Ti_{1-x}$ (Vacancies) <sub>x</sub> (0-90 kbar) | 0.6-2.3                      |                 | B1                | 835              |   |
| $O_3Ti_2$  |                              |                 |                   | 1.30             | 119   |
| $O_3Ti_2$  |                              |                 |                   | 1.28             | 011 084   |
| $O_3Ti_{0.30}W$  | 2.00-2.14                    |                 | HEX               | 644              |   |
| $O_2U$   |                              |                 |                   | 1.28             | 011   |
| $O_3V_2$   |                              |                 |                   | 1.28             | 011   |
| $O_{0.8-1.1}V$   |                              |                 | B1                | 0.07             | 010 1450  |
| $O_{\sim 0.03}V_{0.97}$                                | 1.8-2.4                      |                 | CUB               | 248 441          |   |
| $OV_3Zr_3$   | 7.5                          |                 | E9 <sub>3</sub>   | 270              |   |
| $O_3W$   |                              |                 |                   | 0.3              | 575   |
| $O_2W$   |                              |                 |                   | 0.3              | 575 069 119   |
| $OW_3$   | 3.35, 1.1                    |                 | A15               |                  | 503   |
| $OW_3$   |                              |                 |                   | 0.012            | 503   |
| Os   | 0.66                         |                 | A3                |                  | 569 239<br>972# 001<br>029 132 446<br>302# 572#<br>963# 236 |
| OsP  |                              |                 |                   | 1.1              | 1583  |
| $Os_{0-0.12}Re_{1-0.88}$                               | 1.694-1.93-1.79              |                 |                   |                  | 1257 952  |
| $Os_{0-0.12}Re_{1-0.88}$ (P=0-20 kbar)                 | $T_c^1(-0.043 \text{ Max.})$ |                 |                   |                  | 952   |
| $Os_{0.058}Re_{0.942}$                                 | 1.93 Max.                    |                 | HEX               | 1646 952         |   |
| $Os_xRe_{1-2x}W_x$                                     | $T_c^1(+0.025)$              |                 |                   |                  | 1646  |
| OsReY  | 2.00                         |                 |                   |                  | 171 201   |
| $Os_{0.97}Rh_{0.03}$                                   | 0.09                         |                 | HEX               | 1368             |   |
| $Os_{0.38-0.33}Rh_{0.62-0.67}$                         | 0.095-0.018                  |                 | A1                | 1118             |   |
| $Os_{0.2}Rh_{0.8}$                                     |                              |                 |                   | 0.015            | 963   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.               |
|--|--------------------|--------------------------|-------------------|--------------------|---------------------|
| Os <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub> | 3.5                |                          |                   |                    | 1060                |
| Os <sub>1-0</sub> Ru <sub>0-1</sub>                      | 0.62-0.46-0.48     |                          | HEX               |                    | 1646# 572#          |
| Os <sub>2</sub> Sc                                       | 4.60               |                          | C14               |                    | 127                 |
| OsSi   |                    |                          | B20               | 0.60               | 270                 |
| OsTa   | 1.95               |                          | A12               |                    | 173                 |
| Os <sub>0.3</sub> Ta <sub>0.7</sub>                      |                    |                          | D8 <sub>b</sub>   | 1.0                | 276 182             |
| Os <sub>2</sub> Th                                       |                    |                          | C15               | 1.02               | 270 572#            |
| Os <sub>3</sub> Th <sub>7</sub>                          | 1.51               |                          | D10 <sub>2</sub>  |                    | 173                 |
| OsTi   | 0.46               |                          | B2                |                    | 270 173             |
| Os <sub>2</sub> U  |                    |                          | C15               | 0.37               | 270                 |
| Os <sub>0.55</sub> V <sub>0.45</sub>                     | 5.04               |                          | A15+Os            |                    | 707                 |
| Os <sub>0.5</sub> V <sub>0.5</sub>                       | 5.15               |                          | A15               |                    | 948#                |
| Os <sub>0.29</sub> V <sub>0.71</sub>                     |                    |                          | B2                | 0.37               | 270 173             |
| Os <sub>0.9</sub> W <sub>0.1</sub>                       |                    |                          | HEX               | 1.0                | 266                 |
| Os <sub>0.8</sub> W <sub>0.2</sub>                       |                    |                          | HEX               | 1.0                | 266                 |
| Os <sub>0.74</sub> W <sub>0.26</sub>                     | 4.40               |                          | D8 <sub>b</sub>   |                    | 182                 |
| Os <sub>0.7-0.52</sub> W <sub>0.3-0.48</sub>             | 3.7-0.9            |                          | HEX               |                    | 266                 |
| Os <sub>0.45-0.37</sub> W <sub>0.55-0.63</sub>           | 4.1-3.7            |                          |                   |                    | 266                 |
| Os <sub>0.34</sub> W <sub>0.66</sub>                     | 3.81               |                          | D8 <sub>b</sub>   |                    | 276                 |
| Os <sub>0.33-0.22</sub> W <sub>0.67-0.78</sub>           | 3.6-2.5            |                          | D8 <sub>b</sub>   |                    | 266                 |
| Os <sub>0.25</sub> W <sub>0.75</sub>                     | 3.02-2.21          |                          |                   |                    | 033                 |
| Os <sub>0.15</sub> W <sub>0.85</sub>                     | 2.2                |                          |                   |                    | 266                 |
| Os <sub>0.1</sub> W <sub>0.9</sub>                       | 1.5(Broad)         |                          |                   |                    | 266                 |
| Os <sub>0.075</sub> W <sub>0.925</sub>                   | 0.9                |                          | CUB               |                    | 266                 |
| Os <sub>0.05-0.025</sub> W <sub>0.95-0.975</sub>         |                    |                          | CUB               | 1.0                | 266                 |
| Os <sub>2</sub> Y  | 4.7                |                          | C14               |                    | 1478 127 171<br>201 |
| Os <sub>2</sub> Zr                                       | 3.0                |                          | C14               |                    | 173 1478            |
| Os <sub>0.33-0.2</sub> Zr <sub>0.67-0.8</sub>            | <2-4.1             |                          | CUB's             |                    | 955                 |
| Os <sub>4</sub> Zr <sub>11</sub>                         |                    |                          | CUB               | 1.2                | 955                 |
| Os <sub>0.1-0.01</sub> Zr <sub>0.9-0.99</sub>            | 5.20-5.6-1.5       |                          | HEX               |                    | 032                 |
| Os <sub>0.06</sub> Zr <sub>0.94</sub>                    | 5.6                |                          | HEX               |                    | 032                 |
| P (P=170 kbar)(99.999%)                                  | 5.8                | HF                       |                   |                    | 786 775             |
| P (P=220, 230, 260 kbar)                                 | ~5.6, ~5.3, ~3.6   | HF                       |                   |                    | 786 775             |
| Pb   | 7.8                |                          |                   |                    | 085 089 111         |
| P <sub>3</sub> Pd <sub>5</sub>                           |                    |                          |                   | 1.1                | 262                 |
| P <sub>2</sub> Pd <sub>5</sub>                           |                    |                          |                   | 1.1                | 262                 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|--|--------------------|--------------------------|-------------------|--------------------|---|
| Pd <sub>3.0-3.2</sub>  | 0.75-<0.35         |                          | DO <sub>11</sub>  |                    | 491   |
| P <sub>3</sub> Pd <sub>7</sub> (High temp. phase)                      | 1.00               |                          | RHOMB             |                    | 491   |
| P <sub>3</sub> Pd <sub>7</sub> (Low temp. phase)                       | 0.70               |                          |                   |                    | 491   |
| P <sub>0.26</sub> Pt <sub>0.74</sub>                                   |                    |                          |                   | 0.35               | 491   |
| P <sub>4</sub> Re <sub>3</sub>   |                    |                          | MONO              | 1.1                | 1583  |
| P Re <sub>2</sub>  |                    |                          | C23               | 1.13               | 1582  |
| PRh <sub>2</sub>   | 1.3                |                          | C1                | 1.03               | 491 035   |
| P <sub>0.44</sub> Rh <sub>0.56</sub> (P <sub>3</sub> Rh <sub>4</sub> ) | 1.22 (2.5)         |                          | (ORTHO)           |                    | 035 (1995)  |
| PRu  |                    |                          |                   | 0.35               | 491   |
| PRu <sub>2</sub>   |                    |                          |                   | 0.35               | 491 262   |
| PS-Ta(Prepared P=65 kbar,<br>1100-1300C)                               |                    |                          | ORTHO             | 1.25               | 892   |
| P <sub>0.4</sub> S <sub>0.6</sub> Y                                    |                    |                          | B1                | 0.36               | 1219  |
| P <sub>0.2</sub> Si <sub>0.8</sub> V <sub>3</sub>                      | 16.6               |                          | A15               |                    | 1976  |
| P <sub>0.3</sub> Si <sub>0.7</sub> V <sub>3</sub>                      | 14.75              |                          | A15               |                    | 1976  |
| PSn  | 2.8-4.0            |                          | B1                |                    | 1382  |
| PSn  |                    |                          | TET               | 1.25               | 1382  |
| PSn (See Table 4)  |                    |                          |                   |                    |   |
| P <sub>2</sub> Ta(PTa <sub>3</sub> )                                   | (0.4)              |                          | MONO(TET)         | 0.035              | 1508 1583 (1995)  |
| PTi  |                    |                          | B <sub>1</sub>    | 1.13               | 1582  |
| P <sub>2</sub> Ti  |                    |                          | C23               | 1.1                | 1583  |
| PV   |                    |                          | B8 <sub>1</sub>   | 1.01               | 601 217   |
| P <sub>2</sub> V   |                    |                          | MONO              | 0.035              | 1508 1583   |
| PV <sub>3</sub>  |                    |                          |                   | 1.0                | 128 117   |
| P <sub>2</sub> W   | <0.3(?)            |                          | MONO              | 0.33               | 1508  |
| PW   |                    |                          | B31               | 1.01               | 601 217   |
| PW <sub>3</sub>  | 2.76               |                          | DO <sub>e</sub>   |                    | 601 217   |
| P <sub>2</sub> Zr(PZr <sub>3</sub> )                                   | (4.5)              |                          | C23(TET)          | 1.1                | 1583 (1995)   |
| P <sub>0.95</sub> Zr( $\alpha$ , high temp. form)                      | $\sim$ 4.6         |                          | B1                |                    | 1915#   |
| Pa   | 1.4                |                          | TET               |                    | 504 1936  |
| Pa   |                    |                          | A1                | 0.4                | 1936  |
| Pa <sub>0.75</sub> Zr <sub>0.25</sub>                                  | 1.54               |                          |                   |                    | 1936  |
| Pb(RRR=15, 000)  | 7.195              | 803.4                    | A1                |                    | 1709# 1907<br>1802# 001#<br>150 1639<br>1423 380<br>476# 024<br>653 1710<br>1267 1250#<br>1906 1287 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)               | $H_o$ (oersted) | Crystal Structure | $T_n$ (K)  | Refs.                  |
|---|-------------------------|-----------------|-------------------|--|------------------------|
| Pb(RRR= 5,000) (Cont'd)                                   |                         |                 |                   | 666 586 430<br>357 322 906<br>1781   |                        |
| Pb(I)(P=0-110 kbar)                                       | 7.2-4.2                 |                 |                   | 904 926 1906   |                        |
| Pb(II)(P=160 kbar)  | 3.55                    |                 |                   | 780 904  |                        |
| Pb(II)(P=135-200 kbar)                                    | 3.6-2.9                 |                 |                   | 1702   |                        |
| Pb(In porous media, 32Å, 58Å)                             | 7.049, 7.150            | 96, 55          |                   | 1642   |                        |
| Pb(~15-110Å)  | ~2-7.5                  |                 |                   | ▽1259 ▽1927<br>▽1894 ▽941  |                        |
| Pb(Deposited 10K, ~50-3000Å)                              | 6.4-7.2, 7.26           | HF              |                   | ▽1680 ▽1268  |                        |
| Pb(Deposited 4.2K, 300K; 20-1000Å)                        | 5.3-7.2                 | HF              |                   | ▽1762 ▽1218<br>▽672 ▽1648<br>▽1403 ▽385<br>▽602 ▽735<br>▽752 ▽837<br>▽985 ▽1124<br>▽1644 ▽1739 |                        |
| Pb(<100°, deposited 105K)                                 | 7.22<br>7.09(oxidized)  |                 |                   | ▽1062  |                        |
| Pb(with Mn, Gd, CuFe, CuMn, CuCo, CeAl <sub>2</sub> etc.) |                         |                 |                   | ▽296 ▽733<br>▽821 ▽598   |                        |
| Pb(Deposited 3K, with 10% SiO)                            | 6.5                     |                 |                   | ▽1218  |                        |
| Pb(Quench condensed at 0.4K)                              | 7.03<br>7.16(Aannealed) |                 |                   | ▽1491 ▽1548  |                        |
| PbMo <sub>6</sub> S <sub>7</sub>                          | 11.1                    |                 |                   | 1193#  |                        |
| Pb <sub>2</sub> Pd  | 3.01                    |                 | C16               | 1377 229 426   |                        |
| PbPd <sub>3</sub>   |                         |                 | L1 <sub>2</sub>   | 0.10   | 1372 412               |
| Pb <sub>2</sub> Pd <sub>0-1</sub> Rh <sub>1-0</sub>       | 1.4-2.0-1.7-3.0         |                 | C16               |  | 1377                   |
| Pb <sub>2-0</sub> PdTl <sub>0-2</sub>                     | 3.0-1.3                 |                 | C16               |  | 1377                   |
| Pb <sub>0.8</sub> Pt <sub>0.2</sub>                       | 2.8                     |                 |                   |  | 229 398                |
| PbPt  | 7.2-~1.5                |                 |                   |  | ▽756                   |
| Pb <sub>2</sub> Rh  | 2.66                    |                 | C16               |  | 229                    |
| Pb <sub>1.9</sub> Rh                                      | 1.32                    |                 | C16               |  | 1377                   |
| PbRh <sub>2</sub>   |                         |                 |                   | 0.32   | 489                    |
| PbS   |                         |                 |                   | 1.0  | 064 065 011<br>307 423 |
| PbS <sub>3</sub> Ta                                       | 3.07, 3.11              |                 | TET               |  | 778#                   |
| PbS <sub>3</sub> Ti                                       |                         |                 | TET               | 0.05   | 778 795#               |
| Pb <sub>1-0.99</sub> Sb <sub>0-0.01</sub>                 | T' <sub>c</sub> (+0.10) |                 |                   |  | 1165                   |
| Pb <sub>1-0.95</sub> Sb <sub>0-0.05</sub>                 | T' <sub>c</sub> (+0.62) |                 |                   |  | 1133 861               |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)               | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.                              |
|---|-------------------------|-----------------|-------------------|-----------|------------------------------------|
| $PbSb_x$  |                         | HF              |                   | 589 458   |                                    |
| $PbSb$ (Eutectoid)  | 6.6                     |                 |                   | 109 085   |                                    |
| $Pb_{0.9}Sb_{0.1}$ (Quench condensed at 0.4K)                 | 6.28<br>7.27 (Annealed) |                 |                   | ▽1491     |                                    |
| $PbSe$  |                         |                 |                   | 1.26      | 084 002 064                        |
| $Pb_{1-0.97}Sn_{0-0.03}$                                      | $T_c' (+0.04)$          |                 |                   |           | 1165 861                           |
| $Pb_{1-0.95}Sn_{0-0.05}$                                      | $T_c' (+0.07)$          |                 |                   |           | 1133 861                           |
| $Pb_{0.96-0.87}Sn_{0.04-0.13}$                                |                         | HF              |                   |           | 322 457                            |
| $Pb_{0.57}Sn_{0.43}$  | 7.45                    | HF              |                   |           | 1917                               |
| $Pb_{0.36}Sn_{0.64}$  | 7.75                    | HF              |                   |           | 1917                               |
| $Pb_{0.28}Sn_{0.72}$  | 7.05                    | HF              |                   |           | 1917                               |
| $Pb_{0.1-0.18}Sn_{0.9-0.82}$ (30 kbar, 280°C, to 78K, 0 kbar) | ~5.6                    |                 | (SnII?)           |           | 900                                |
| $Pb_{0.01}Sn_{0.99}$  | 3.752                   |                 |                   |           | 1153                               |
| $Pb_{0-0.01}Sn_{1-0.99}$                                      | 3.731-3.734             |                 | TET               |           | 318#                               |
| $Pb_{0.9}Sn_{0.1}$ (Quench condensed at 0.4K)                 | 6.77<br>7.17 (Annealed) |                 |                   |           | ▽1491                              |
| $PbSnTe$ (See Table 4)  |                         |                 |                   |           |                                    |
| $Pb_3Sr$  | 1.85                    |                 | TET               |           | 715 1245                           |
| $PbTe$ (Plus 0.1 weight % Pb)                                 | 5.19                    |                 |                   | 0.020     | 669 1988                           |
| $PbTe$ (plus <0.1 weight % Pb)                                | 5.3-5.34                | HF              |                   | 0.020     | 669 1988                           |
| $PbTe$ (plus 0.1 weight % Tl)                                 | 5.24-5.27               |                 |                   | 0.020     | 669 1988                           |
| $PbTe$ (See Table 4)  |                         |                 |                   |           |                                    |
| $PbTe$  |                         |                 |                   | 1.28      | 011 064 119<br>423 1988            |
| $Pb_xTe_{1-x}$  | ~20                     |                 |                   | 0.020     | 1884 1341<br>1988                  |
| $Pb_{0.9}Te_{0.1}$ (Quench condensed at 0.4K)                 | 5.35<br>6.92 (Annealed) |                 |                   |           | ▽1491                              |
| $PbTe$  |                         |                 |                   | 2.4       | ▽1927                              |
| $Pb_3Th$  | 5.55                    |                 | $L_{12}$          |           | 715                                |
| $Pb_{1-0.98}Tl_{0-0.02}$                                      | $T_c' (-0.07)$          |                 |                   |           | 1165                               |
| $Pb_{1-0.89}Tl_{0-0.11}$                                      | $T_c' (-0.28)$          |                 |                   |           | 1133 861                           |
| $Pb_{1-0}Tl_{0-1}$  | 7.22-<1.24-<br>2.67     | HF              |                   |           | 736 1348 083<br>356 080 401<br>649 |
| $Pb_{0.975-0.5}Tl_{0.025-0.5}$                                | 540-555-185             |                 |                   |           | 356 401 080                        |
| $Pb_{0.99}Tl_{0.01}$  | 823.1, HF               |                 |                   |           | 979 1724#<br>586                   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

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| Material  | T <sub>c</sub> (K)       | H (oersted) | Crystal Structure | T <sub>n</sub> (K)   | Refs.  |
|---|--------------------------|-------------|-------------------|----------------------|--|
| Pb <sub>0.96</sub> Tl <sub>0.04</sub>   | 7.06                     | 864, HF     |                   | 653# 1641<br>322 586 | <sup>b</sup> d <sub>0.0</sub><br><sup>d</sup> Ru |
| Pb <sub>0.95</sub> Tl <sub>0.05</sub>   |                          | 945         |                   | 1724#                | <sup>d</sup> x <sub>0.3</sub>                    |
| Pb <sub>0.93</sub> Tl <sub>0.075</sub>  | 6.98                     | 880, HF     |                   | 653#                 | <sup>d</sup> 0.0                                 |
| Pb <sub>0.89</sub> Tl <sub>0.11</sub>   | 6.88                     | 849, HF     |                   | 653# 586             | <sup>d</sup> <sub>4</sub> S                      |
| Pb <sub>0.85</sub> Tl <sub>0.15</sub>   | 6.73                     | 796, HF     |                   | 653# 586             | <sup>d</sup> <sub>2.8</sub>                      |
| Pb <sub>0.79</sub> Tl <sub>0.21</sub>   | 6.43                     | 756, HF     |                   | 653# 586             | <sup>d</sup> <sub>2.8</sub>                      |
| Pb <sub>0.73</sub> Tl <sub>0.27</sub>   | 6.43                     | 760, HF     |                   | 1200 322             | <sup>d</sup> S                                   |
| Pb <sub>~0.6</sub> Tl <sub>~0.4</sub>   | ~5.8                     | HF          |                   | 403 1434             | <sup>d</sup> 0.                                  |
| Pb <sub>0.53-0.47</sub> Tl <sub>0.47-0.53</sub><br>(No Brillouin zone effect) | 5.637-5.312              |             |                   | 1297                 | PdSb   |
| Pb <sub>0.35</sub> Tl <sub>0.65</sub>   | ~3.8                     |             |                   | 074 080 082<br>098   | PdSb   |
| PbTl <sub>2</sub>   | 3.75, 4.10               |             |                   | 082 071 080<br>098   | Pd <sub>0.</sub><br>Pd <sub>0.</sub>             |
| Pb <sub>0-0.003</sub> Tl <sub>1-0.997</sub>                                   | T <sub>c</sub> ' (+0.45) |             |                   | 209 1108             | T<br>N   |
| Pb <sub>x</sub> Tl <sub>1-x</sub>   | Data given               |             |                   | ▽1126 ▽798           | PdS  |
| PbV <sub>3</sub>  |                          |             | A15               | 4.2                  | 825  |
| PbW   |                          |             |                   | Data given           | 106  |
| Pb <sub>3</sub> Y   | 4.72                     |             | L1 <sub>2</sub>   |                      | Pd <sub>t</sub>                                  |
| Pb <sub>3</sub> Yb  | 0.23(broad)              |             | L1 <sub>2</sub>   |                      | Pd <sub>t</sub>                                  |
| Pb <sub>0.9</sub> Zn <sub>0.1</sub> (Quenched<br>condensed at 0.4K)           | 6.37<br>7.12(Aannealed)  |             |                   | ▽1491                | Pd   |
| Pb <sub>3</sub> Zr <sub>5</sub>   | 4.60                     |             | D8 <sub>8</sub>   |                      | Pd   |
| PbZr <sub>3</sub>   | 0.76                     |             | A15               |                      | Pd   |
| Pd  |                          |             | A1                | 0.10                 | 023 572#<br>637 963#                             |
| Pd(0.1-1% Xe)   |                          |             | A1                | 1.1                  | ▽1526  |
| Pd <sub>0.4</sub> Pt <sub>0.1</sub> Rh <sub>0.5</sub>                         |                          |             |                   | 0.015                | 963  |
| Pd <sub>0.25</sub> Pt <sub>0.25</sub> Rh <sub>0.5</sub>                       |                          |             |                   | 0.015                | 963  |
| Pd <sub>0.9</sub> Pt <sub>0.1</sub> Te <sub>2</sub>                           | 1.65                     |             | C6                |                      | 301  |
| Pd <sub>0.95</sub> Pt <sub>0.05</sub> Te <sub>2</sub>                         | 1.71                     |             | C6                |                      | 301  |
| Pd <sub>0.75</sub> Rh <sub>0.25</sub>   |                          |             |                   | 0.015                | 963# 572#  |
| Pd <sub>0.5</sub> Rh <sub>0.5</sub>   |                          |             |                   | 0.015                | 963# 572#  |
| Pd <sub>0.95</sub> Rh <sub>0.05</sub> Te <sub>2</sub>                         | 1.65                     |             | C6                |                      | 301  |
| Pd <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>                      | 3.7                      |             |                   |                      | 1060   |
| Pd <sub>x</sub> Rh <sub>1-x</sub> Zr <sub>2</sub>                             | 8.8-11.3                 |             | C16               |                      | 1476   |
| Pd <sub>0.04</sub> Rh <sub>0.29</sub> Zr <sub>0.67</sub>                      | 8.56                     |             | C16               |                      | 1372   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K) | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.              |
|--|--------------------|--------------------------|-------------------|--------------------|--------------------|
| Pd <sub>0.02</sub> Rh <sub>0.31</sub> Zr <sub>0.67</sub>   | 9.85               |                          | C16               |                    | 1372               |
| Pd <sub>x</sub> Ru   | 0.4                |                          | HEX               |                    | 1570               |
| Pd <sub>0.375</sub> Ru <sub>0.375</sub> Ta <sub>0.25</sub>   |                    |                          | L1 <sub>2</sub>   | 0.10               | 1372               |
| Pd <sub>0.05</sub> Ru <sub>0.05</sub> Zr <sub>0.9</sub>  | ~9                 |                          |                   |                    | 032                |
| Pd <sub>4</sub> S  |                    |                          | TET               | 0.32               | 552                |
| Pd <sub>2.8</sub> S  |                    |                          |                   | 0.35               | 491                |
| Pd <sub>2.2</sub> S(Quenched)  | 1.63               |                          | CUB               |                    | 491                |
| PdS  |                    |                          |                   | 0.35               | 491                |
| Pd <sub>0.63</sub> Sb <sub>0.37</sub>  |                    |                          |                   | 0.35               | 491                |
| PdSb   | 1.66               |                          | B8 <sub>1</sub>   |                    | 1296# 037          |
| Pd <sub>0.49-0.52</sub> Sb <sub>0.51-0.48</sub>  | 1.66, 1.67-1.42    |                          | Data given        |                    | 1296# 950#         |
| PdSb <sub>2</sub>  | 1.25               |                          | C2                | 0.35               | 270 491            |
| Pd <sub>0.165</sub> Sb <sub>0.835</sub> (Rapid quench)   | 4.9                |                          | CUB               |                    | 1116               |
| Pd <sub>0.51</sub> Sb <sub>0.49</sub> (with ≤0.01 Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Nb, Mo or Ru) | 1.67-<0.3          |                          |                   |                    | 950# 1296          |
| PdSbSe   | 1.0                |                          | C2                |                    | 413 414            |
| PdSbTe   | 1.2                |                          | C2                |                    | 413 414            |
| PdSc <sub>2</sub>  |                    |                          | E9 <sub>3</sub>   | 0.32               | 469                |
| Pd <sub>6.7</sub> Se   | 0.66               |                          |                   |                    | 552                |
| Pd <sub>4</sub> Se   | 0.42               |                          | TET               |                    | 552 140            |
| Pd <sub>5</sub> Se <sub>2</sub>  | 2.3                |                          |                   |                    | 140                |
| Pd <sub>0.67</sub> Se <sub>0.33</sub>  | 2.2                |                          |                   |                    | 140                |
| Pd <sub>17</sub> Se <sub>15</sub>  |                    |                          | CUB               | 0.32               | 552 140 285<br>238 |
| PdSe   |                    |                          | CUB               | 1.00               | 140                |
| PdSe   |                    |                          | B34               | 0.32               | 552                |
| PdSe <sub>2</sub>  |                    |                          |                   | 1.5                | 140                |
| Pd <sub>1.2-1.7</sub> Se   | 2.5                |                          |                   |                    | 140                |
| PdSeTe   |                    |                          | C6                | 1.2                | 301                |
| PdSi   | 0.93               |                          | B31               |                    | 270                |
| Pd <sub>2</sub> Sn   | 0.41               |                          | C37               |                    | 491                |
| Pd <sub>3</sub> Sn <sub>2</sub>  | 0.47-0.64          |                          | B8 <sub>2</sub>   |                    | 491 262            |
| PdSn   | 0.41               |                          | B31               |                    | 491                |
| PdSn <sub>2</sub>  | 3.34               |                          |                   |                    | 426                |
| PdSn <sub>4</sub>  |                    |                          | ORTHO             | 1.35               | 229 222            |
| Pd <sub>2</sub> Sr   |                    |                          | C15               | 1.02               | 028                |
| Pd <sub>4</sub> Te   |                    |                          | CUB               | 0.32               | 552                |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                       | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                       |
|--|-------------------------|--------------------------|-------------------|--------------------|-----------------------------|
| Pd <sub>3</sub> Te                             | 0.76                    |                          |                   |                    | 552                         |
| PdTe   | 3.85, 2.3               |                          | B8 <sub>1</sub>   |                    | 552 039 037<br>572#         |
| Pd <sub>1.02-1.1</sub> Te                      | 2.56-1.88-<br>4.07      |                          | B8 <sub>1</sub>   |                    | 552 1587                    |
| Pd <sub>1.75</sub> Te <sub>2</sub>             | 2.25 (Annealed)<br>1.93 |                          | C6                |                    | 301                         |
| Pd <sub>1.5</sub> Te <sub>2</sub>              | 2.21 (Annealed)<br>1.87 |                          | C6                |                    | 301                         |
| Pd <sub>1.25</sub> Te <sub>2</sub>             | 2.20 (Annealed)<br>1.90 |                          | C6                |                    | 301                         |
| PdTe <sub>2</sub>                              | 1.45, 1.69              |                          | C6                |                    | 1027 552 301                |
| Pd <sub>1.05</sub> Te <sub>2</sub>             | 1.77                    |                          | C6                |                    | 301                         |
| Pd <sub>0.95</sub> Te <sub>2</sub>             | 1.89                    |                          | C6                |                    | 552                         |
| Pd <sub>0.87</sub> Te <sub>2</sub>             | 1.85                    |                          | C6                |                    | 552                         |
| PdTe (See Table 3)                             |                         |                          |                   |                    |                             |
| Pd <sub>5</sub> Th                             |                         |                          |                   | 0.32               | 469 572#                    |
| Pd <sub>4</sub> Th                             |                         |                          | L1 <sub>2</sub>   | 0.10               | 1372                        |
| Pd <sub>3</sub> Th                             |                         |                          |                   | 1.3                | 456                         |
| Pd <sub>5</sub> Th <sub>3</sub>                |                         |                          |                   | 1.3                | 456                         |
| PdTh   |                         |                          |                   | 1.5                | 711                         |
| PdTh <sub>2</sub>                              | 0.85, 0.75              |                          | C16               |                    | 1377 469                    |
| PdTl <sub>2</sub>                              | 1.32                    |                          | C16               |                    | 1377                        |
| PdV <sub>3</sub>                               | 0.082                   |                          | A15               |                    | 707 948#<br>1023 980        |
| Pd <sub>1-0.75</sub> W <sub>0-0.25</sub>       |                         |                          | A1                | 0.2                | 846                         |
| Pd <sub>0.74-0.56</sub> W <sub>0.26-0.44</sub> | 0.1-1.6                 |                          | A1                |                    | 846                         |
| PdXe <sub>x</sub>                              |                         |                          |                   | 1.1                | ▽1441                       |
| Pd <sub>3</sub> Y                              |                         |                          | L1 <sub>2</sub>   | 0.32               | 469 412                     |
| Pd <sub>0.1</sub> Zr <sub>0.9</sub>            | 7.5                     |                          | HEX               |                    | 032                         |
| Po   |                         |                          |                   | 1.6                | 208                         |
| Pr( $\alpha$ )                                 |                         |                          | HEX               | 0.25               | 023                         |
| Pr <sub>2</sub> S <sub>3</sub>                 |                         |                          | CUB               | 1.68               | 558                         |
| Pr <sub>0-0.3</sub> Th <sub>1-0.7</sub>        | 1.37-0.3                |                          | CUB               |                    | 768                         |
| Pt   |                         |                          | A1                | 0.10               | 023 574<br>572# 637<br>963# |
| Pt   |                         |                          |                   | 0.3                | ▽503 ▽756                   |
| Pt <sub>0.2</sub> Rh <sub>0.8</sub>            |                         |                          |                   | 0.015              | 963                         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                          | $T_c$ (K)   | $H_o$ (oersted) | Crystal Structure | $T_n$ (K)            | Refs.       |
|-----------------------------------|---|-----------------|-------------------|----------------------|-------------|
| $Pt_{0.05}Rh_{0.04}Ti_{0.91}$     | 4.3   |                 |                   | 1060                 |             |
| $Pt_xRh_{1-x}Zr_2$                | 6.8-11.3  |                 | C16               | 1476                 |             |
| $Pt_xRu$                          | 0.43-0.21   |                 | HEX               | 1570                 |             |
| PtSb                              | 2.1   |                 | B8 <sub>1</sub>   | 037 396              |             |
| PtSb (See Table 4)                |   |                 |                   |                      |             |
| PtSbSe                            |   |                 | C2                | 1.2                  | 413 414     |
| PtSbTe                            |   |                 | C2                | 1.2                  | 413 414     |
| $Pt_3Sc$                          |   |                 | L1 <sub>2</sub>   | 0.32                 | 469         |
| PtSc                              |   |                 | B2                | 0.32                 | 469 173     |
| $PtSc_4$                          |   |                 |                   | 0.32                 | 469         |
| PtSi                              | 0.88  |                 | B31               |                      | 270         |
| $Pt_3Sn$                          |   |                 | L1 <sub>2</sub>   | 1.2                  | 412         |
| PtSn                              | 0.37  |                 | B8 <sub>1</sub>   |                      | 486         |
| $PtSn_2$                          |   |                 | C1                | 0.34                 | 486         |
| $PtSn_4$                          |   |                 | ORTHO             | 1.3                  | 229 222     |
| $Pt_2Sr$                          |   |                 | C15               | 1.02                 | 028         |
| $Pt_2Ta$                          |   |                 | ORTHO             | 1.6                  | 1299        |
| PtTa                              | 1.0   |                 | D8 <sub>b</sub>   |                      | 182         |
| $Pt_{0.3}Ta_{0.7}$                | 1.45-<1.2<br>(Annealed)<br>1.4-<1.2<br>(Quenched) |                 | D8 <sub>b</sub>   |                      | 276         |
| $Pt_{0.2}Ta_{0.8}$                |   |                 | D8 <sub>b</sub>   | 1.2                  | 276         |
| $Pt_{0.15}Ta_{0.85}$              | 0.400   |                 | A15               |                      | 707 1023    |
| PtTe                              | 0.59  |                 | ORTHO             |                      | 552         |
| $PtTe_2$                          |   |                 | C6                | 1.2                  | 301         |
| $Pt_5Th$                          | 3.13  |                 |                   |                      | 469         |
| $Pt_4Th$                          |   |                 |                   | 0.32                 | 469         |
| $Pt_3Th$                          |   |                 |                   | 0.32                 | 469         |
| $Pt_2Th$                          |   |                 |                   | 0.32                 | 469         |
| $Pt_5Th_3$                        |   |                 |                   | 1.3                  | 456         |
| PtTh                              | 0.44  |                 | B <sub>f</sub>    |                      | 469         |
| $Pt_3Th_7$                        | 0.98  |                 | D10 <sub>2</sub>  |                      | 469-270     |
| $Pt_8Ti$                          |   |                 |                   | 1.15                 | 711         |
| $PtTi_3$                          | 0.486, 0.58                                       | HF              | A15               |                      | 707 270 010 |
| $PtTl_2$                          | 1.58  |                 | C16               |                      | 1377        |
| $Pt_{0.02}U_{0.98}^{(\beta)}$     | 0.87  |                 |                   | 1.2<br>(9.5<br>kbar) | 698         |
| $Pt_{0.0175}U_{0.9825}^{(\beta)}$ | 0.85  |                 |                   |                      | 700         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)  | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K)      | Refs.  |
|---|---|--------------------------|-----------------------------|-------------------------|--|
| Pt <sub>3</sub> V                                   |   |                          | L <sub>1</sub> <sub>2</sub> | 0.07                    | 1372   |
| Pt <sub>0.33</sub> V <sub>0.67</sub>                |   |                          |                             | 1.02                    | 173  |
| PtV <sub>3</sub> (Various order states and anneals) | 3.62-2.53   |                          | A15                         | 707 1446<br>498 173 578 |  |
| PtV <sub>3</sub>                                    | 3.20  |                          | A15                         | 948# 645 707            |  |
| PtV <sub>3</sub>                                    | 2.91(Quenched)<br>3.62(Aannealed)                               |                          | A15                         | 1177                    |  |
| PtV <sub>3</sub>                                    | 2.53(As cast)   |                          | A15                         | 707                     |  |
| Pt <sub>0.19-0.33</sub> V <sub>0.81-0.67</sub>      | 2.35-3.015-<br>0.199(Quenched)<br>2.4-3.62-<br>0.225(Aannealed) |                          | A15                         | 1177 707 498<br>948#    |  |
| Pt <sub>0.22</sub> V <sub>0.78</sub>                | 1.26, 1.76, 0.98  |                          | A15                         | 707 498 948#            |  |
| Pt <sub>1-0.73</sub> W <sub>0-0.27</sub>            |   |                          | A1                          | 0.2                     | 846  |
| Pt <sub>0.98-0.95</sub> W <sub>0.02-0.05</sub>      | 1.1-2.2   |                          | CUB                         | 239                     |  |
| Pt <sub>0.9-0.63</sub> W <sub>0.10-0.37</sub>       | 2.55-2.7  |                          | CUB's                       | 239                     |  |
| Pt <sub>0.72-0.33</sub> W <sub>0.28-0.67</sub>      | 0.2-3.0   |                          | CUB                         | 846                     |  |
| Pt <sub>0.6-0.5</sub> W <sub>0.4-0.7</sub>          | 0.4-2.15  |                          | CUB                         | 239                     |  |
| Pt <sub>0.5</sub> W <sub>0.5</sub>                  | 1.45  |                          |                             | 239                     |  |
| Pt <sub>0.25-0.1</sub> W <sub>0.75-0.9</sub>        |   |                          |                             | 0.3                     | 239  |
| Pt <sub>5</sub> Y                                   |   |                          |                             | 0.32                    | 469  |
| Pt <sub>3</sub> Y                                   |   |                          | L <sub>1</sub> <sub>2</sub> | 0.32                    | 469 412  |
| Pt <sub>2.2</sub> Y                                 | 1.70  |                          | C15                         |                         | 469  |
| Pt <sub>2</sub> Y                                   | 1.57  |                          | C15                         |                         | 127 201  |
| PtY   |   |                          |                             | 0.32                    | 469  |
| Pt <sub>2</sub> Y <sub>3</sub>                      | 0.9   |                          |                             |                         | 469  |
| Pt <sub>3</sub> Y <sub>7</sub>                      | 0.82  |                          | D10 <sub>2</sub>            |                         | 469  |
| Pt <sub>0.42</sub> V <sub>0.58</sub>                | 0.76  |                          |                             |                         | 469  |
| PtZr  | 3.0   |                          | A3                          |                         | 032  |
| Pu  |   |                          | MONO                        | 0.4                     | 1581 226<br>495 669  |
| Rb  |   |                          | A2                          | 0.011                   | 494 245  |
| Rb(P=0~150 kbar)                                    |   |                          |                             | 1.2                     | 781  |
| Re(RRR ~1000)                                       | 1.696   | 201                      |                             |                         | 1636 029 221<br>382 1257<br>1243# 1220<br>972# 952<br>680 1254<br>045 362 147<br>161 1765<br>572# 465#<br>1470 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)  | $H_o$ (oersted) | Crystal Structure | $T_r$ (K) | Refs.       |
|---|--|-----------------|-------------------|-----------|-------------|
| Re(0-100% elongation)   | 1.7~2.5<br>(at room temp.)<br>1.7~1.77~1.74<br>(at 1293 K) |                 |                   | 1765      |             |
| Re(125-4600 Å)  | 2.5-4.9 (high vacuum)<br>4.6-5.5 (in $N_2$ )               |                 |                   | 1274      | ▽ 1881      |
| Re( $Ar, Ze$ ) <sub>x</sub>                                       | 5.55, 5.9  |                 |                   | 1526      |             |
| Re  | 1.9~7  |                 |                   | 503       |             |
| Re("plastic" compression)   | 2.3 Max.   |                 |                   | 1881      |             |
| Re <sub>1-0</sub> Os <sub>0-1</sub>                               | 1.7-1.93-0.7   |                 |                   | 1646#     |             |
| Re <sub>0.94</sub> Os <sub>0.06</sub>                             | 1.93   |                 |                   | 1646#     |             |
| Re <sub>1-0.98</sub> Rh <sub>0-0.02</sub>                         | 1.7-2.01   |                 |                   | 1646      |             |
| Re <sub>0.05</sub> Rh <sub>0.04</sub> Ti <sub>0.91</sub>          | 2.3  |                 |                   | 1060      |             |
| Re <sub>1-0</sub> Ru <sub>0-1</sub>                               | 1.7-2.23-0.5   |                 |                   | 1646      |             |
| Re <sub>0.83</sub> Ru <sub>0.17</sub>                             | 2.23   |                 | HEX               | 1646      |             |
| ReSe <sub>2</sub>   |  |                 |                   | 1.15      | 711         |
| ReSi <sub>2</sub>   |  |                 |                   | 1.15      | 712         |
| Re <sub>0.18</sub> SiV <sub>2.82</sub>                            |  |                 | A15               | 14        | 1913        |
| Re <sub>0.75</sub> Ta <sub>0.25</sub>                             | 6.78   |                 | A12               |           | 182         |
| Re <sub>0.65</sub> Ta <sub>0.35</sub>                             | 1.58   |                 | A12               |           | 276 173     |
| ReTa  | 1.3  |                 | D8 <sub>b</sub>   |           | 182         |
| Re <sub>0.4-0.25</sub> Ta <sub>0.6-0.75</sub>                     |  |                 |                   | 0.006     | 713#        |
| Re <sub>0.2-0.025</sub> Tc <sub>0.8-0.975</sub>                   | 0.21-3.45  | 232-613         |                   |           | 713#        |
| Re <sub>x</sub> Ta <sub>1-x</sub> (Deposited 4.2 K,<br>amorphous) | 3.8-7  |                 |                   |           | ▽ 1325      |
| Re <sub>0.75</sub> Ta <sub>0.25</sub>                             | 4.7 Max.   |                 |                   |           | ▽ 1438      |
| Re <sub>1-0</sub> Tc <sub>0-1</sub>                               | 1.699-2.75-8.35  |                 | HEX               |           | 1303        |
| Re <sub>2</sub> Th  | 5.05   |                 | C14               |           | 711 1149    |
| Re <sub>0.83</sub> Ti <sub>0.17</sub>                             | 6.6, 5.1   |                 | A12               |           | 173 276     |
| Re <sub>0.1-0.02</sub> Ti <sub>0.9-0.98</sub>                     | 2.7 Max.   |                 |                   |           | 093 171 522 |
| Re <sub>0.83</sub> Ti <sub>0.17</sub>                             | 9.0 Max.   |                 |                   |           | ▽ 1438      |
| Re <sub>2</sub> U   |  |                 | ORTHO             | 1.02      | 270         |
| Re <sub>0.92</sub> V <sub>0.08</sub>                              | 6.8  |                 | A3                |           | 572#        |
| Re <sub>0.9</sub> V <sub>0.1</sub>                                | 9.4  |                 |                   |           | 270         |
| Re <sub>0.76</sub> V <sub>0.24</sub>                              | 4.52   |                 | D8 <sub>b</sub>   |           | 412 295 557 |
| Re <sub>0.6</sub> V <sub>0.4</sub>                                | 2.2  |                 | A2                |           | 412         |
| Re <sub>1-0.99</sub> W <sub>0-0.01</sub>                          | 1.69-1.725   |                 |                   |           | 1257        |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)  | H <sub>o</sub> (oersted) | Crystal Structure           | T <sub>n</sub> (K) | Refs.                         |
|---|---|--------------------------|-----------------------------|--------------------|-------------------------------|
| Re <sub>1-0.88</sub> W <sub>0-0.12</sub>                          | 1.7-7.5   |                          |                             |                    | 1646# 572#                    |
| Re <sub>1-0.84</sub> W <sub>0-0.16</sub>                          | 1.6-8.0   |                          | HEX                         |                    | 266                           |
| Re <sub>3</sub> W   | 9.0   |                          | A12                         |                    | 182                           |
| Re <sub>0.5-0.7</sub> W <sub>0.5-0.3</sub>                        | 4.8-5.2   |                          | D8 <sub>b</sub>             |                    | 253                           |
| Re <sub>0.6</sub> W <sub>0.4</sub>                                | 6.0, 4.9  |                          | D8 <sub>b</sub>             |                    | 266 136                       |
| Re <sub>0.5-0.52</sub> W <sub>0.5-0.48</sub>                      | 5.03-5.2  |                          | D8 <sub>b</sub>             |                    | 266 557# 276<br>182 572#      |
| Re <sub>0.4-0.15</sub> W <sub>0.6-0.85</sub>                      | 5.1, 4.0-2.3  |                          | CUB                         |                    | 253 266                       |
| Re <sub>0.25</sub> W <sub>0.75</sub>                              | 4.6   | HF                       | CUB                         |                    | 266 289 572#                  |
| Re <sub>0.15</sub> W <sub>0.85</sub>                              | 2.4   |                          | CUB                         |                    | 266                           |
| Re <sub>0.1</sub> W <sub>0.9</sub>                                |   |                          | CUB                         | 1.02               | 266                           |
| ReW <sub>0-0.002</sub>  | 1.7-1.73  |                          |                             |                    | 1646                          |
| Re <sub>0-1</sub> W <sub>1-0</sub>                                | <2-11.41-8, 9-6<br>(Chem. vapor deposited)<br><0.5-5, 8.5-1.7<br>(Arc melted) |                          |                             |                    | 1854                          |
| Re <sub>1-0</sub> W <sub>0-1</sub> (Deposit 4.2K,<br>amorphous)   | 7.5-3.5   |                          |                             |                    | ▽1325                         |
| Re <sub>0.73</sub> W <sub>0.27</sub>                              | 8.3 Max.  |                          |                             |                    | ▽1438                         |
| Re <sub>0.6</sub> W <sub>0.4</sub>                                | 9.7 Max.  |                          |                             |                    | ▽1438                         |
| Re <sub>0.5</sub> W <sub>0.5</sub>                                | 8.1 Max.  |                          |                             |                    | ▽1438                         |
| Re <sub>0.67</sub> Y <sub>0.33</sub>                              | 1.83  |                          | C15                         |                    | 127                           |
| Re <sub>0.67</sub> Zr <sub>0.33</sub>                             | 6.0, 6.8  |                          | C14                         |                    | 133 270 427<br>1149 1478      |
| Re <sub>0.86</sub> Zr <sub>0.14</sub>                             | 7.4   |                          | A12                         |                    | 173, 202                      |
| Re <sub>24</sub> Zr <sub>5</sub>                                  | 3.0   |                          |                             |                    | 427                           |
| Rh  |   |                          | A1                          | 0.086              | 103 574 5<br>637 963#<br>1118 |
| Rh  |   |                          |                             | 0.3                | ▽503                          |
| Rh <sub>x</sub> Ru  | 0.37-0.11   |                          | HEX                         |                    | 1570                          |
| Rh <sub>1-0.55</sub> Ru <sub>0-0.45</sub> Se <sub>4</sub>         | 4.3-<0.05   |                          | C2                          |                    | 1185# 714#                    |
| Rh <sub>0.55-0</sub> Ru <sub>0.45-0</sub> Se <sub>4</sub>         |   |                          |                             | 0.05               | 1185                          |
| Rh <sub>0.04</sub> Ru <sub>0.05</sub> Ti <sub>0.91</sub>          | 3.5   |                          |                             |                    | 1060                          |
| Rh <sub>1-x</sub> Ru <sub>x</sub> Zr <sub>2</sub>                 | 10.3-11.3   |                          | C16                         |                    | 1476                          |
| Rh <sub>0.97-0.875</sub> Ru <sub>0.03-0.125</sub> Zr <sub>2</sub> | 10.8-10.1   |                          | C16                         |                    | 1372                          |
| Rh <sub>17</sub> S <sub>15</sub>                                  | 5.8   |                          | CUB                         |                    | 035 238                       |
| RhSb  |   |                          | B31                         | 0.35               | 270                           |
| Rh <sub>3</sub> Sc  |   |                          | L <sub>1</sub> <sub>2</sub> | 0.32               | 469                           |
| RhSc  |   |                          | B2                          | 1.02               | 279                           |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K) | H <sub>o</sub> (oersted)          | Crystal Structure            | T <sub>n</sub> (K) | Refs.        |
|--|--------------------|-----------------------------------|------------------------------|--------------------|--------------|
| Rh <sub>0.32</sub> Sc <sub>0.68</sub>                    |                    |                                   |                              | 0.32               | 469          |
| Rh <sub>0.24</sub> Sc <sub>0.76</sub>                    |                    | 0.88, 0.92<br>(Portion of sample) |                              |                    | 469          |
| RhSc <sub>4</sub>  |                    |                                   |                              | 0.32               | 469          |
| Rh <sub>0.04</sub> Sc <sub>0.05</sub> Ti <sub>0.91</sub> | 1.3                |                                   |                              |                    | 1060         |
| Rh <sub>0.53</sub> Se <sub>0.47</sub>                    | 6.0                |                                   | C2                           |                    | 033          |
| Rh <sub>0.39-0.29</sub> Se <sub>0.61-0.71</sub>          | 6 Max.             |                                   |                              |                    | 033 035      |
| Rh <sub>0.36</sub> Se <sub>0.64</sub>                    | 6.0                |                                   | C2                           |                    | 035          |
| Rh <sub>0.29</sub> Se <sub>0.71</sub>                    |                    |                                   |                              | 1.04               | 035          |
| RhSi   |                    |                                   | B20                          | 0.35               | 270          |
| RhSn <sub>2</sub>  | 0.60               |                                   | C16                          |                    | 1377         |
| Rh <sub>2</sub> Sr                                       | 6.2                |                                   | C15                          |                    | 028 041      |
| Rh <sub>2</sub> Ta                                       |                    |                                   | C37                          | 1.39               | 1299         |
| RhTa   | 2.0                |                                   | D <sub>8</sub> <sub>b</sub>  |                    | 182          |
| Rh <sub>0.4</sub> Ta <sub>0.6</sub>                      | 2.35               |                                   | D <sub>8</sub> <sub>b</sub>  |                    | 276          |
| Rh <sub>0.33</sub> Ta <sub>0.66</sub>                    | 7.0 Max.           |                                   |                              |                    | ▽1438        |
| Rh <sub>0.04</sub> Ta <sub>0.05</sub> Ti <sub>0.91</sub> | 2.3                |                                   |                              |                    | 1060         |
| RhTe <sub>2</sub>  | 1.51               |                                   | C2                           |                    | 033 035 058  |
| RhTe <sub>2</sub> (High temp. form)                      |                    |                                   | C6                           | 1.06               | 088          |
| RhTe   |                    |                                   | B <sub>8</sub> <sub>1</sub>  | 1.06               | 280 058      |
| Rh <sub>0.67</sub> Te <sub>0.33</sub>                    | 0.49               |                                   |                              |                    | 552          |
| Rh <sub>5</sub> Th                                       | 1.07               |                                   |                              |                    | 469          |
| Rh <sub>3</sub> Th                                       |                    |                                   | L <sub>1</sub> <sub>2</sub>  | 0.32               | 469          |
| Rh <sub>2</sub> Th                                       |                    |                                   |                              | 0.32               | 469          |
| RhTh   | 0.36               |                                   | B <sub>f</sub>               |                    | 469          |
| Rh <sub>3</sub> Th <sub>7</sub>                          | 2.15               |                                   | D <sub>10</sub> <sub>2</sub> |                    | 270          |
| Rh <sub>0.91</sub> Ti <sub>0.09</sub>                    | 2.0                |                                   |                              |                    | 1060 522 440 |
| Rh <sub>0.88</sub> Ti <sub>0.12</sub>                    | 4.0                |                                   | CUB                          |                    | 766          |
| Rh <sub>3</sub> Ti                                       |                    |                                   | L <sub>1</sub> <sub>2</sub>  | 1.2                | 412          |
| RhTi <sub>2</sub>  |                    |                                   |                              | 1.2                | 1071         |
| Rh <sub>0.15-0.05</sub> Ti <sub>0.85-0.95</sub>          | 3.95-2.25          |                                   |                              |                    | 093 171      |
| Rh <sub>0.135-0</sub> Ti <sub>0.865-1</sub>              | 4.3 Max.           |                                   |                              |                    | 717          |
| Rh <sub>0.12, 0.1</sub> Ti <sub>0.88, 0.9</sub>          | 4.0                |                                   | CUB                          |                    | 717 1071#    |
| Rh <sub>0.08</sub> Ti <sub>0.92</sub>                    | 3.5                |                                   | CUB                          |                    | 1071#        |
| Rh <sub>0.06</sub> Ti <sub>0.94</sub>                    | 2.6                |                                   | CUB                          |                    | 1071#        |
| Rh <sub>0.04</sub> Ti <sub>0.96</sub>                    | 2.0                |                                   | CUB                          |                    | 1060 766 717 |
| Rh <sub>0.03-0</sub> Ti <sub>0.97-1</sub>                | 1.34-1.79-0.79     |                                   | A3                           |                    | 1109# 766    |
|  |                    |                                   |                              |                    | 1071#        |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)           | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                     |
|--|------------------------------|--------------------------|-------------------|--------------------|---------------------------|
| Rh <sub>0.91</sub> Ti <sub>0.4</sub> V <sub>0.05</sub>   | 2.9                          |                          |                   |                    | 1060                      |
| Rh <sub>0.91</sub> Ti <sub>0.4</sub> W <sub>0.05</sub>   | 3.4                          |                          |                   |                    | 1060                      |
| Rh <sub>0.91</sub> Ti <sub>0.04</sub> Y <sub>0.05</sub>  | 1.4                          |                          |                   |                    | 1060                      |
| Rh <sub>0.91</sub> Ti <sub>0.04</sub> Zr <sub>0.05</sub> | 1.8                          |                          |                   |                    | 1060                      |
| Rh <sub>3</sub> U  |                              |                          | L1 <sub>2</sub>   | 1.2                | 412                       |
| Rh <sub>0.02</sub> U <sub>0.98</sub>                     | 0.96                         |                          |                   |                    | 698                       |
| RhV <sub>3</sub>   |                              |                          | A15               | 0.015              | 707 1001<br>948 1496 270  |
| Rh <sub>0.35</sub> V <sub>0.65</sub>                     | 1.075<br>1.036 (Long anneal) |                          |                   |                    | 1496                      |
| Rh <sub>3</sub> V  |                              |                          | L1 <sub>2</sub>   | 1.2                | 412                       |
| RhW  | 3.37-2.64.1.9                |                          | HEX               |                    | 033                       |
| Rh <sub>0.3</sub> W <sub>0.7</sub>                       | 7.3 Max.                     |                          |                   |                    | ▽1438                     |
| Rh <sub>1-0</sub> Y <sub>0-1</sub>                       | 1.45-0.4                     |                          |                   |                    | 454                       |
| Rh <sub>5</sub> Y  | 0.56                         |                          |                   |                    | 469                       |
| Rh <sub>3</sub> Y  | 1.07                         |                          | C15               |                    | 469                       |
| Rh <sub>2</sub> Y  |                              |                          | C15               | 0.32               | 270 469 127               |
| RhY  |                              |                          | B2                | 0.32               | 469                       |
| RhY <sub>2</sub>   |                              |                          |                   | 0.32               | 469                       |
| Rh <sub>3</sub> Y <sub>7</sub>                           |                              |                          | D10 <sub>2</sub>  | 0.32               | 658 469                   |
| Rh <sub>2</sub> Y <sub>3</sub>                           | 1.48                         |                          |                   |                    | 469                       |
| RhY <sub>3</sub>   | 0.65                         |                          |                   |                    | 469                       |
| RhZr   | 2.7                          |                          |                   | 1.7                | 648 033                   |
| Rh <sub>0.45-0.10</sub> Zr <sub>0.55-0.9</sub>           | ~10.8                        |                          |                   |                    | 648                       |
| Rh <sub>0.4</sub> Zr <sub>0.6</sub>                      | 5.9-7                        |                          |                   |                    | 033                       |
| RhZr <sub>2</sub>  | 11.36 (Long anneal)          |                          | C16               |                    | 1476 1478<br>1377 648 033 |
| Rh <sub>0.33</sub> Zr <sub>0.67</sub>                    | 11.25 (As cast)              |                          |                   |                    | 1858                      |
| Rh <sub>0.25-0.36</sub> Zr <sub>0.75-0.64</sub>          | 11.5-11.1 (As cast)          |                          |                   |                    | 1476                      |
| Rh <sub>0.027-0.005</sub> Zr <sub>0.973-0.995</sub>      | 4.8-3.5                      |                          | A3                |                    | 766 033                   |
| RhZr <sub>3</sub>  | 11.0                         |                          | E9 <sub>3</sub>   |                    | 766                       |
| Rh <sub>0.23-0.2</sub> Zr <sub>0.77-0.8</sub>            | 9.0                          |                          |                   |                    | 033                       |
| Rh <sub>0.17</sub> Zr <sub>0.83</sub>                    | 9.6                          |                          |                   |                    | 033                       |
| Rh <sub>0.14</sub> Zr <sub>0.86</sub>                    | 9.5                          |                          | HEX               |                    | 033                       |
| Rh <sub>0.15-0.1</sub> Zr <sub>0.85-0.9</sub>            | 12.2-11.6                    |                          |                   |                    | 459                       |
| Rh <sub>0.15-0</sub> Zr <sub>0.85-1</sub>                | 10.2-9.8 (Annealed)          |                          |                   |                    | 459                       |
| Rh <sub>0.14</sub> Zr <sub>0.86</sub>                    | 11.1                         | HF                       |                   |                    | 1858 033                  |
| Rh <sub>0.12</sub> Zr <sub>0.88</sub>                    | 11.0                         |                          | CUB               |                    | 766                       |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)  | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)     | Refs.  |
|--|---|--------------------------|-------------------|------------------------|--|
| Rh <sub>0.09-0.035</sub> Zr <sub>0.9-0.965</sub>               | 11.0-5.0  |                          | CUB               | 766 032 648<br>033     |  |
| Rh <sub>0.08-0.03</sub> Zr <sub>0.92-0.97</sub>                | 6.1-3.1   |                          |                   | 1061# 572#             |  |
| Rh <sub>0.08-0</sub> Zr <sub>0.92-1</sub>                      | 6.4-6 (Unannealed)  |                          |                   | 459                    |  |
| Rh <sub>0.07-0.005</sub> Zr                                    | 10.4-7.8  |                          |                   | 648 033                |  |
| Rh <sub>0.04-0.02</sub> Zr <sub>0.96-0.98</sub> <sup>(w)</sup> | 3.9-2.7   |                          |                   | 648                    |  |
| Rh <sub>0.03</sub> Zr <sub>0.97</sub>                          | 3.1   |                          |                   | 1061# 1858<br>033 1061 |  |
|  | 10.4, 5.5 (As cast)   |                          |                   |                        |  |
| Rh <sub>0.02-0.001</sub> Zr <sub>0.98-0.999</sub>              | 4.3-2.1, 5.8, 1.5   |                          |                   | 1.7                    | 648 033  |
| Rh <sub>0.33</sub> Zr <sub>0.66</sub>                          | 11.2 Max.   |                          |                   |                        | ▽1438  |
| Rh <sub>0.25</sub> Zr <sub>0.75</sub>                          | 11.4 Max.   |                          |                   |                        | ▽1438  |
| Ru   | 0.493   |                          | A3                |                        | 816 731# 920<br>132# 99 104<br>101 249 236<br>184 029 972#<br>569 001 572# |
| Ru(0.1-1% Xe)  |   |                          | A3                | 0.08                   | ▽1526  |
| RuS <sub>2</sub>   |   |                          | C2                | 0.32                   | 552  |
| RuSb   |   |                          | B31               | 0.35                   | 491 1582 711   |
| Ru <sub>2</sub> Sb   |   |                          |                   | 0.35                   | 401  |
| Ru <sub>2</sub> Sc   | 2.24  |                          | C14               |                        | 1026 127 115   |
| RuSe <sub>2</sub>  |   |                          | C2                | 0.32                   | 552  |
| RuTe <sub>2</sub>  |   |                          | C2                | 0.32                   | 552  |
| Ru <sub>2</sub> Th   | 3.56  |                          | C15               |                        | 173 572  |
| RuTi   | 1.07  |                          | B2                |                        | 270  |
| Ru <sub>0.05-0.1</sub> Ti <sub>0.95-0.9</sub>                  | 3.5, 2.5  |                          |                   |                        | 093 171 522  |
| Ru <sub>0.02-0.06</sub> Ti <sub>0.6</sub> V <sub>0.4</sub>     | 6.6 Max.  |                          |                   |                        | 171  |
| Ru <sub>3</sub> U  |   |                          | L1 <sub>2</sub>   | 1.2                    | 412  |
| Ru <sub>0.54-0.45</sub> V <sub>0.46-0.55</sub>                 | 3.5-<0.4-<br>5.0-4.0  |                          |                   |                        | 1930#  |
| Ru <sub>0.5</sub> V <sub>0.5</sub>                             |   |                          |                   | 0.4                    | 1930 1119  |
| Ru <sub>0.475-0.42</sub> V <sub>0.525-0.48</sub>               | 3-5.7-3.8-5-<br>2.1 (Annealed)<br>1.5-5.4-3.8-<br>4-3.5 (As cast) |                          | TET,<br>CUB       |                        | 1757   |
| Ru <sub>0.465</sub> V <sub>0.535</sub> (0-24 kbar)             | 5.8 Max.  |                          |                   |                        | 1757   |
| Ru <sub>0.46</sub> V <sub>0.54</sub>                           | 5.0   |                          | B2                |                        | 1930# 1706   |
| Ru <sub>0.46</sub> V <sub>0.54</sub> (0-20 kbar)               | 4.85-5.05   |                          |                   |                        | 1706   |
| Ru <sub>0.452</sub> V <sub>0.548</sub>                         | 3.8-4.2   |                          |                   |                        | 1119   |
| Ru <sub>0.45</sub> V <sub>0.55</sub>                           | 4.0   |                          | B2                |                        | 572  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)                      | H <sub>c</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.                             |
|--|---|--------------------------|-------------------|--------------------|-----------------------------------|
| Ru <sub>0.4</sub> V <sub>0.6</sub>                 | ~1                                      |                          |                   |                    | 119 572#                          |
| Ru <sub>0.58</sub> W <sub>0.42</sub>               | 5.2                                     |                          | D8 <sub>b</sub>   |                    | 182                               |
| RuW  | 7.5                                     |                          |                   |                    | 033                               |
| Ru <sub>0.4</sub> W <sub>0.6</sub>                 | 4.67                                    |                          | D8 <sub>b</sub>   |                    | 276                               |
| Ru <sub>0.5</sub> W <sub>0.5</sub>                 | 5.7 Max.                                |                          |                   |                    | ▽1438                             |
| Ru <sub>0.4</sub> W <sub>0.6</sub>                 | 5.0 Max.                                |                          |                   |                    | ▽1438                             |
| RuXe <sub>x</sub>                                  |   |                          |                   | 0.08               | ▽1441                             |
| Ru <sub>2</sub> Y                                  | 2.42                                    |                          | C14               |                    | 1026 127 115                      |
| RuY <sub>3</sub>                                   |   |                          |                   | 4.2                | 1989                              |
| Ru <sub>2</sub> Zr                                 | 2.4, 1.84                               |                          | C14               |                    | 1478 173                          |
| Ru <sub>0.1</sub> Zr <sub>0.9</sub>                | 5.7                                     |                          | HEX               |                    | 032                               |
| S <sub>3</sub> Sb                                  |   |                          |                   | 1.28               | 011                               |
| S <sub>~1-1.1</sub> Sc                             | 4.5-<1.5                                |                          | B1                |                    | 1915# 1219                        |
| SSc  |   |                          | B1                | 0.33               | 1210                              |
| S <sub>2-0</sub> Se <sub>0-2</sub> Ta              | 0.8-2, 7-2.1,<br>3.8-4.1-<1             |                          | HEX's             |                    | 1910                              |
| S <sub>1.2</sub> Se <sub>0.8</sub> Ta              | 3.9                                     | HF                       |                   |                    | 1262                              |
| SSeTa  | 3.7                                     | HF                       |                   |                    | 1262                              |
| S <sub>0.8</sub> Se <sub>1.2</sub> Ta              | 3.9                                     | HF                       |                   |                    | 1262                              |
| SSeTa (See Table 3)                                |   |                          |                   |                    |                                   |
| SSn  |   |                          |                   | 1.28               | 011                               |
| S <sub>3</sub> SnTa                                | 2.96-2.84                               |                          | TET               |                    | 1150#                             |
| S <sub>2</sub> Ta                                  | 0.8                                     |                          | HEX               |                    | 1918 1192<br>1128 1027<br>797 675 |
| S <sub>2</sub> Ta                                  | 1.6, 1.99-1.82,<br>~3.6                 |                          | HEX               |                    | 796# 778<br>1871 1128             |
| S <sub>2</sub> Ta                                  | 0.6-0.80<br>1.3-2.1(Vapor<br>transport) |                          |                   |                    | 797                               |
| S <sub>2</sub> Ta(See Table 3)                     |   |                          |                   |                    |                                   |
| S <sub>2</sub> Ta <sub>1-0</sub> Ti <sub>0-1</sub> |   |                          |                   |                    | 1992#                             |
| S <sub>2</sub> TaW (See Table 3)                   |   |                          |                   |                    |                                   |
| STi  |   |                          |                   | 1.0                | 1191                              |
| S <sub>2</sub> Ti (See Table 3)                    |   |                          |                   |                    |                                   |
| STi <sub>2</sub>                                   |   |                          |                   | 1.3                | 084                               |
| SV <sub>3</sub> (Room temp. phase)                 |   |                          |                   | 1.13               | 1582 711                          |
| S <sub>2</sub> W                                   |   |                          | HEX               | 1.25               | 1918                              |
| SW <sub>2</sub>                                    |   |                          |                   | 1.3                | 084                               |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                 | $T_c$ (K)  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.             |
|--|--|-----------------|-------------------|-----------|-------------------|
| $S_2W$ (See Table 3)                     |  |                 |                   |           |                   |
| SY                                       | 1.9-1.3  |                 | B1                |           | 1219              |
| $S_4Zr_{3.6-4.5}$                        | 4.5-2.5 (Max.)   |                 | B1                |           | 1659              |
| $S_{1.1}Zr$                              | 4.5-2.5 (Max.)<br>3.3 (Annealed)                       |                 | B1                |           | 1659              |
| $S_{1.1}Zr$ (20-160 kbar)                | 4-6.9  |                 |                   |           | 1659              |
| $S_2Zr$ (See Table 3)                    |  |                 |                   |           |                   |
| Sb                                       |  |                 | A7                | 0.152     | 103               |
| Sb(III)(85, 93, 100, ~150 kbar)          | 3.55, 3.52,<br>3.53, 3.40                              |                 |                   |           | 774 902           |
| Sb(Prepared at 120 kbar,<br>held at 77K) | 2.6-2.7  | HF              |                   |           | 520               |
| $Sb_{0.7}Sn_{0.3}$ ("Gun" Cooled)        | 2.85   |                 | CUB               |           | 1829              |
| SbSn                                     | 1.56   |                 | B1                |           | 1542# 470         |
| $Sb_{0.4}Sn_{0.6}$                       | 3.8  | Data given      |                   |           | 085               |
| $Sb_{0-0.08}Sn_{1-0.92}$                 | 2.64-3.96<br>-3.89                                     | 304-345         |                   |           | 036# 265          |
| $Sb_{0.05}Sn_{0.95}$ (Weight fraction)   | 3.75   | HF              |                   |           | 1917              |
| $Sb_{0-0.005}Sn_{1-0.995}$               | $T_c'$ (-0.034)  |                 |                   |           | 817               |
| $Sb_xSn_{1-x}$                           | $T_c'$ (-0.040<br>-0.018)                              | Data given      |                   |           | 1618 318# 320     |
| $Sb_{0.011}Sn_{0.989}$                   | 3.642  | 301.7           |                   |           | 1724#             |
| SbSn(See Table 4)                        |  |                 |                   |           |                   |
| $Sb_{1-0.1}SnTe_{0-0.9}$                 | 1.6-~1   |                 |                   |           | 1605              |
| SbSnTe(See Table 4)                      |  |                 |                   |           |                   |
| $SbTa_3$                                 | 0.72-0.59  |                 | A15               |           | 1015              |
| $Sb_2Ta$                                 |  |                 | MONO              | 0.30      | 1508 1584         |
| SbTe (See Table 4)                       |  |                 |                   |           |                   |
| $SbTe_2Tl$                               |  |                 | RHOMB             | 0.015     | 1139              |
| $Sb_2Ti$                                 |  |                 | C16               | 0.07      | 1377 1583         |
| $SbTi_3$                                 | 5.47, 5.8, 6.5   |                 | A15               |           | 1002# 173<br>1446 |
| $Sb_{0.25}Ti_{0.75}$                     | 7.2 Max.   |                 |                   |           | 1438              |
| $Sb_{0.12-0.31}Ti_{0.88-0.69}$           | 2.3-5.3-4.4<br>(Quenched)<br>2.0-6.5-5.8<br>(Annealed) |                 | A15               |           | 1002              |
| $SbTi_{0-3}V_{3-0}$                      | 6.5-0.8 (Quenched)<br>5.3-0.8 (Annealed)               |                 | A15               |           | 1002              |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                       | $T_c$ (K)               | $H_0$ (oersted) | Crystal Structure | $T_n$ (K)  | Refs.                           |
|--|-------------------------|-----------------|-------------------|------------|---------------------------------|
| Sb <sub>0.66</sub> Tl <sub>0.33</sub>          | 5.2                     |                 |                   |            | 085 087                         |
| Sb <sub>0.28</sub> Tl <sub>0.72</sub>          | 5.2                     |                 |                   |            | 111 089                         |
| Sb <sub>0-0.004</sub> Tl <sub>1</sub>          | $T_c^1 (-0.02+0.015)$   |                 |                   |            | 591                             |
| Sb <sub>x</sub> Tl <sub>1-x</sub>              | $T_c^1 (+0.21)$         |                 | Data given        |            | 858 1878                        |
| Sb <sub>2</sub> V                              |                         |                 | C16               | 0.06       | 1377                            |
| SbV <sub>3</sub>                               | 0.80                    |                 | A15               | 1.0        | 578 117 142<br>128 1002#<br>270 |
| Sb <sub>0.03</sub> V <sub>0.97</sub>           | 2.63                    |                 | A2                |            | 514# 572#                       |
| Sb <sub>0.01-0.03</sub> V <sub>0.99-0.97</sub> | 3.76-2.63               |                 | A2                |            | 514#                            |
| SbY  |                         |                 | B1                | 1.02       | 270 411                         |
| Sb <sub>2</sub> Zr                             |                         |                 |                   | 0.30       | 1504                            |
| Sb <sub>2</sub> Zr <sub>3</sub>                | 1.74                    |                 |                   |            | 270                             |
| Sb <sub>3</sub> Zr <sub>5</sub>                |                         |                 | D8 <sub>8</sub>   | 1.13       | 1582                            |
| Sc (P=0-160 kbar)                              |                         |                 |                   | 0.014      | 1994                            |
| Sc   |                         |                 | A3                | 0.032      | 744# 660 132<br>234 572#        |
| ScSe   |                         |                 | B1                | 0.33       | 1219                            |
| ScSi <sub>2</sub>                              |                         |                 |                   | 1.0        | 025                             |
| Sc <sub>0.01-0.6</sub> V <sub>0.99-0.4</sub>   | 5.5-7.04-6.8            | HF              |                   |            | 1698                            |
| Sc <sub>0.8</sub> Zr <sub>0.2</sub>            |                         |                 |                   | Data given | 744# 572#                       |
| Sc <sub>0.5</sub> Zr <sub>0.5</sub>            |                         |                 |                   | 0.022      | 744# 572#                       |
| Sc <sub>0.4</sub> Zr <sub>0.6</sub>            |                         |                 |                   | 0.04       | 744#                            |
| Sc <sub>0.25</sub> Zr <sub>0.75</sub>          |                         |                 |                   | Data given | 744# 572#                       |
| Sc <sub>0.2-0.1</sub> Zr <sub>0.8-0.9</sub>    |                         |                 |                   | 0.036      | 744# 572#                       |
| Sc <sub>0.07</sub> Zr <sub>0.93</sub>          | 0.08-0.04               |                 |                   |            | 744#                            |
| Sc <sub>0.05</sub> Zr <sub>0.95</sub>          | 0.11-0.08               |                 |                   |            | 744# 572#                       |
| Sc <sub>0.01</sub> Zr <sub>0.99</sub>          | 0.32-0.25,<br>0.17-0.12 |                 |                   |            | 744                             |
| Se   |                         |                 | A8                | 1.26       | 273                             |
| Se(II)(P=~130 kbar)                            | 6.75, 6.95              |                 |                   |            | 547                             |
| Se <sub>4</sub> Nb <sub>3</sub>                | 1.61                    |                 |                   |            | 711                             |
| Se <sub>2</sub> Ta(2s type)                    | 0.13-0.15, 0.2          |                 |                   |            | 797 796#<br>1027                |
| Se <sub>2</sub> Ta(3s type)                    | 0.16-0.22               |                 |                   |            | 797                             |
| Se <sub>2</sub> Ta (See Table 3)               |                         |                 |                   |            |                                 |
| SeTh   |                         |                 | B1                | 1.13       | 1582                            |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | T <sub>c</sub> (K)      | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.       |
|--|-------------------------|--------------------------|-------------------|--------------------|-------------|
| Se <sub>1.05</sub> Ti                                    |                         |                          | B8 <sub>1</sub>   | 1.13               | 1582        |
| Se <sub>8</sub> Ti <sub>5</sub>                          |                         |                          | Data given        | 1.13               | 1582        |
| Se <sub>2</sub> V  |                         |                          |                   | 1.0                | 675         |
| Se <sub>2</sub> V <sub>1+x</sub>                         |                         |                          |                   | 0.05               | 797         |
| Se <sub>2</sub> W (See Table 3)                          |                         |                          |                   |                    |             |
| Se <sub>4</sub> Y <sub>3</sub>                           |                         |                          | ORTHO             | 0.35               | 1965# 1370# |
| SeY  | 2.5-2.3                 |                          | B1                |                    | 1219        |
| Se <sub>4</sub> Zr <sub>3</sub>                          |                         |                          | RHOMB             | 1.13               | 1582        |
| Si   |                         |                          | A4                | 0.073              | 103 333     |
| Si   |                         |                          | CUB               | 0.33               | 303 305     |
| Si (P=120-130 kbar)                                      | 6.7, 7.1                |                          |                   |                    | 540 1068#   |
| Si <sub>1-0</sub> Sn <sub>0-1</sub> V <sub>3</sub>       | 16.5-<3.8-3.8<br>17.1-6 |                          | A15               |                    | 1369 1914   |
| Si <sub>1-0.75</sub> Sn <sub>0-0.25</sub> V <sub>3</sub> | 17-11                   |                          | A15               |                    | 1983        |
| Si <sub>3</sub> Sr <sub>2</sub>                          | ~0.55                   |                          | C <sub>c</sub>    |                    | 961         |
| Si <sub>2</sub> Sr                                       |                         |                          | CUB               | 0.32               | 961         |
| Si <sub>2</sub> Ta                                       |                         |                          |                   | 1.20               | 010 333 042 |
| Si <sub>0.4</sub> Ta <sub>0.6</sub>                      |                         |                          |                   | 1.20               | 010         |
| Si <sub>0.28</sub> Ta <sub>0.72</sub>                    |                         |                          |                   | 1.20               | 010         |
| Si <sub>0.16</sub> Ta <sub>0.84</sub>                    |                         |                          |                   | 1.20               | 010         |
| Si <sub>0.35</sub> Ta <sub>0.65</sub>                    |                         |                          | C16               | 010                | 1377        |
| SiTa <sub>3</sub>  |                         |                          | TET               |                    | 1958        |
| Si <sub>2</sub> Th( $\alpha$ )                           | 3.16                    |                          | C <sub>c</sub>    |                    | 010 042 474 |
| Si <sub>2</sub> Th( $\beta$ )                            | 2.41                    |                          | C32               |                    | 010 474     |
| Si <sub>2</sub> Th <sub>3</sub>                          |                         |                          | TET               | 0.1                | 927 010     |
| Si <sub>2</sub> Ti                                       |                         |                          | C54               | 1.20               | 010 042 522 |
| SiTi   |                         |                          |                   | 1.20               | 010 042     |
| Si <sub>3</sub> Ti <sub>5</sub>                          |                         |                          | D8 <sub>8</sub>   | 1.20               | 010 042 522 |
| SiTi <sub>0.15</sub> V <sub>2.85</sub>                   | 14.55                   |                          |                   |                    | 1976        |
| Si <sub>3</sub> U  |                         |                          | L1 <sub>2</sub>   | 1.3                | 1677#       |
| Si <sub>2</sub> U <sub>3</sub>                           |                         |                          | TET               | 0.1                | 927         |
| Si <sub>2</sub> U  |                         |                          | C <sub>c</sub>    | 0.35               | 270         |
| SiU <sub>3</sub>   |                         |                          | TET               | 1.10               | 021         |
| Si <sub>2</sub> V  |                         |                          |                   | 1.20               | 010         |
| Si <sub>0.4</sub> V <sub>0.6</sub>                       |                         |                          |                   | 1.20               | 010         |
| Si <sub>2</sub> V <sub>5</sub>                           |                         |                          | TET               | 0.35               | 270         |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)   | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.   |
|---|---|-----------------|-------------------|-----------|---|
| $\text{Si}_{0.38-0} \text{V}_{0.62-1}$  | 12, 5-16, 3-5,<br>16.7 Max. (As cast)<br>14-16, 6-7, 16.95<br>Max. (Annealed) |                 |                   |           | 479 1466 1059   |
| $\text{Si}_{0.3} \text{V}_{0.7}$  | 16.95   |                 | A15               |           | 707   |
| $\text{Si}_{0.279-0.0036} \text{V}_{0.721-0.996}$                             | 17.2-5.04   |                 | A15               |           | 1521 1469#  |
| $\text{Si}_{0.263} \text{V}_{0.737}$  | 15.8  |                 | A15               |           | 32  |
| $\text{Si}_{0.25} \text{V}_{0.75}$  | 17.1  |                 | A15               |           | 010 042 447<br>474 578 1945                                       |
| $\text{Si}_{0.25} \text{V}_{0.75}$  | 17.0  |                 | A15               |           | 707 323 010   |
| $\text{Si}_{0.25} \text{V}_{0.75}$  | 16.95-16.9  | HF              | A15               |           | 1073 645<br>1064 1164<br>310 1110<br>1075 877                     |
| $\text{Si}_{0.25} \text{V}_{0.75}$  | 16.86-16.8  | HF              | A15               |           | 880# 1013<br>1446 1013<br>1446 787<br>1101 010<br>1315# 316       |
| $\text{Si}_{0.25} \text{V}_{0.75}$  | 16.65-14.5  |                 | A15               |           | 707 1369 890<br>1217# 1066<br>572# 545<br>465# 447 317<br>128 042 |
| $\text{Si}_{0.25} \text{V}_{0.75}$ ( $P=0 \sim 18$ kbar)                      | 16.6-17.3   |                 | A15               |           | 1933 1342<br>094 1945   |
| $\text{Si}_{0.25} \text{V}_{0.75}$ ( $1000-10^5$ Å)                           | 14.85-16.95   | HF              | A15               |           | 1013 1079<br>$\nabla_{716} \nabla_{460}$<br>$\nabla_{1410}$       |
| $\text{Si}_{\sim 0.2 \sim 0.7}$ (with Al, B, Be, C, Ce, Cr, La, Mn, O, or Re) | 16.6-<14  |                 | A15               |           | 323   |
| $\text{Si}_{0.25} \text{V}_{0.65}$ (Ti, Zr, Nb, Mo, Cr or Ru) $_{0.1}$        |   |                 |                   |           | 042 010   |
| $\text{Si}_{0.15} \text{V}_{0.75}$ (Al, B, C or Ge) $_{0.1}$                  |   |                 |                   |           | 042 010   |
| $\text{Si}_{0.206} \text{V}_{0.794}$  | 14.5  |                 | A15               |           | 323   |
| $\text{Si}_{0.2} \text{V}_{0.8}$  | 7.51  |                 | A15               |           | 707   |
| $\text{Si}_{0.245-0.205} \text{V}_{0.755-0.795}$                              | 16-8.5  |                 | A15               |           | 1286  |
| $\text{Si}_{0.22} \text{V}_{0.78}$  | 14.38   |                 | A15               |           | 144   |
| $\text{Si}_{0.05-0} \text{V}_{0.95-1}$  | 2.95-5.2  |                 |                   |           | 1890#   |
| $\text{Si}_2 \text{W}$  |   |                 |                   | 1.20      | 010 042   |
| $\text{Si}_{0.4} \text{W}_{0.6}$  | 2.84  |                 |                   |           | 010 042 474   |
| $\text{Si}_2 \text{Y}$  |   |                 | C32               | 0.35      | 025 270   |
| $\text{Si}_{0.665} \text{Y}_{0.335}$  |   |                 | C <sub>c</sub>    | 0.1       | 808# 676#<br>572#   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material                                 | T <sub>c</sub> (K)     | H <sub>o</sub> (oersted)        | Crystal Structure | T <sub>n</sub> (K) | Refs.  |
|--|------------------------|---------------------------------|-------------------|--------------------|--|
| SiY                                      |                        |                                 |                   | 1.15               | 711  |
| Si <sub>2</sub> Zr                       |                        |                                 | C49               | 1.02               | 270 010 042  |
| SiZr                                     |                        |                                 |                   | 1.20               | 010  |
| Si <sub>0.45</sub> Zr <sub>0.55</sub>    |                        |                                 |                   | 1.20               | 010  |
| Si <sub>2</sub> Zr <sub>3</sub>          |                        |                                 | TET               | 0.1                | 927 010  |
| Si <sub>3</sub> Zr <sub>5</sub>          |                        |                                 | D8 <sub>8</sub>   | 1.1                | 262  |
| SiZr <sub>2</sub>                        |                        |                                 | C16               | 0.06               | 1377   |
| Si <sub>0.2</sub> Zr <sub>0.8</sub>      |                        |                                 |                   | 1.20               | 010  |
| Sm                                       |                        |                                 | RHOMB             | 0.37               | 291  |
| Sn                                       |                        |                                 | A4                | 0.1                | 363 104 108  |
| Sn                                       | 3.722                  | 305.5                           | A5                |                    | 579# 580 785<br>749# 814 804<br>1153 1724#<br>539 206 267<br>318 024 001#<br>180 320 345<br>580# 1267<br>1043 329<br>205 180 104<br>108 318 361<br>405 |
| Sn(II) (P=125, 160 kbar)                 | 5.2, 4.85              |                                 |                   |                    | 785  |
| Sn II                                    |                        | 400(240 kbar)<br>375 (270 kbar) |                   |                    | 785  |
| Sr (III) (P=113 kbar)                    | 5.30                   |                                 |                   |                    | 780  |
| Sn (P=0-32 kbar)                         | Data given             | 306-200                         |                   |                    | 829  |
| Sn (In porous media, 31Å, 39Å)           | 4.936, 4.248           | HF                              |                   |                    | 1642   |
| Sn (Whiskers, 10,000-30,000Å)            | 3.562-3.765            |                                 |                   |                    | 1448 1546  |
| Sn (Whiskers, 1% elastic strain)         | 3.5-4.0                | 350-390                         |                   |                    | 1335   |
| Sn (Whiskers, 1.7% strain)               | T <sub>c</sub> (+0.45) |                                 |                   |                    | 974  |
| Sn (650-2000Å), grain size,<br>100-600Å) | 2.84-4.66              | HF                              |                   |                    | ▽1967 ▽596<br>▽1062 ▽723<br>▽1645 ▽1229  |
| Sn (850, 1580, 3420Å)                    | 3.794, 3.847,<br>3.840 |                                 |                   |                    | ▽862   |
| Sn (Deposited at 4.2K)                   | 3.7-4.44               | HF                              |                   |                    | ▽1877  |
| Sn (Deposited at 2K)                     | 4.5<br>3.6 (Annealed)  |                                 |                   |                    | ▽1218  |
| Sn (<~200Å)                              | ~6 Max.                |                                 |                   |                    | ▽837   |
| Sn (~15-40Å)                             | 4.2-5.9-4.5            |                                 |                   |                    | ▽1259  |
| Sn (5400 and 8700Å, 10.400Å)             | 3.88, 3.90             |                                 |                   |                    | ▽1268  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)                  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K)                           | Refs.   |
|---|----------------------------|-----------------|-------------------|-------------------------------------|---|
| Sn(Other thin film studies)   |                            |                 |                   |                                     | $\nabla 296 \nabla 373$<br>$\nabla 379 \nabla 371$<br>$\nabla 516 \nabla 532$<br>$\nabla 734 \nabla 602$<br>$\nabla 757 \nabla 750$<br>$\nabla 1069 \nabla 366$<br>$\nabla 392 \nabla 294$<br>$\nabla 1516 \nabla 347$<br>$\nabla 332 \nabla 294$ |
| $\text{SnTa}_3$ (highly ordered)                                      | 8.35, 7                    | HF              | A15               | 581 1462                            |   |
| $\text{SnTa}_3$ (low order)   | 6.2                        | HF              | A15               | 581                                 |   |
| $\text{SnTa}_3$   | 5.6-6.4                    | HF              | A15               | 1446 1362<br>473 185 139<br>124 034 |   |
| $\text{Sn}_{0.26-0.1}\text{Ta}_{0.74-0.9}$                            | 7.2-<4.2                   |                 |                   | 581                                 |   |
| $\text{Sn}_{0.174-0.104}\text{Ta}_{0.826-0.896}$                      | 6.5-<4.2                   |                 |                   | 581                                 |   |
| $\text{Sn}_{0.25}\text{Ta}_{0.25}\text{V}_{0.5}$                      | 2.8                        |                 | A15               | 185 473                             |   |
| $\text{Sn}_{0.25}\text{Ta}_{0.5}\text{V}_{0.25}$                      | 3.7                        |                 | A15               | 473 185                             |   |
| $\text{Sn}_{0.35}\text{Te}_{0.65}$ ("Gun" cooled)                     | 1.9                        |                 | CUB               | 1829 813#                           |   |
| $\text{Sn}_{0.25}\text{Te}_{0.75}$ ("Gun" cooled)                     | 1.7                        |                 | CUB               | 1829                                |   |
| SnTe(See Table 4)   |                            |                 |                   |                                     |   |
| $\text{Sn}_3\text{Th}$  | 3.33                       |                 | L1 <sub>2</sub>   | 715                                 |   |
| $\text{SnTi}_3$   |                            |                 | DO <sub>19</sub>  | 1.02                                | 270   |
| $\text{Sn}_{1-0.997}\text{Tl}_{0-0.003}$                              | $T_c$ (-0.052)             |                 |                   |                                     | 1032  |
| $\text{Sn}_{1-0}\text{Tl}_{0-1}$                                      | 3.72-5.6-3.61-<br>5.2-2.37 |                 |                   |                                     | 088 089 1108  |
| $\text{Sn}_{0.65}\text{Tl}_{0.35}$ (Prepared at 15<br>kbar, 170-305C) | 6-7.1                      | HF              |                   |                                     | 900   |
| $\text{Sn}_{0.1}\text{Tl}_{0.9}$ (Deposited 0.3K)                     | 3.50<br>2.77(Aannealed)    |                 |                   |                                     | $\nabla 1900$   |
| $\text{Sn}_3\text{U}$   |                            |                 | L1 <sub>2</sub>   | 1.3                                 | 1677#   |
| $\text{Sn}_3\text{V}_2$   |                            |                 |                   | 1.15                                | 711   |
| $\text{SnV}_3$  | 3.8, 3.050                 |                 | A15               |                                     | 1369 1446<br>473 185  |
| $\text{SnV}_3$  | 7.0                        |                 | A15               |                                     | 128 117 124   |
| $\text{Sn}_{0.057-0.02}\text{V}_{0.943-0.98}$                         | $\sim 1.6-2.87$            |                 |                   |                                     | 514# 572#   |
| $\text{Sn}_{0.025-0}\text{V}_{0.975-1}$                               | 5.20-3.16                  |                 |                   |                                     | 1890#   |
| $\text{Sn}_3\text{Y}_5$   |                            |                 |                   | 1.4                                 | 863 711   |
| $\text{SnY}_2$  |                            |                 |                   | 1.15                                | 711   |
| $\text{Sn}_{1-x}\text{Zn}_x$  | $T_c$ (-0.037)             | Data given      |                   |                                     | 1618 318#   |
| $\text{Sn}_{0.91}\text{Zn}_{0.09}$ (Laminar period<br>studied)        | 3.668-3.722                |                 |                   |                                     | 726   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)   | $H_c$ (oersted)  | Crystal Structure | $T_n$ (K)   | Refs.   |
|--|---|------------------|-------------------|-------------|---|
| $\text{Sn}_{1-0}\text{Zn}_{0-1}$                   | Data given  |                  |                   | 081 105 070 |   |
| $\text{SnZr}_4$                                    | 0.92-0.79   |                  | A15               | 1015 572#   |   |
| Sr   |   |                  | A1                | 0.017       | 270 1214  |
| Sr(P=0~150 kbar)                                   |   |                  |                   | 1.2         | 781   |
| Sr(Deposited 4.2K, 100Å)                           | 3.6   | HF               |                   |             | ▽710  |
| Ta   | 4.463   | 831              | A2                |             | 713# 188#<br>176# 180<br>324 342 1513<br>1209 505 169<br>1781 244 180<br>001 024 1816<br>911 324 525<br>572# 1267<br>1248 342<br>1230 465#<br>371 375 |
| Ta(99.95%)   |   | HF               |                   |             | 510 1393  |
| Ta(215-110, 000Å)                                  | <1.7-4.25   | HF               |                   |             | ▽1249 ▽719<br>▽529 ▽505<br>▽1787 ▽393   |
| Ta(9000A, 1, 000A)                                 | 4.45, 4.51  |                  |                   |             | ▽1199   |
| Ta(200A, annealed 325C)                            | 3.06  |                  | A1                |             | ▽1787   |
| Ta(0.1-1% Xe)                                      | 1.48  |                  | A2                |             | ▽1526   |
| TaTe <sub>2</sub>                                  |   |                  |                   | 0.05        | 797 796# 675  |
| $\text{Ta}_{1-0.3}\text{Ti}_{0-0.7}$               | 4.48-8.8-7.2  | HF               | A2                |             | 1209 1797<br>441 522 466<br>299   |
| $\text{Ta}_{1-0.7}\text{Ti}_{0-0.3}$               | 4.3-6.5   | HF               |                   |             | 252   |
| $\text{Ta}_{0.9-0.7}\text{Ti}_{0.1-0.3}$           |   | HF               |                   |             | 289 299 321<br>429  |
| $\text{Ta}_{0.68-0.46}\text{Ti}_{0.32-0.54}$       | 8.02-8.26<br>(Annealed)<br>8.28-9.05<br>(Cold worked) |                  |                   |             | 1209 252  |
| $\text{Ta}_{0.52}\text{Ti}_{0.48}$                 | 7.86  | HF               |                   |             | 874 1391<br>1797  |
| $\text{Ta}_{0.05, 0.025}\text{Ti}_{0.95, 0.975}$   | 2.9-1.3   |                  | HEX               |             | 499   |
| $\text{Ta}_{0.63}\text{Ti}_{0.30}\text{Zr}_{0.07}$ |   | HF               |                   |             | 1391  |
| $\text{Ta}_{1-0}\text{V}_{0-1}$                    | 4.33-2.73-<br>5.17                                    | 769-573-<br>1336 |                   |             | 1307# 441   |
| $\text{Ta}_{0.75}\text{V}_{0.25}$                  | 2.65  |                  | A2                |             | 572#  |
| $\text{Ta}_{0.5}\text{V}_{0.5}$                    | 2.35  |                  | A2                |             | 572#  |
| $\text{TaV}_2$                                     |   |                  |                   | 1.5         | 1400#   |
| $\text{Ta}_{0.25}\text{V}_{0.75}$                  | 2.80  |                  | A2                |             | 572#  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> K                                 | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.   |
|---|--|--------------------------|-------------------|--------------------|---|
| Ta <sub>0.06-0</sub> V <sub>0.94-1</sub>                          | 4.46-5.24  |                          |                   |                    | 1704# 587#<br>572#                              |
| Ta <sub>0.5-0</sub> V <sub>1.5-2</sub> Zr                         | 8.8-9.3-8.5                                      |                          |                   |                    | 1323  |
| Ta <sub>0.05</sub> V <sub>2</sub> Zr <sub>0.95</sub>              | 8.9  |                          |                   |                    | 1652  |
| Ta <sub>1-0.8</sub> W <sub>0-0.2</sub>                            | 4.4-1.2  |                          | CUB               |                    | 253 441 572#                                    |
| Ta <sub>0.96-0.78</sub> W <sub>0.04-0.22</sub>                    | 3.30-1.36  |                          |                   |                    | 1816  |
| Ta <sub>1-0</sub> W <sub>0-1</sub> (Deposited 4.2K,<br>amorphous) | 1.6-3.5  |                          |                   |                    | ▽1325   |
| TaXe <sub>x</sub>   | 1.48   |                          |                   |                    | ▽1441   |
| Ta <sub>0.96</sub> Zr <sub>0.04</sub> (Various anneals)           | 5.7-5.0  |                          |                   |                    | 1790  |
| Ta <sub>0.2-0</sub> Zr <sub>0.8-1</sub>                           | 5.6-0.8(Discontinuity<br>at Ta <sub>0.15</sub> ) |                          |                   |                    | 1969  |
| Ta <sub>0.15</sub> Zr <sub>0.85</sub>                             | 4.3(quenched)<br>3.25(Aannealed)                 |                          |                   |                    | 1969  |
| Ta <sub>1-0.9</sub> Zr <sub>0-0.1</sub>                           |  | HF                       |                   |                    | 441   |
| Tb  |  |                          | A3                | 0.37               | 291   |
| Tc(RRR~100)   | 7.73, 7.77                                       | 1410, HF                 | A3                |                    | 1161# 1138<br>1147 1537<br>1161 712<br>1656 556 |
| Tc  | 7.46-9.3 11.2                                    | HF                       |                   |                    | 1180# 633<br>230 202 001<br>1336 615 102<br>163 |
| Tc(0-15 kbar)   | 8.0-7.8  |                          |                   |                    | 836   |
| Tc(>150-1600Å)  | 4.6-7.70   |                          | A3                |                    | ▽1685   |
| Tc(<150Å)   | 4.8-7  |                          | A1                |                    | ▽1685   |
| Tc <sub>0.44</sub> Th <sub>0.56</sub>                             | 5.3  |                          | C14               |                    | 1149  |
| Tc <sub>0.95</sub> V <sub>0.05</sub>                              | 10.99  | HF                       |                   |                    | 1138  |
| Tc <sub>0.9</sub> V <sub>0.1</sub>                                | 11.32  | HF                       |                   |                    | 1138  |
| Tc <sub>0.8</sub> V <sub>0.2</sub>                                | 11.24  | HF                       |                   |                    | 1138  |
| Tc <sub>0.75</sub> V <sub>0.25</sub>                              | 11.07  | HF                       |                   |                    | 1138  |
| Tc <sub>0.7</sub> V <sub>0.3</sub> (Annealing variations)         | 7-8.3<br>7-6.6                                   | HF                       |                   |                    | 1791 1138                                       |
| Tc <sub>0.7</sub> V <sub>0.3</sub> (Quick cool)                   | 6.41   | HF                       |                   |                    | 1138  |
| Tc <sub>0.65</sub> V <sub>0.35</sub>                              | 4.49   | HF                       |                   |                    | 1138  |
| Tc <sub>0.6</sub> V <sub>0.4</sub>                                | 4.17   |                          |                   |                    | 1138  |
| Tc <sub>0.5-0.2</sub> V <sub>0.5-0.8</sub>                        |  |                          |                   | 1.39               | 1138  |
| Tc <sub>0.1</sub> V <sub>0.9</sub>                                | 1.50   |                          |                   |                    | 1138  |
| Tc <sub>1-0.15</sub> W <sub>0-0.85</sub>                          | 8.35-10.4-3.3                                    |                          |                   |                    | 1337  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)                        | $H_c$ (oersted)      | Crystal Structure | $T_n$ (K)  | Refs.   |
|--|----------------------------------|----------------------|-------------------|------------|---|
| $Tc_{\sim 0.9}W_{\sim 0.1}$                                  | 10.4                             |                      |                   |            | 1337  |
| $Tc_{0.6, 0.5}W_{0.4, 0.5}$                                  | 7.88, 7.52                       | HF                   |                   |            | 524   |
| $Tc_{0.4-0.1}W_{0.6-0.9}$                                    | 7.18-1.25                        | HF                   | CUB               |            | 524   |
| $Tc_{0.05}W_{0.95}$  |                                  |                      | CUB               | $\sim 0.8$ | 524   |
| $Tc_6Zr$   | 9.7                              |                      | A12               |            | 202   |
| $Tc_2Zr$   | 7.6                              |                      | C14               |            | 1149  |
| Te   |                                  |                      | A8                | 0.05       | 1277 273  |
| Te(II)(P=40-70 kbar)   | 2.5-3.9                          |                      |                   |            | 1688  |
| Te(II)   | 2.05(43 kbar)<br>3.4(50 kbar)    | HF                   |                   |            | 909 1172 510  |
| Te(III)(P=68-80 kbar)  | 4.28-4.15                        |                      |                   |            | 909 1688  |
| Te(IV)(P=80-100 kbar)  | 4.3-3.3                          |                      |                   |            | 1688 909  |
| Te(P=100-260 kbar)   | 3.3-2.8                          |                      |                   |            | 1688  |
| Te (See Table 4)   |                                  |                      |                   |            |   |
| TeTh   |                                  |                      | B2                | 1.13       | 1582  |
| $Te_2Ti$   |                                  |                      |                   | 1.1        | 1583  |
| $Te_4Ti_3$   |                                  |                      |                   | 1.13       | 1582  |
| TeTi   |                                  |                      | B8 <sub>1</sub>   | 1.13       | 1582  |
| $Te_4Ti_5$   |                                  |                      |                   | 1.13       | 1582  |
| $Te_3Tl_5$   | 2.078, 2.14-<br>2.23             | HF                   |                   |            | 848 1440#<br>849  |
| $Te_{0.1}Tl_{0.9}$ (Deposited 4K,<br>$\sim 6000\text{\AA}$ ) | 4.2<br>$\sim 2.5$ (after anneal) |                      |                   |            | $\nabla 1932$   |
| $Te_3Tl_5$ (See Table 4)                                     |                                  |                      |                   |            |   |
| $Te_2V_{1+x}$  |                                  |                      |                   | 0.05       | 797 675   |
| $Te_3V_2$ (Room temp. phase)                                 |                                  |                      | MONO              | 1.13       | 1582  |
| $Te_2W$ (Room temp. phase)                                   |                                  |                      |                   | 0.3        | 1584  |
| TeY  | 1.5-2.05                         |                      | B1                | 1.02       | 1219 270  |
| $Te_3Zr$   |                                  |                      |                   | 1.13       | 1582  |
| Th(RRR=1200)   | 1.390                            | 159.1<br>(Ref. 1291) | A1                |            | 1123# 1571#<br>1561 1563<br>1488 1291<br>802# 001<br>151 135 504<br>1267 791<br>1182# 1361# |
| Th(P=60-~160 kbar)   | 0.7-0.64                         |                      |                   |            | 1488  |
| $ThTl_3$   | 0.87                             |                      | L1 <sub>2</sub>   |            | 715   |
| $Th_{1-0.7}Tm_{0-0.3}$                                       | 1.37-0.67                        |                      |                   |            | 768   |
| $Th_{1-x}U_x$  | 1.36-0.07                        |                      |                   |            | 951 1559  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

TAB

| Material                                   | T <sub>c</sub> (K)                                       | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K)  | Refs.                                      |                 |
|--|--|--------------------------|-------------------|---|--|-----------------|
| Th <sub>1-0.998</sub> U <sub>0-0.002</sub> | 1.360-0.304  | 137.1-77.0               |                   | 1563# 1226  |  | Ti <sub>0</sub> |
| ThU <sub>0.00075</sub>                     | 0.785  |                          |                   | 1227#   |  | Ti <sub>0</sub> |
| ThU <sub>0-0.0012</sub> (P=0~22 kbar)      | 1.36-0.55<br>(Lowers T <sub>c</sub> )                    |                          |                   | 1519 1227#  |  | Ti <sub>V</sub> |
| Th <sub>1-0.65</sub> Y <sub>0-0.35</sub>   | 1.28-1.64-1.53   |                          | A1                | 1182# 1361#   |  | Ti <sub>C</sub> |
| Th <sub>0.55-0</sub> Y <sub>0.45-1</sub>   | 1.2-1.8  |                          |                   | 234   |  | Ti <sub>C</sub> |
| Th <sub>0.5</sub> Y <sub>0.5</sub>         | 1.25   |                          |                   | 234   |  | Ti <sub>C</sub> |
| Th <sub>0.4-0</sub> Y <sub>0.6-1</sub>     |  |                          | HEX               | 1.2   | 1361 1182#                                 | Ti <sub>C</sub> |
| Th <sub>2</sub> Zn                         | 0.67   |                          | C16               |   | 1377                                       | Ti <sub>C</sub> |
| Ti   | 0.40   | 56                       | A3                | 253 490# 001<br>192 166 167<br>168 1002#<br>759# 1691<br>1071# 1061#<br>572# 554#<br>477# 130 |  | Ti              |
| Ti   | 2-3  |                          | A2                | 1691  |  |                 |
| Ti(w)(120 kbar, 300K, low oxygen)          |  |                          | HEX               | 0.06  | 1691 007<br>1712                           |                 |
| Ti(99.92%)                                 | 0.14   | HF                       |                   |   | 523 688                                    |                 |
| Ti(Deposited 100-400°C,<br>100-7000Å)      | 1.3 Max.   |                          |                   | 1.3   | 1273 619                                   |                 |
| Ti(0.1-1% Xe)                              | 2.52   |                          | A3                |   | 1526                                       |                 |
| Ti <sub>4</sub> Tl                         |  |                          | A15               | 0.35  | 980  |                 |
| TiU <sub>2</sub>                           |  |                          | C32               | 1.06  | 021 522                                    |                 |
| Ti <sub>1-0.85</sub> V <sub>0-0.15</sub>   | 0.6-4.4<br>0.6-6.6(Aannealed)                            |                          | HEX               |   | 301 274                                    |                 |
| Ti <sub>0.975</sub> V <sub>0.025</sub>     | 1.4  |                          | HEX               |   | 499  |                 |
| Ti <sub>0.96</sub> V <sub>0.04</sub>       | 2.7  |                          |                   |   | 477# 554#<br>572#                          |                 |
| Ti <sub>0.9</sub> V <sub>0.1</sub>         | 6.3  |                          |                   |   | 253  |                 |
| Ti <sub>0.85-0</sub> V <sub>0.15-1</sub>   | 7.5-2.3  | HF                       | CUB               |   | 253 572#<br>130 330#<br>838 218 289<br>399 |                 |
| Ti <sub>0.775</sub> V <sub>0.225</sub>     | 4.7  | 1100, HF                 |                   |   | 584 616                                    |                 |
| Ti <sub>0.76</sub> V <sub>0.24</sub>       | 4.382 (Quenched)<br>3.875 (Annealed)<br>5.089 (Annealed) |                          |                   |   | 1861                                       |                 |
| Ti <sub>0.75</sub> V <sub>0.25</sub>       | 5.3  | 1940, HF                 |                   |   | 584 616                                    |                 |
| Ti <sub>0.7</sub> V <sub>0.3</sub>         | 6.14   |                          |                   |   | 514#                                       |                 |
| Ti <sub>0.615</sub> V <sub>0.385</sub>     | 7.07   | HF                       |                   |   | 600  |                 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | $T_c$ (K)                          | $H_o$ (oersted) | Crystalline Structure | $T_n$ (K) | Refs.  |
|---|------------------------------------|-----------------|-----------------------|-----------|--|
| $Ti_{0.6}V_{0.4}$   | 7.0                                | HF              |                       |           | 878  |
| $Ti_{0.516}V_{0.484}$                                     | 7.20                               | HF              |                       |           | 600  |
| $TiV$   | 6.09                               | HF              |                       |           | 466 455 522<br>195 130   |
| $Ti_{0.5-0}V_{0.5-1}$                                     | 6.7-5.3                            | 1250-1050       |                       |           | 314  |
| $Ti_{0.42}V_{0.58}$                                       | 7.52, 7.49                         | HF              |                       |           | 874 600  |
| $Ti_{0.4-0}V_{0.6-1}$                                     | 7.5-5.2                            | HF              | A2                    |           | 441#   |
| $Ti_{0.12}V_{0.88}$                                       |                                    | HF              |                       |           | 688  |
| $Ti_{0.09-0.03}V_{0.91-0.97}$                             |                                    | HF              |                       |           | 688  |
| $Ti_{0.013}V_{0.987}$                                     | 12.8                               |                 |                       |           | ▽1956  |
| $Ti_{0-0.8}V_{1-0.2}(-3000\text{\AA})$                    | 5.3-12.8--6                        |                 |                       |           | ▽1956  |
| $Ti_{0.33}V_{0.33}Zr_{0.33}$                              | 6.6 Max.                           |                 |                       |           | ▽1438  |
| $Ti_{0.17}V_{0.5}Zr_{0.33}$                               | 7.6 Max.                           |                 |                       |           | ▽1438  |
| $TiXe_x$  | 2.52                               |                 |                       |           | ▽1441  |
| $TiZn_2$  |                                    |                 | C14                   | 1.02      | 270  |
| $Ti_{0.8}Zr_{0.2}$  |                                    |                 | HEX                   | 1.0       | 253 572#   |
| $Ti_{0.66}Zr_{0.33}$                                      | 1.36                               |                 | HEX                   |           | 253  |
| $Ti_{0.5}Zr_{0.5}$  | 1.23 (Annealed)<br>2.0 (quenched)  |                 |                       |           | 477  |
| $Ti_{0.5}Zr_{0.5}$  | 1.65, 1.60, 1.57                   |                 |                       |           | 1061# 759#<br>253 572#   |
| $Ti_{0.33}Zr_{0.66}$                                      | 1.35                               |                 | HEX                   |           | 253  |
| $Ti_{0.25}Zr_{0.75}$                                      |                                    |                 |                       |           | 572#   |
| $Ti_{0.18}Zr_{0.82}$                                      | 1.03                               |                 | HEX                   |           | 253  |
| $Ti_{0.1}Zr_{0.9}$  |                                    |                 | HEX                   | 1.0       | 253  |
| Tl( $\alpha$ )  | 2.38                               | 176.5           | A3                    |           | 527# 1378<br>1145 760<br>001# 024<br>1155 1267<br>1308 1923#<br>1156 |
| Tl( $\beta$ )   | 2.332                              | 181             | A2                    |           | 1378   |
| Tl (In porous media, ~100-<br>~32-~22 $\text{\AA}$ pores) | $T_c^{\prime}(0, +0.21, +$<br>0.17 |                 |                       |           | 1614   |
| Tl (In porous media, 32, 58 $\text{\AA}$ )                | 2.649, 2.612                       | HF              |                       |           | 1642   |
| Tl (P=0-27 kbar)  | $T_c^{\prime}(+0.02-0.25)$         |                 |                       |           | 998  |
| Tl (35 kbar)  | 1.95                               |                 | A3                    |           | 641#   |
| Tl (35 kbar)  | 1.45                               |                 | A1                    |           | 641#   |
| Tl (25-48 kbar)   | 1.38-1.5                           |                 |                       |           | 641  |
|   |                                    |                 |                       |           | ▽1900  |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)                        | $H_o$ (oersted) | $T_n$ (K)       | Refs.   |
|--|----------------------------------|-----------------|-----------------|---|
| Tl(Deposited 0.3K, 100-500Å)                         | 2.96<br>2.40<br>(after 300-330K) |                 |                 | ▽1900   |
| Tl(Deposited 4K, 2900Å)                              | 2.33-2.9                         | HF              |                 | ▽1925 ▽1932<br>▽1877 ▽220<br>▽376 ▽1069   |
| Tl(In Ne, Xe, 150Å, deposited ~80K)                  | 2.6                              |                 |                 | ▽1069   |
| Tl(<100Å at 105K)                                    | 2.64<br>2.72(Oxidized)           |                 |                 | ▽1229<br>▽1062  |
| Tl <sub>1-0.7</sub> Sb <sub>0-0.3</sub>              | 2.905-~5.3-<br>4.198             | HF              |                 | 1378  |
| TlV <sub>3</sub>                                     |                                  |                 | A15             | 4.2 825   |
| Tl <sub>3</sub> V                                    | 1.52                             |                 | L1 <sub>2</sub> | 715   |
| Tl <sub>0.9988</sub> Zn <sub>0.0012</sub>            | T <sub>c</sub> '(+~0.002)        | Data given      |                 | 1095 1108   |
| Tl <sub>0.9</sub> Zn <sub>0.1</sub> (Deposited 0.3K) | 3.63<br>2.60(after<br>300-330K)  |                 |                 | ▽1900   |
| TlZr <sub>4</sub>                                    |                                  |                 | A15             | 0.35 980  |
| Tm   |                                  |                 | A3              | 0.35 270  |
| U(α)   |                                  |                 | A20             | 0.1 1487 802#<br>1152 724 701<br>703 702 698<br>504 177# 027<br>157 001 021<br>1252 1779<br>629 |
| U(10 kbar)   | 2.1, 2.4                         |                 |                 | 1487 1495<br>1416 879 724<br>570  |
| U(10, 40, 70, 85 kbar)                               | 2.1, 1.3,<br>0.8, 0.4            |                 |                 | 1487 879  |
| U(90-160 kbar)                                       |                                  |                 | 0.35            | 1487  |
| U(2, 12, 24 kbar)(α)                                 | 1, 2.4, 1.5                      |                 |                 | 1495  |
| U(1, 9 kbar)   | 0.2, 2.0                         | HF              |                 | 1416  |
| U <sub>0.37-0.14</sub> Zr <sub>0.63-0.86</sub>       |                                  |                 | 1.00            | 134 021   |
| V(RRR=430)   | 5.43                             | 1408, HF        | A2              | 1162 1719<br>742# 788<br>572# 1935<br>1549  |
| V(RRR=140, 150)                                      | 5.37, 5.38                       | HF              | A2              | 1639 742#<br>572# 525   |
| V(RRR=33, -)   | 5.1-5.31                         | 1020, HF        | A2              | 548 1979 578<br>366 917# 617<br>001 1515<br>1002#   |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material  | T <sub>c</sub> (K)  | H <sub>o</sub> (oersted) | Crystal Structure | T <sub>n</sub> (K) | Refs.  |
|---|---|--------------------------|-------------------|--------------------|--|
| V   | 4.59-5.06   | 1310, HF                 | A2                |                    | 917# 024#<br>016 130 572#<br>001# 1106<br>548 157  |
| V(5000Å, 11,000Å)                                   | 5.14, 6.02  | HF                       |                   |                    | ▽1199 ▽1444  |
| V   | 1.8-4.8   |                          |                   |                    | ▽297 ▽313  |
| V (See Table 3)                                     |   |                          |                   |                    |  |
| V(0.1-1% Xe)  |   |                          |                   | 1.1                | ▽1526 ▽1441  |
| V(P=0-24 kbar)                                      | 5.47-~5.6   |                          |                   |                    | 1248 727   |
| V(RRR=285, P=0-250 kbar)                            | 5.5-7.15  |                          |                   |                    | 1690   |
| VZr <sub>3</sub>                                    |   |                          | L1 <sub>2</sub>   | 1.02               | 270  |
| V <sub>0.1-0.9</sub> Zr <sub>0.9-0.1</sub>          | 6.5-8.3-7.6   | HF                       |                   |                    | 889 1981   |
| V <sub>0.7</sub> Zr <sub>0.3</sub>                  | 8.6   |                          | C15               |                    | 1189   |
| V <sub>2</sub> Zr                                   | 8.5, 8.2  |                          | ORTHO             |                    | 1323 1400#<br>1306   |
| V <sub>2</sub> Zr                                   | 8.8, 9  | HF                       | C15               |                    | 173 1189<br>1981   |
| V <sub>0.6</sub> Zr <sub>0.4</sub>                  | 8.3   |                          |                   |                    | 889  |
| V <sub>0.4</sub> Zr <sub>0.6</sub>                  | ~7.8  | HF                       |                   |                    | 889 678  |
| V <sub>0.09-0.06</sub> Zr <sub>0.91-0.94</sub>      | 7.0-~4.2  | HF                       |                   |                    | 1306   |
| W(RRR=57,000)                                       | 0.0154  | 1.15                     | A2                |                    | 887# 1494#<br>840# 1830<br>882# 493#<br>526 572#<br>179# 103 033   |
| W(~2000Å, ~20-310Å)<br>(Function of oxygen content) | 3.1-3.3<br>1.7-4.1<br><1.0-3.2                                      | HF                       | A15               |                    | ▽671 ▽1397<br>▽1042 ▽921<br>▽541 ▽503  |
| W(with 0.1-1% Ne, Ar, Kr, Xe)                       | 3.02, 3.7, 4.2, 5.5   |                          | A2                |                    | ▽1526 ▽1441  |
| W <sub>2</sub> Zr                                   |   |                          | C15               | 0.033              | 1988 1586<br>956 173 956   |
| W <sub>0.04-0.8</sub> Zr <sub>0.96-0.2</sub>        | 2.9-3.9-2.0<br>(Sharp dip of T <sub>c</sub> at W <sub>0.669</sub> ) |                          | CUB               |                    | 956  |
| Xe <sub>x</sub> Y                                   |   |                          |                   | 1.1                | ▽1441  |
| Xe <sub>x</sub> Zr                                  | 4.0   |                          |                   |                    | ▽1441  |
| Y   |   |                          | A3                | 0.005              | 1367 1361#<br>1350# 1182#<br>781 660 472<br>023 132 234<br>972 812#<br>808# 676#<br>572# 465#<br>234 179 |

TABLE 2 (Cont'd). Properties of Superconductive Materials

| Material   | $T_c$ (K)  | $H_o$ (oersted) | Crystal Structure | $T_n$ (K) | Refs.  |
|--|--|-----------------|-------------------|-----------|--|
| Y(Sputtered, 0.1-1% Xe)  |  |                 | A3                | 1.1       | ▽1526  |
| Y(110-125-160 kbar, 99.9%, RRR≈8)                                    | 1.3, 2.3-1.7-2.5                                     |                 |                   |           | 472 781 612  |
| Y(0-110 kbar)  |  |                 |                   | 0.1       | 472  |
| YZn  |  |                 | B2                | 0.33      | 658  |
| $Y_{0.5-0}Zr_{0.5-1}$ (Deposited 4.2K, amorphous)                    | 1.5-3  |                 |                   |           | ▽1325  |
| Yb   |  |                 | A1                | 0.35      | 270 291 339<br>235 1338  |
| Yb(RRR=100)  |  |                 | A3                | 0.015     | 1338#  |
| Zn(99.9999%)   | 0.857  | 54.1            | A3                |           | 1475 1778#<br>1835 1000<br>1604 1256<br>001 506#<br>236 390 156#<br>1609 829 024<br>1267 1061#<br>820# |
| Zn(P=0-26.5 kbar)  | 0.87-0.33  | 55-19           |                   |           | 829  |
| Zn(~30Å->1000Å)  | ~1.9, 1.70-1.27                                      |                 |                   |           | ▽1860 ▽837   |
| Zn(Deposited <2K)  | 1.31-1.48<br>(Disordered)<br>0.77-0.84<br>(Annealed) |                 |                   |           | ▽1310 ▽1467  |
| $Zn_2Zr$ (Ta impurity)   |  |                 | C15               | 0.1       | 741  |
| Zr( $\alpha$ )   | 0.7, 0.6, 0.66,<br>0.52                              | 47              | A3                |           | 549 253 1817<br>744# 551<br>001# 1558<br>1061#   |
| Zr( $\alpha$ )   | 0.75, 1.1, 0.487                                     |                 |                   |           | 032 1558<br>1691 572#<br>972# 956  |
| Zr( $\beta$ )(Induced by P>60 kbar, low-O <sub>2</sub> , metastable) | 0.72, 0.95, 0.65                                     |                 | HEX               |           | 1817 1691<br>549   |
| Zr( $\gamma$ )(P=60-~130 kbar)                                       | 1-1.7  |                 | HEX               |           | 1817 956   |
| Zr(Deposited 100-400C, >1500Å)                                       | ~1.3   |                 |                   |           | ▽1273  |
| Zr(0.1-1% Xe)  | 4.0  |                 | A3                |           | ▽1526  |

TABLE 3. Properties of Superconductive Materials with Organic and Related Constituents  
NOTE: "HF" Signifies high-magnetic-field data in Table 5.

| Material   | $T_c$ (K)                      | $H_o$<br>(oersted) | Crystal<br>Structure | $T_n$ (K) | Refs.              |
|--|--------------------------------|--------------------|----------------------|-----------|--------------------|
| Al (and tetracyanoquino-dimethan)  | 2.7-5.24<br>1.9-3.7 (annealed) |                    |                      |           | v1078              |
| Be (with KCl layers; deposit 4.2K)   | 10.6-6.5                       |                    |                      |           | v1028              |
| Be (with zinc-etioporphyrin; deposit 4.2K; $\geq 500\text{ \AA}$ )   | 10.2                           |                    |                      |           | v1028              |
| $\text{CaH}_{10}\text{N}_6$  |                                |                    |                      | 1.9       | 010                |
| $\text{H}_{12}\text{LiN}_4$  |                                |                    |                      | 1.9       | 010                |
| In (with Anthraquinone, 5000 $\text{\AA}$ )  | 3.4-4.6                        |                    |                      |           | v1076 v1528        |
| $\text{MoS}_2\text{Ba}_{0.2}(\text{NH}_3)_x$   | 5.7                            |                    | HEX                  |           | 1918               |
| $\text{MoS}_2\text{Ca}_{0.2}(\text{NH}_3)_x$   | 3.6                            |                    | HEX                  |           | 1918               |
| $\text{MoS}_2\text{Sr}_{0.01-1}(\text{NH}_3)_{0.01-1.62}$  | 5.2-4.9                        |                    |                      |           | 1918               |
| $\text{MoS}_2\text{Yb}_{0.1}(\text{NH}_3)_{0.16}$  | 2.4                            |                    | HEX                  |           | 1918               |
| $\text{MoSe}_2\text{Sr}_{0.2}(\text{NH}_3)_x$  | 5.0                            |                    | HEX                  |           | 1918               |
| NS   | 0.26                           |                    |                      |           | 1986 1975#         |
| $\text{NbS}_2$ (Ammonia)   | 2.0                            |                    | HEX                  |           | 1192               |
| $\text{NbS}_2$ (Aniline)?  | 4.0                            |                    | HEX                  |           | 1192               |
| $\text{NbS}_2$ (S-collidine) $_{0.17}$   | 3.5                            |                    | HEX                  |           | 1192               |
| $\text{NbS}_2$ (pyridine) $_{0.5}$   | 4.0                            |                    | IIEK                 |           | 1192 1027          |
| $\text{NbS}_2$ (tributylphosphine) $_{0.125}$  | 3.5                            |                    | HEX                  |           | 1192               |
| $\text{Nb}_3\text{Sn}$ (with $\text{CO}_2$ , CO, $\text{CH}_3$ , $\text{N}_2$ , $\text{O}_2$ , ammonium, boron trichloride, ethane, hydrogen sulfide, nitrogen oxide, propane) |                                | HF                 |                      |           | 1169 1168<br>v1437 |
| $\text{PdTe}_2$ (pyridine) $_{0.5}$  | 1.65                           |                    |                      |           | 1027               |
| $\text{S}_{2-1}\text{Se}_{0-1}\text{Ta}$ (pyridine) $_{0.5}$   | 0.8-3.3-1.6                    |                    | HEX                  |           | 1910               |
| $\text{S SeTa}$ (pyridine)   | 1.5                            | HF                 | HEX                  |           | 1262               |
| $\text{S}_2\text{Ta}$ (2-aminopyridine) $_{0.53}$  | 3.25                           |                    | HEX                  |           | 1128               |
| $\text{S}_2\text{Ta}$ (4-aminopyridine) $_{0.51}$  | 3.4                            |                    | HEX                  |           | 1128               |
| $\text{S}_2\text{Ta}$ (ammonia)  | 4.2                            |                    | HEX                  |           | 1192               |
| $\text{S}_2\text{Ta}$ (ammonium acetate)   | 2.0                            |                    | HEX                  |           | 1192               |
| $\text{S}_2\text{Ta}$ (ammonium hydroxide)   | 3.3                            |                    | HEX                  |           | 1192               |
| $\text{S}_2\text{Ta}$ (amyllamine)   | 2.2                            |                    |                      |           | 1192               |
| $\text{S}_2\text{Ta}$ (aniline)  | 3.1                            |                    | HEX                  |           | 1192               |
| $\text{S}_2\text{Ta}$ (aniline) $_{0.75}$  | 3.1                            |                    | HEX                  |           | 1192               |

TABLE 3 (Cont'd.). Properties of Superconductive Materials with Organic and Related Constituents  
NOTE: "HF" Signifies high-magnetic-field data in Table 5.

| Material  | $T_c$ (K)    | $H_o$<br>(oersted) | Crystal<br>Structure | $T_n$ (K) | Refs. |
|---|--------------|--------------------|----------------------|-----------|-------|
| $S_2Ta$ (barium hydrate)<br>$_{0.15}$               | 3.74         | 150                | HEX                  | 1845      |       |
| $S_2Ta$ (butylamine)                                | 2.5          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (butyramide)                                | 3.1          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (calcium<br>(0.3) <sup>hydrat</sup> e)      | 3.47         |                    |                      | 1770 1845 |       |
| $S_2Ta$ (calcium<br>(0.15) <sup>hydrat</sup> e)     | 3.47         | 130                | HEX                  | 1845      |       |
| $S_2Ta$ (cesium<br>(0.3) <sup>hydrat</sup> e)       | 2.75, 2.80   | 110                | HEX                  | 1845 1770 |       |
| $S_2Ta$ (cesium hydroxide)                          | 3.8          |                    | HEX                  | 1192      |       |
| $S_2Ta$ ( <i>s</i> -collidine)<br>$_{0.17}$         | 2.0, 1.95    |                    | HEX                  | 1192 1871 |       |
| $S_2Ta$ (2,6-diaminopyri-<br>dine)<br>$_{0.53}$     | 3.50         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (2-dimethylamino-<br>pyridine)<br>$_{0.32}$ | 3.15         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (4-dimethylamino-<br>pyridine)<br>$_{0.34}$ | 2.30         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (N,N-dimethylaniline)                       | 4.3          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (2,6-dimethylpyri-<br>dine)<br>$_{0.20}$    | 2.15         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (4,4'-dipyridyl)                            | 2.5          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (ethylamine)                                | 3.3          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (2 ethylpyridine)<br>$_{0.29}$              | 3.0          |                    | HEX                  | 1128      |       |
| $S_2Ta$ (3-ethylpyridine)<br>$_{0.29}$              | 4.50         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (4-ethylpyridine)<br>$_{0.33}$              | 2.95         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (hexanamide)                                | 3.1          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (hydrazine)                                 | 4.7          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (hydrogen)<br>$_{0.0-0.87}$                 | 0.8-4.2-<0.5 |                    |                      | 1871      |       |
| $S_2Ta$ (2-isopropylpyri-<br>dine)<br>$_{0.25}$     | 3.80         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (4-isopropylpyri-<br>dine)<br>$_{0.28}$     | 2.82         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (isoquinoline)                              | 2.5          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (lithium hydrate)<br>$_{0.3}$               | 3.83         | 170                | HEX                  | 1845      |       |
| $S_2Ta$ (lithium hydroxide)                         | 4.5          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (methylamine)                               | 4.2          |                    | HEX                  | 1192      |       |
| $S_2Ta$ (2-methylpyridine)<br>$_{0.34}$             | 2.95         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (3-methylpyridine)<br>$_{0.33}$             | 2.95         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (4-methylpyridine)<br>$_{0.33}$             | 2.70         |                    | HEX                  | 1128      |       |
| $S_2Ta$ (octadecylamine)                            | 3.0          |                    | HEX                  | 1192      |       |

TABLE 3 (Cont'd). Properties of Superconductive Materials with Organic and Related Constituents  
 NOTE: "HF" Signifies high-magnetic-field data in Table 5.

| Material  | $T_c$ (K) | $H_o$<br>(oersted) | Crystal<br>Structure | $T_n$ (K) | Refs.     |
|---|-----------|--------------------|----------------------|-----------|-----------|
| $S_2Ta$ (pentadecylamine)                           | 2.8       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (p-phenylenediamine)                        | 3.3       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (p-phenylenediamine) <sub>0.25</sub>        | 2.9       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (2-phenylpyridine) <sub>0.255</sub>         | 3.15      |                    | HEX                  |           | 1128      |
| $S_2Ta$ (4-phenylpyridine) <sub>0.26</sub>          | 1.6       |                    | HEX                  |           | 1128      |
| $S_2Ta$ (picoline) <sub>0.34</sub>                  | 2.70      |                    | HEX                  |           | 1871      |
| $S_2Ta$ (potassium formate)                         | 4.7       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (potassium <sub>(0.3)</sub> hydrate)        | 5.25      | 230                | HEX                  |           | 1845 1770 |
| $S_2Ta$ (potassium hydroxide)                       | 5.3       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (propylamine)                               | 3.0       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (4-propylpyridine) <sub>0.25</sub>          | 2.75      |                    | HEX                  |           | 1128      |
| $S_2Ta$ (2-propylpyridine) <sub>0.245</sub>         | 2.85      |                    | HEX                  |           | 1128      |
| $S_2Ta$ (pyridine) <sub>0.5</sub>                   | 3.5       | HF                 | HEX                  |           | 1192 1027 |
| $S_2Ta$ (pyridine) <sub>0.5</sub>                   | 3.55      |                    | HEX                  |           | 1128 1871 |
| $S_2Ta$ (pyridine) <sub>0.5</sub>                   | 3.25      | HF                 |                      |           | 1262 1430 |
| $S_2Ta$ (pyridine-N-oxide)                          | 2.5       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (pyridinium chloride)                       | 3.1       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (quinoline)                                 | 2.8       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (rubidium <sub>(0.3)</sub> hydrate)         | 4.40      | 210                | HEX                  |           | 1845 1770 |
| $S_2Ta$ (rubidium hydroxide)                        | 4.3       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (septadecylamine)                           | 2.7       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (sodium <sub>(0.3)</sub> hydrate)           | 5.41      | 250                | HEX                  |           | 1845 1770 |
| $S_2Ta$ (sodium hydroxide)                          | 4.8       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (stearamide)                                | 3.1, 3.0  |                    | HEX                  |           | 1192      |
| $S_2Ta$ (strontium <sub>(0.2)</sub> ammonium)       | 2.8       |                    | HEX                  |           | 1918      |
| $S_2Ta$ (strontium <sub>(0.15)</sub> hydrate)       | 4.03      | 190                | HEX                  |           | 1845      |
| $S_2Ta$ (tetradecylamine)                           | 2.4       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (N,N,N',N'-tetramethyl-p-phenylene-diamine) | 2.9       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (thiobenzamide)                             | 3.3       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (tributylamine)                             | 3.0       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (tributylphosphine) <sub>0.125</sub>        | 2.0       |                    | HEX                  |           | 1192      |
| $S_2Ta$ (tridecylamine)                             | 2.5       |                    | HEX                  |           | 1192      |

TABLE 3 (Cont'd.). Properties of Superconductive Materials with Organic and Related Constituents  
NOTE: "HF" Signifies high-magnetic-field data in Table 5.

| Material  | $T_c$ (K) | $H_o$<br>(oersted)             | Crystal<br>Structure | $T_n$ (K) | Refs. |
|---|-----------|--------------------------------|----------------------|-----------|-------|
| $S_2Ta$ (2,4,6-trimethyl-pyridine) <sub>0.165</sub> | 1.95      |                                | HEX                  | 1128      |       |
| $S_2Ta$ (triton B)                                  | 5.0       |                                | HEX                  | 1192      |       |
| $S_2Ta$ (valeramide)                                | 2.9       |                                | HEX                  | 1192      |       |
| $S_2Ta_{0.8}W_{0.2}$ (s-collidine) <sub>0.17</sub>  | 2.0       |                                | HEX                  | 1192      |       |
| $S_2Ta_{0.3}W_{0.7}$ (s-collidine) <sub>0.17</sub>  |           |                                |                      | ~0.4      | 1192  |
| $S_2Ti$ (ammonia)                                   |           |                                | HEX                  | 0.3       | 1192  |
| $S_2Ti$ (aniline)                                   |           |                                | HEX                  | 0.3       | 1192  |
| $S_2Ti$ (s-collidine) <sub>0.17</sub>               |           |                                | HEX                  | 0.3       | 1192  |
| $S_2Ti$ (pyridine) <sub>0.5</sub>                   |           |                                | HEX                  | 0.3       | 1192  |
| $S_2Ti$ (tributylphosphine) <sub>0.125</sub>        |           |                                | HEX                  | 0.3       | 1192  |
| $S_2W$ (strontium (0,2) ammonium)                   | 3.5       |                                | HEX                  | 1918      |       |
| $S_2W$ (ytterbium (0,4) ammonium)                   | 2.2       |                                | HEX                  | 1918      |       |
| $S_2Zr$ (ammonia)                                   |           |                                | HEX                  | 0.3       | 1192  |
| $Se_2Ta$ (pyridine) <sub>0.5</sub>                  | 1.5       |                                | HEX                  |           | 1027  |
| $Se_2W$ (strontium (0,2) ammonium)                  | ~1.4      |                                | HEX                  |           | 1918  |
| V (co-deposited with organic compounds, 50-200 Å)   |           | $T_c^{(+\sim 0.1, -\sim 0.1)}$ |                      |           | ▽1802 |

TABLE 4. Properties of Semiconductive Superconductive Materials

NOTE: "HF" Signifies high-magnetic-field data in Table 5.

| Material   | $T_c$ (K)  | $H_o$<br>(oersted) | $n$   | Crystal<br>Structure | $T_n$ (K)                  | Refs.       |
|--|--|--------------------|---|----------------------|----------------------------|-------------|
| $\text{Ag}_{0.2}\text{In}_{0.8}\text{Te}$                              | 1.00-<br>0.77                                    |                    | $1.07 \times 10^{22}$                         | B1                   |                            | 470         |
| $\text{Ag}_{0.1}\text{In}_{0.9}\text{Te}$                              | 1.89-<br>1.20                                    |                    | $1.40 \times 10^{22}$                         | B1                   |                            | 470         |
| $\text{Ag}_x\text{Mn}_y\text{Sn}_{0.97-x-y}\text{Te}$                  | 1.85-<br>1.3                                     |                    | $3.5 \times 10^{21}$                          | B1                   |                            | 470         |
|  | 1.8-<br>1.1                                      |                    | $2.8 \times 10^{21}$                          | B1                   |                            | 1246        |
|  | 1.7-<br>0.5                                      |                    | $2.2 \times 10^{21}$                          | B1                   |                            |             |
| $\text{Ag}_{0.10}\text{Mn}_y\text{Sn}_{0.97-y}\text{Te}$               | 2.0-<br>1.3                                      |                    |   |                      |                            | 1246        |
| $\text{Ag}_x\text{Sn}_{0.97-x}\text{Te}$                               | 0.12-<br>1.1<br>(Sintered)<br>0.2-2<br>(As cast) |                    | $1 \times 10^{21}$ -<br>$8 \times 10^{21}$    | B1                   |                            | 1246        |
| $\text{Ag}_{0.1}\text{Sn}_{0.87}\text{Te}$                             |  |                    | $6.53 \times 10^{21}$                         |                      |                            | 1566#       |
| $\text{As}_{0.04}\text{Ge}_{0.15}\text{Te}_{0.81}$                     | 0.82   | HF                 | $\approx 10^{20}$                             |                      | 0.38<br>(when<br>quenched) | 1447        |
| $\text{As}_{0.01}\text{Ge}_{0.49}\text{Te}_{0.50}$                     |  |                    |   | Data<br>given        | 0.40                       | 1447        |
| $\text{As}_{0.01}\text{Ge}_{0.48}\text{Te}_{0.51}$                     | 0.43   |                    |   |                      |                            | 1447        |
| $\text{As}_{0.33}\text{InTe}_{0.67}$                                   | 1.15-<br>0.85                                    |                    | $1.24 \times 10^{22}$                         | B1                   |                            | 470         |
| $\text{As}_{0.5}\text{InTe}_{0.5}$                                     | 0.62-<br>0.44                                    |                    | $0.97 \times 10^{22}$                         | B1                   |                            | 470         |
| AsSn   | 3.5<br>3.65-<br>3.41                             |                    | $1.4 \times 10^{22}$<br>$2.14 \times 10^{22}$ |                      |                            | 1605<br>470 |
| AsSn   | 2.90   |                    |   | B1                   |                            | 1542#       |
| $\text{As}_3\text{Sn}_{3.8}$   | 1.23-<br>1.19                                    |                    | $3.0 \times 10^{22}$                          |                      |                            | 930         |
| $\text{As}_{\sim 2}\text{Sn}_{\sim 3}$                                 | 3.6,<br>1.2                                      |                    |   |                      |                            | 470         |
| $\text{As}_3\text{Sn}_4$   | 1.19-<br>1.16                                    |                    | $0.56 \times 10^{22}$                         | RHOMB                |                            | 470         |
| $\text{As}_{0.022-0.005}\text{Sn}_{0.97}$<br>$\text{Te}_{0.978-0.995}$ | 0.033-<br>0.108                                  |                    | $4.0 \times 10^{20}$<br>$13.3 \times 10^{20}$ |                      |                            | 1605        |
| $\text{AuTe}_2$  |  |                    | $2.5 \times 10^{21}$                          |                      | 0.051                      | 770         |

TABLE 4 (Cont'd). Properties of Semiconductive Superconductive Materials

NOTE: "HF" Signifies high-magnetic-field data in Table 5.

| Material  | T <sub>c</sub> (K)     | H <sub>0</sub><br>(oersted) | n                                  | Crystal<br>Structure | T <sub>n</sub> (K) | Refs.                            |
|---|------------------------|-----------------------------|------------------------------------|----------------------|--------------------|----------------------------------|
| Ba <sub>0.025-0.125</sub> O <sub>3</sub><br>Sr <sub>0.975-0.875</sub> | 0.53-<br><0.10         | HF                          | 0.05-<br>34x10 <sup>-19</sup>      |                      |                    | 1005 611<br>988#                 |
| BaO <sub>3</sub> Ti   |                        |                             | 1.3x10 <sup>20</sup>               |                      | 0.059              | 770                              |
| Bi <sub>2</sub> Te <sub>3</sub>                                       |                        |                             | 1x10 <sup>21</sup>                 |                      | 0.019              | 770                              |
| Bi <sub>2</sub> Te <sub>3</sub> (Phase I, 65-75<br>kbar )             | 1.6-<br>3.0            |                             | 1.5x10 <sup>18</sup>               |                      |                    | 1280                             |
| Bi <sub>2</sub> Te <sub>3</sub> (Phase II, 70-100<br>kbar )           | 4.3-<br>3.6            |                             | 1.5x10 <sup>18</sup>               |                      |                    | 1280                             |
| Bi <sub>2</sub> Te <sub>3</sub> (Phase IV, 77-100<br>kbar )           | 2.8-<br>3.0            |                             | 1.5x10 <sup>18</sup>               |                      |                    | 1280                             |
| Bi <sub>2</sub> Te <sub>3</sub>                                       |                        |                             | 1.5x10 <sup>8</sup>                |                      | ≈2                 | 1280                             |
| BiTe <sub>2</sub> Tl  | 0.14                   | HF                          | ~6x10 <sup>20</sup>                | RHOMB                |                    | 1139                             |
| Ca <sub>0.025-0.3</sub> O <sub>3</sub><br>Sr <sub>0.975-0.7</sub> Ti  | <0.05-<br>0.55         | HF                          | 0.06-<br>74.0x10 <sup>-19</sup>    |                      |                    | 1005 611                         |
| CaO <sub>3</sub> Ti   |                        |                             | 3.7x10 <sup>19</sup>               |                      | 0.10               | 770 1005                         |
| CoGe <sub>2</sub>   |                        |                             |                                    |                      | 0.051              | 770                              |
| CuS <sub>4</sub> Ti <sub>2</sub>                                      |                        |                             |                                    | H1 <sub>1</sub>      | 0.05               | 984                              |
| GaP   |                        |                             | 1x10 <sup>19</sup>                 | B3                   | 0.051              | 770 558                          |
| GaN   |                        |                             |                                    |                      | 2.0                | 433 528<br>770                   |
| Ge <sub>x</sub> Sn <sub>1-x</sub> Te                                  | 2.1-<br><1.4           |                             | 1.1-<br>1.6x10 <sup>20</sup>       |                      |                    | 1489                             |
| Ge <sub>1-x</sub> Te  | 0.07-<br>0.31          | HF                          | 8.6-<br>1.6x10 <sup>20</sup>       | B1                   |                    | 482 623#<br>431 807#<br>501 813# |
| GeTe (Ag doped)   | 0.21,<br>0.41          |                             | 27,<br>64x10 <sup>20</sup>         |                      |                    | 481 1447<br>770#                 |
| Ge <sub>1.006</sub> Te  |                        |                             | 7.5x10 <sup>20</sup>               |                      | 0.002              | 501 181                          |
| Ge <sub>~3</sub> Te <sub>~4</sub> (Metastable<br>high P phase)        | 1.8-<br>1.55           |                             | 1.06x10 <sup>22</sup>              | RHOMB                |                    | 470                              |
| InSb (Abraded)  | 4.4-<br>4.9            |                             | 10 <sup>13</sup> -10 <sup>15</sup> |                      |                    | 1555                             |
| In <sub>0.02-0.1</sub> Sn <sub>0.98-0.9</sub><br>Te <sub>1.01</sub>   | <0.36-<br>1.05-<br>1.7 |                             | 0.2-<br>2.3x10 <sup>-21</sup>      | B1                   |                    | 1857 1931#<br>770                |

TABLE 4 (Cont'd). Properties of Semiconductive Superconductive Materials

NOTE: "HF" Signifies high-magnetic-field data in Table 5.

| Material  | $T_c$ (K)                | $H_o$<br>(oersted) | n   | Crystal<br>Structure | $T_n$ (K) | Refs.          |
|---|--------------------------|--------------------|---|----------------------|-----------|----------------|
| In <sub>3</sub> Te <sub>4</sub> (Metastable<br>P phase)                               | 1.25-<br>1.15            |                    | $0.47 \times 10^{22}$                     | RHOMB                |           | 622            |
| In <sub>1.15</sub> Te   | 2.60-<br>2.35            |                    | $1.34 \times 10^{22}$                     | B1                   |           | 515            |
| In <sub>1.15-0.82</sub> Te  | 1.02-<br>3.45<br>(Broad) |                    | 1.34-<br>1.71-<br>$0.83 \times 10^{22}$   | B1                   |           | 515 506<br>470 |
| In <sub>1.015</sub> Te  | 3.51-<br>3.25            |                    | $1.67 \times 10^{22}$                     | B1                   |           | 515            |
| In <sub>0.82</sub> Te   | 1.06-<br>1.02            |                    | $0.83 \times 10^{22}$                     | B1                   |           | 515            |
| K <sub>0.1</sub> O <sub>3</sub> Sr <sub>0.9</sub> Ta <sub>0.1</sub> Ti <sub>0.1</sub> |                          |                    | $4.8 \times 10^{19}$                      |                      | 0.051     | 770            |
| La <sub>0.01</sub> O <sub>3</sub> Sr <sub>0.99</sub> Ti                               |                          |                    | $3.1 \times 10^{20}$                      |                      | 0.078     | 770            |
| LaS <sub>2</sub>  |                          |                    |   | CUB                  | Checked   | 1370 1965      |
| La <sub>3-2</sub> Se <sub>4-3</sub>   | 10-1                     |                    | $5.5 - 1 \times 10^{21}$                  | D7 <sub>3</sub>      |           | 1292 770#      |
| Mn <sub>y</sub> Sn <sub>0.97</sub> Te   | 0.187-<br><0.040         |                    | 1.13-<br>$1.39 \times 10^{21}$            |                      |           | 1246           |
| O <sub>3</sub> NbSr   |                          |                    | $2.7 \times 10^{21}$                      |                      | 0.044     | 770            |
| O <sub>3</sub> SrTi   | 0.05-<br>0.47            |                    | $10^{18} - 10^{21}$                       | E2 <sub>1</sub>      |           | 621 770#       |
| O <sub>3</sub> SrTi   | <0.05-<br>0.295          |                    | $6.9 \times 10^{18} - 5.5 \times 10^{20}$ |                      |           | 709 1566#      |
| O <sub>3</sub> SrTi   | <0.08-<br>0.4-0.3        |                    | $1.3 \times 10^{19} - 2.2 \times 10^{20}$ |                      |           | 935            |
| O <sub>3</sub> SrTi   | 0.10-<br>0.30            | HF                 | $1.7 \times 10^{19} - 2.3 \times 10^{20}$ | E2 <sub>1</sub>      |           | 1005 770#      |
| O <sub>3</sub> SrTi   | 0.12-<br>0.37            | HF                 | $1.7 \times 10^{19} - 1.2 \times 10^{20}$ |                      |           | 611            |
| O <sub>3</sub> SrTi (P study)   | 0.185,<br>0.27           |                    | $2.5 \times 10^{19}$                      |                      |           | 884 1127       |
| O <sub>3</sub> SrTi   | 0.4                      |                    | $2.6 \times 10^{19}$                      |                      |           | 610            |
| O <sub>3</sub> SrTi   | 0.24-<br>0.28            |                    | 2.7-<br>$6.3 \times 10^{19}$              | E2 <sub>1</sub>      |           | 884 610        |
| O <sub>3</sub> SrTi   | 0.30,<br>~0.25           |                    | 2.2-<br>$2.5 \times 10^{20}$              |                      |           | 884 610        |
| O <sub>3</sub> SrTi   | 0.33,<br>0.43,<br>0.47   | HF                 | $\sim 10^{20}$                            |                      |           | 594#           |

TABLE 4 (Cont'd). Properties of Semiconductive Superconductive Materials

NOTE: "HF" Signifies high-magnetic-field data in Table 5.

| Material                                  | $T_c$ (K)              | $H_c$<br>(oersted) | n   | Crystal<br>Structure | $T_n$ (K) | Refs.            |
|---|------------------------|--------------------|---|----------------------|-----------|------------------|
| $P_{0.4}Sn_{0.6}$                         | 1.24-<br>1.10          |                    | $2.2 \times 10^{22}$                      |                      |           | 930              |
| $Pb_{0-0.12}Sn_{1-0.88}Te$                | 2.1-<br>2.8-<br>1.85   |                    | $1.1-1.6-$<br>$0.1 \times 10^{20}$        |                      |           | 1489             |
| $Pb_{0.25-0.45}Sn_{0.75-0.55}Te$          | 0.064-<br>0.012        |                    | $5.3-$<br>$2.5 \times 10^{20}$            |                      |           | 1674             |
| PbTe                                      |                        |                    | $10^{18}-10^{19}$<br>$5.0 \times 10^{20}$ |                      | 0.009     | 770              |
| PtSb <sub>2</sub>                         |                        |                    | $3.7 \times 10^{20}$                      |                      | 0.037     | 770              |
| SbSn                                      | 1.60                   |                    | $2.9 \times 10^{22}$                      |                      |           | 1605             |
| $Sb_{0.005-0.01}Sn_{0.97}Te_{0.995-0.99}$ | 0.022-<br>0.068        |                    | $0.365-$<br>$1.04 \times 10^{21}$         |                      |           | 1605             |
| SbTe                                      |                        |                    | $5.0 \times 10^{20}$                      | B1                   | 0.051     | 770              |
| SnTe                                      | 0.065-<br>0.207        |                    | $1.05-$<br>$2 \times 10^{21}$             | B1                   |           | 1605 770#        |
| SnTe                                      | 0.01-<br>0.214         | HF                 | $0.3-$<br>$2 \times 10^{21}$              | B1                   |           | 1605 1022<br>687 |
| $Sn_{0.990-0.965}Te$                      | 0.024-<br>0.0168       |                    | $0.463-$<br>$1.34 \times 10^{21}$         | B1                   |           | 1605 1566#       |
| $Sn_{1-x}Te_x$                            | 0.07-<br>0.22          |                    | $1.05-$<br>$2 \times 10^{21}$             | B1                   |           | 482 770#         |
|   | 0.02-<br>1.1           |                    | $0.4-$<br>$7.5 \times 10^{21}$            |                      |           |                  |
| Te (P=40-70 kbar)                         | 2.05                   |                    | $1-4 \times 10^{18}$                      |                      |           | 909              |
| $Te_3Tl_5$                                | 2.14,<br>2.19-<br>2.23 | HF                 | $>2 \times 10^{21}$                       | CUB                  |           | 848              |

TABLE 5. Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials (Mainly Type II)  
NOTE: Magnetic fields in kiloersteds.

| Material  | $T_c$ (K)                                     | $H_{c1}$      | $H_c$ | $H_{c2}$                             | $H_{c3}$   | $T_{obs}$ (K) | Refs.          |
|---|---|---------------|-------|--------------------------------------|------------|---------------|----------------|
| $Ag_{0.167}Al_{0.833}$                                | 0.88<br>(Quenched)<br>0.84-0.86<br>(Annealed) |               |       | 0.242<br>0.132-<br>0.172             |            | 0.44          | 1413 1766 1846 |
| $Ag_{0.035}Cd_{0.01}Sn_{0.955}$<br>(weight fractions) | 3.65  |               |       | 0.232                                |            | 1.3           | 1917           |
| $Ag_{0.015}Pb_{0.975}Sn_{0.01}$<br>(weight fractions) | 7.25  |               |       | 1.108                                |            | 1.3           | 1917           |
| Al  | 1.175   |               |       | Data given                           | Data given |               | 1846           |
| Al (1000-30 Å)  | 1.2-2.5                                       |               |       | 2-50                                 |            |               | ▽1460 ▽1708    |
| Al ("granular," <40-<br>1000 Å)                       | 3.74-<br><1.26                                |               |       | 1>12<br>  >23                        | 0          |               | ▽1294 ▽1502    |
| Al (920-38 Å)   | 1.24-2.47                                     |               |       | 0.56-<br>56<br>(angle<br>dependence) | 0          |               | ▽1634          |
| $Al_2CMo_3$   | 9.8-10.2                                      | 0.091         | 1.7   | 156                                  |            | 1.2           | 571            |
| $Al_2CMo_3$   | 9.2   |               |       | 101                                  |            | 4.2           | 966#           |
| $Al_2Ce_xLa_{1-x}$                                    |   |               |       | Data given                           |            |               | 1422           |
| $AlCe_{0-0.017}La_3$                                  | 6.0-1   |               |       | 27(Ce <sub>0</sub> )                 | 0          |               | 1887#          |
| Al ("getter sputtered,"<br>5000 Å)                    |   |               |       | 1 Data<br>given                      |            |               | ▽1451          |
| $Al_{0.5}Ga_{0.5}Nb_3$                                | 19.0  |               |       | 310                                  |            | 4.2           | 1339           |
| $Al_{0-0.13}Ga_{0.13-0.32}$<br>V <sub>0.68-0.72</sub> | >14.5-<br><6                                  |               |       | 160-<br>90                           |            | 4.2           | 1720           |
| $Al_{3-2.94}Gd_{0-0.06}La$                            | 6.16-<br>2.05                                 |               |       | 1.3-<br>13.6                         | 0          |               | 918            |
| $Al_2Gd_{0-0.004}La_{1-0.996}$                        | 3.20-<br>1.52                                 |               |       | 3.2-<br>0.45                         | 0          |               | 1262           |
| $AlGd_{0-0.009}La_3$                                  | 6.0-1   |               |       | 27(Gd <sub>0</sub> )                 | 0          |               | 1887 1364      |
| $Al_{0.57}Ge_{0.23}Nb_3$                              |   |               |       | 440                                  |            | 0             | 1483           |
| $Al_{0.61}Ge_{0.23}Nb_{3.2}$                          |   |               |       | 410                                  |            | 4.2           | 787            |
| $Al_{0.64}Ge_{0.2}Nb_{3.16}$                          | 20.7  |               |       | 410                                  |            | 4.2           | 1339           |
| $Al_{0.75}Ge_{0.25}Nb_3$                              | 18.5  |               |       | 420                                  |            | 4.2           | 789 896 876    |
| $Al_{0.8}Ge_{0.2}Nb_3$                                | 19.1-<br>17.8                                 | Data<br>given |       |                                      |            |               | 823            |
| $Al_xGe_{1-x}Nb_3$                                    |   |               |       | 304                                  | 0          |               | ▽1483          |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material   | $T_c$ (K)          | $H_{c1}$ | $H_c$                       | $H_{c2}$ | $H_{c3}$ | $T_{obs}$ (K)                  | Refs. |
|--|--------------------|----------|-----------------------------|----------|----------|--------------------------------|-------|
| $Al_{0.8}Ge_{0.2}Nb_3$                                   | 17.4-16.6          |          | 290<br>188                  |          | 0<br>4.2 | 71525                          |       |
| $Al_{0.8}Ge_{0.2}Nb_3$ (5000Å)                           | 16.0               |          | >210                        |          |          | 71174                          |       |
| $Al_{0.8}Ge_{0.2}Nb_3$ (2000Å;<br>4000Å)                 | 10.7, 11.4         |          | 130,<br>180                 |          | 4.2      | 7708                           |       |
| $Al_2La$   |                    |          | ≈2.5                        |          | 0        | 1422                           |       |
| $AlLa_3$   | 6.16               |          | 7.92                        |          | 0        | 943                            |       |
| $AlLa_3$   | 6.16               |          | 11.57                       |          | ?        | 918                            |       |
| $AlLa_3$   | 6.16, 6.0          |          | 27                          |          | 0        | 1887# 1364                     |       |
| $Al_2La_{1-x}Tb_x$                                       | 3.24-0.6           |          | Data<br>given               |          |          | 1678                           |       |
| $Al_{0.5}Mo_5S_6Sn$                                      | 14.4               |          | ~560,<br>315                |          | 0        | 1664 1725 1597                 |       |
| $Al_{0-0.12}Mo_{6.35}S_8Sn_{1.2}$                        | 11.8-14.3          |          | ~320-<br>400                |          | 0        | 1759                           |       |
| $Al_{0.2}Mo_5S_6Sn$                                      |                    |          | 270                         |          | 4.2      | 1759                           |       |
| $AlNb_3$   |                    |          | 325                         |          | 0        | 1483 816 1551                  |       |
| $AlNb_3$   | ≈18.7, 18.6        |          | 295                         |          | 4.2      | 787 1339 1075 1551<br>1660 447 |       |
| $AlNb_3$   | 17.14              |          | 246                         |          | 0        | 880                            |       |
| $AlNb_3$   |                    |          | ( $T_c$<br>vs<br>$H_{c2}$ ) |          |          | 1421                           |       |
| $AlNb_3$   | 17.4               |          | 80                          |          | 14.5     | 1753                           |       |
| $AlNb_3Ni_{0-0.01}$<br>(weight fractions)                | 17.4-17.7-<br>15.5 |          | 80<br>( $Ni_{0.01}$ )       |          | 12       | 1753                           |       |
| $Al_{0.042}Nb_{0.895}O_{0.063}$                          | 7.1                |          | 75                          |          | 0        | 1667                           |       |
| $Al_{0.012}Nb_{0.97}O_{0.018}$                           | 8.3                |          | 42                          |          | 0        | 1667                           |       |
| $Al-Al_2O_3$ ("getter sput-<br>tered," 2000-318,000Å)    | 1.63-2.69          |          | Data<br>given               |          |          | 71451                          |       |
| $Al_{0.0015}Sn_{0.9985}$                                 |                    |          | 0.0175                      |          | 3.595    | 850                            |       |
| $Al_{0.85}Zn_{0.15}$                                     |                    |          | 0.055<br>(0.040-<br>0.070)  |          | 0.90     | 1793                           |       |
| $As_{0.04}Ge_{0.15}Te_{0.81}$<br>( $p \approx 10^{20}$ ) | 0.82               |          | 2.3                         |          | 0        | 875 1447                       |       |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material  | $T_c$ (K)                  | $H_{c1}$       | $H_c$           | $H_{c2}$       | $H_{c3}$    | $T_{obs}$ (K) | Refs.       |
|---|----------------------------|----------------|-----------------|----------------|-------------|---------------|-------------|
| $Au_{0.24}La_{0.76}$                                | 3.3                        |                |                 | ~35            |             | 1.9           | 1908        |
| $Au_{0.24}La_{0.76}$<br>(crystalline)               | 4.0                        |                |                 | ~23            |             | 1.8           | 1908        |
| $AuV_3$   | 0.86-2.98                  |                |                 | 22-37          |             | 0             | 707 1160    |
| $AuV_3$   | 2.55*                      |                |                 | ~9             |             | 2.25          | 857         |
| $BCMo_2$  | 7.1                        |                |                 | 28             |             | 4.2           | 966#        |
| Ba (Deposited 4.2K,<br>100 Å)                       | 3.0                        |                |                 | 5.05           |             | 0             | 7710        |
| $Ba_xO_3Sr_{1-x}Ti$                                 | <0.1-0.55                  | 0.0039<br>Max. |                 |                |             | 0             | 611 1005    |
| Be  | 6.5-~10                    |                |                 | ~180           |             | 0             | 71679 7550  |
| Be (Deposited 4.2K,<br>100-2000 Å)                  | 9.2-1.7                    |                |                 | 9.49           |             | 0             | 7710        |
| $Be_{22}Mo$   | 2.545                      |                |                 | 0.11           |             | 1.7           | 1922        |
| $Be_{22}Re$   | 9.33<br>9.55<br>(Annealed) |                |                 | 3.4<br>3.4     | 5.9<br>4.17 | 4.17<br>4.17  | 1390        |
| $Be_{22}Re_{0.95}Os_{0.05}$                         | 9.2                        |                |                 | 3.5            |             | 4.17          | 1390        |
| $Be_{22}Re_{0.99}Ru_{0.01}$                         | 9.2                        |                |                 | 3.55           |             | 4.17          | 1390        |
| $Be_{22}Re_{0.95}W_{0.05}$                          | 9.45                       |                |                 | 4.1            |             | 4.17          | 1390        |
| $Be_{22}W$  | 4.12                       |                |                 | 0.28           |             | 1.7           | 1922        |
| Bi (III)  | 6.55                       |                |                 | 11.75,<br>9.91 |             | 0             | 973 437     |
| Bi (II)   |                            |                |                 | Data<br>given  |             |               | 437         |
| Bi  |                            |                |                 | ~200           |             | 0             | 71679 71541 |
| $Bi_{0.28}Cd_{0.19}In_{0.53}$<br>(weight fractions) | 5.85                       |                |                 | 2.135          |             | 1.3           | 1917        |
| $Bi_{0.5}Cd_{0.1}Pb_{0.27}Sn_{0.13}$                |                            |                |                 | >22<br>>24     |             | 4.24<br>3.06  | 402         |
| $Bi_{0.54}Cd_{0.20}Sn_{0.26}$<br>(weight fractions) | 3.69                       |                |                 | 0.60           |             | 1.3           | 1917        |
| $BiIn_2$ (Intrinsic Type II)                        | 5.87                       |                | 0.590<br>(0K)   | 1.25           |             | 1.5           | 1978        |
| $Bi_{0.0155-0.05}In_{0.9845-0.95}$                  | >3.4-<br>4.25              | 0.29-<br>0.323 | 0.276-<br>0.544 | 0.29-<br>1.682 |             | 0             | 1650        |
| $Bi_{0.02}In_{0.98}$                                | 3.845                      |                |                 | 0.16           | 0.25        | 3.15          | 1612 666    |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material   | $T_c$ (K)           | $H_{c1}$                 | $H_c$          | $H_{c2}$            | $H_{c3}$      | $T_{obs}$ (K)     | Refs. |
|--|---------------------|--------------------------|----------------|---------------------|---------------|-------------------|-------|
| $\text{Bi}_x \text{In}_{1-x}$ (2000 Å)                                       |                     |                          |                | Data given          | Data given    | v1089 v1619       |       |
| $\text{Bi}_2\text{K}$ (0-10 kbar)  | 3.57                |                          |                | Data given          |               | 897               |       |
| $\text{Bi}_{0.63-0.25}\text{Pb}_{0.37-0.75}$                                 |                     |                          |                | Data given          |               | 1102 402 404 406  |       |
| $\text{Bi}_{0.56-0}\text{Pb}_{0.44-1}$                                       |                     |                          |                | 13.8-<br>0.55       |               | 855 1288          |       |
| $\text{Bi}_{0.5}\text{Pb}_{0.5}$   | 8.4                 |                          |                | >15                 | 1.5           | 384 080 310       |       |
| $\text{Bi}_{0.4-0.025}\text{Pb}_{0.6-0.975}$                                 |                     | 0.141-<br>0.105-<br>0.44 | 0.909-<br>0.57 | 17.7-<br>0.94       | 4.2           | 949 677           |       |
| $\text{Bi}_{0.35}\text{Pb}_{0.65}$   | 8.7                 |                          |                | 14.6-<br>22         | 4.22-<br>1.88 | 403 404 406       |       |
| $\text{Bi}_{0.3}\text{Pb}_{0.7}$   | 8.63                |                          |                | 35                  | 0             | 1318              |       |
| $\text{Bi}_{0.2}\text{Pb}_{0.8}$   | 8.15                |                          |                | ~20                 | 4.24          | 402 404           |       |
| $\text{Bi}_{0.099}\text{Pb}_{0.901}$   |                     | 0.3                      |                | 2.8,<br>>14         |               | 322 402 404 348   |       |
| $\text{Bi}_{0.07}\text{Pb}_{0.93}$   | 7.7                 |                          |                | 2.32,<br>>5         | 3.06          | 402 404 685       |       |
| $\text{Bi}_{0.02}\text{Pb}_{0.98}$   |                     | 0.46                     |                | 0.73                |               | 322               |       |
| $\text{Bi}_{0.7-0.95}\text{Pb}_{0.3-0.05}$<br>(0-20 kbar)                    | 8-5,<br>5-6         |                          |                | 33-34               |               | 1746              |       |
| $\text{Bi}_{0.4}\text{Pb}_{0.6}$ (In porous<br>glass, ~60, 32, 20 Å)         | 7.8,<br>8.4,<br>6.2 |                          |                | 104,<br>196,<br>230 | 0             | 1716 1459         |       |
| $\text{Bi}_{0.4}\text{Pb}_{0.6}$ (In porous<br>glass, ~32 Å)                 |                     |                          |                | 186<br>125          | 0<br>4.2      | 1045 1459<br>1319 |       |
| $\text{Bi}_{0.56}\text{Pb}_{0.44}$ (In porous<br>glass, 32 Å)                |                     |                          |                | 178<br>113          | 0<br>4.2      | 1045 1459         |       |
| $\text{Bi}_{0.3}\text{Pb}_{0.7}$ (In porous<br>glass, 29, 32, 52 Å)          | 7.2-<br>7.85        |                          |                | 179,<br>150,<br>~80 | 0             | 1459 1045         |       |
| $\text{Bi}_{0.25}\text{Pb}_{0.75}$ (Deposited<br>4.2K, 1260 Å)               | 6.9                 |                          |                | 145                 | 1.7           | v1949 v1774 v750  |       |
| BiPbSb (In porous<br>glass, 32 Å)  | 7.83                |                          |                | 187                 | 0             | 1459              |       |
| BiPbSb (In porous glass,<br>57 Å)  | 8.15                |                          |                | 103                 | 0             | 1459              |       |
| $\text{Bi}_{0.46}\text{Pb}_{0.24}\text{Sb}_{0.3}$<br>(In porous glass, 32 Å) | 8.16                |                          |                | 187                 | 0             | 1459              |       |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials (Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material   | $T_c$ (K)       | $H_{c1}$      | $H_c$  | $H_{c2}$    | $H_{c3}$ | $T_{obs}$ (K) | Refs. |
|--|-----------------|---------------|--|-------------|----------|---------------|-------|
| $Bi_{0.26}Pb_{0.48}Sb_{0.26}$<br>(In porous glass, 32 Å) | 7.5             |               |  | 180         | 0        | 1459          |       |
| $Bi_{0.19}Pb_{0.63}Sb_{0.19}$<br>(In porous glass, 32 Å) | 7.32            |               |  | 170         | 0        | 1459          |       |
| $Bi_{0.08}Pb_{0.84}Sb_{0.08}$<br>(In porous glass, 32 Å) | 7.2, 6.9        |               |  | 110,<br>170 | 0        | 1459          |       |
| $Bi_{0.525}Pb_{0.32}Sn_{0.155}$<br>(weight fractions)    | 8.68            |               |  | 19.85       | 1.3      | 1917 402      |       |
| $Bi_xPb_{1-2x}Tl_x$                                      | 7.204-<br>7.376 |               | Data<br>given  |             |          | 1713          |       |
| $Bi_{0.6}Sn_{0.4}$ (P=25 kbar;<br>Metastable)            | 7.0             |               |  | 4.50        | 4.2      | 1091          |       |
| $Bi_{0.57}Sn_{0.43}$<br>(weight fractions)               | 2.25            |               |  | 0.383       | 1.3      | 1917          |       |
| $Bi_{0.5}Sn_{0.5}$ (P=25 kbar;<br>Metastable)            | 7.2             |               |  | 4.7         | 4.2      | 1091          |       |
| $Bi_{0.4}Sn_{0.6}$ (P=25 kbar;<br>Metastable)            | 7.34            |               |  | 5.35        | 4.2      | 1091          |       |
| $Bi_{0.8-0.1}Sn_{0.2-0.9}$<br>(P~30 kbar, metastable)    | 6.5-7.4         |               | 7.0-<br>2.8  |             | 4.2      | 1701          |       |
| $Bi_{0.005}Sn_{0.995}$ (>2000 Å)                         |                 | Data<br>given |  |             |          | ▽1089         |       |
| $BiTe_2Tl$ ( $n=6 \times 10^{20}$ )                      | 0.14            |               | 0.010  | 0           | 1139     |               |       |
| $Bi_{0.625}Tl_{0.375}$                                   |                 |               | 4.08( $H_{R\frac{1}{2}}$ )<br>5.56( $H_{R\frac{1}{2}}$ ) |             |          | 090 404       |       |
| $Bi_{0.85}Tl_{0.15}$ (Deposited<br>4.2K, 1260 Å)         | 6.23            |               | 48   |             | 1.7      | ▽1774 ▽1949   |       |
| $C_8K$ (gold) (Excess K)                                 | 0.55            |               | $\perp c$ ,<br>0.160<br>$\parallel c$ ,<br>0.730         |             | 0.32     | 494           |       |
| $C_8K$ (gold)  | 0.39            |               | $\perp c$ ,<br>0.025<br>$\parallel c$ ,<br>0.250         |             | 0.32     | 494           |       |
| $C_{0.69}Mo$   | 12.1            |               | 98   |             | 4.2      | 966#          |       |
| $C_{0.64}Mo$   | 8.0             |               | 47   |             | 4.2      | 966#          |       |
| $C_{\sim 0.5}Mo_{\sim 0.5}$                              |                 |               | 52   |             | 4.2      | 1098          |       |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material  | $T_c$ (K)  | $H_{c1}$           | $H_c$         | $H_{c2}$                 | $H_{c3}$     | $T_{obs}$ (K) | Refs.              |
|---|------------|--------------------|---------------|--------------------------|--------------|---------------|--------------------|
| $C_{0.44}Mo_{0.56}$   | 12.5, 13.5 | 0.087              | 1.3<br>(0K)   | 88.5                     |              | 1.2           | 571                |
| CMo <sub>~2</sub>   |            |                    | 8             | 30                       |              | 4.2           | 1098               |
| CNNb  |            |                    |               | 67                       |              | 4.2           | 1038               |
| $C_{0.1}N_{1.0}$  |            |                    |               | 80-<br>125-<br>13        |              | 4.2           | 1038               |
| $C_xN_{1-x}Nb$ (whiskers)   | 8.5-17.3   | ≤ 0.1              |               | ~110                     |              | 4.2           | 582                |
| CNb (annealed)  | 8-10, >11  | 0.12               |               | 16.9,<br>13, 12          |              | 4.2           | 571 1244 1038 1035 |
| CNb   | 7          |                    |               | 8                        |              | 4.2           | 1244               |
| $C_xNb_{1-x}$ (Deposited 700C)  | <2.5-9.6   |                    |               | ~40                      |              |               | 71345              |
| CTa   | 9-11.4     | 0.22               | 0.81<br>(0K)  | 4.6                      |              | 1.2           | 571                |
| CTa   | 10         |                    |               | 1.6<br>4.4<br>(annealed) |              | 4.2           | 1244               |
| $C_{0.52}Ti$  | 3.42       |                    |               | 48                       |              | 1.6           | 790                |
| $C_{0.46}Ti$  | 3.32       |                    |               | 45                       |              | 1.6           | 790                |
| Ca (Deposited 4.2K,<br>100Å)  | 4.3        |                    |               | 6.38                     | 0            |               | 710                |
| $Ca_{0.05-0.07}MoS_2$   | 4.0        |                    |               | ~50<br>⊥~7               | 0            |               | 1928               |
| $Ca_xO_3Sr_{1-x}$<br>(n=3.7-11 × 10 <sup>19</sup> )                       | <0.1-0.55  | 0.00215,<br>0.0038 |               |                          |              |               | 611                |
| $Ca_{0.025-0.30}O_3Sr_{0.975-0.70}$<br>Ti (n=0.06-74 × 10 <sup>19</sup> ) | <0.1-0.50  | 0.0019             |               |                          | 0            |               | 1005               |
| CaSi <sub>2</sub>   | 1.58       |                    |               | 1.0<br>0.32              | 0.35<br>1.0  |               | 961                |
| $Cd_{0.17}Hg_{0.83}$  |            | 0.07<br>0.23       |               | 0.12<br>0.34             | 3.54<br>2.04 |               | 080                |
| $Cd_{0.09}Hg_{0.91}$  |            | 0.04<br>0.28       |               | 0.05<br>0.31             | 3.86<br>2.16 |               | 080                |
| $Cd_{0.015, 0.02}Hg_{0.985, 0.98}$  |            |                    |               | Data<br>given            |              |               | 666 978            |
| $Cd_{0.08-0.16}In_{0.92-0.84}$  |            | 0.2-<br>0.12       | 0.25-<br>0.22 | 0.35-<br>0.5-<br>0.45    | 0            |               | 1540               |
| $Cd_{0.18}Pb_{0.32}Sn_{0.50}$<br>(weight fractions)                       | 7.50       |                    |               | 0.922                    | 1.3          |               | 1917               |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material  | $T_c$ (K)   | $H_{c1}$      | $H_c$           | $H_{c2}$               | $H_{c3}$   | $T_{obs}$ (K) | Refs.    |
|---|-------------|---------------|-----------------|------------------------|------------|---------------|----------|
| $Ce_{0-0.1}InLa_{3-2.9}$                        | 9.45-<1     |               |                 | 71-0                   | 0          | 0             | 1228     |
| $Ce_{0.02-0.04}La_{0.98-0.96}$                  |             |               |                 | 1.6-<br>0.25           | 0          | 0             | 1637     |
| $Ce_{0-0.02}La_{1-0.98}$                        | 4.87-2.4    | 0.33-<br>0.14 | 0.80-<br>0.32   | Data<br>given          | 0          | 1358 1265     |          |
| $CePt_{0.1, 0.2}Ru_{0.9, 0.8}$                  | 4.08, 3.40  |               | 0.832,<br>0.669 | Data<br>given          | 0          | 0             | 1783     |
| $CeRu_2$  |             | 6.18          | 1.42            | Data<br>given          | 0          | 0             | 1783     |
| $Co_{0.002}Mo_{0.815}Re_{0.185}$                |             | 5.8           |                 | 6.1                    | 0          | 0             | 881      |
| $Co_{0.02}Sn_{0.98}Ta_3$                        |             | 4.1           |                 | Data<br>given          |            | 0             | 1362     |
| $Cr_3Ir$  |             |               | 0.168           | 10.5                   | 0          | 0             | 707      |
| $Cr_{0.071}Nb_{0.929}$                          | 6.95        |               |                 | 12                     | 0          | 0             | 1979     |
| $Cr_{0.116-0.098}Nb_{0.075-0.78}V_{0.9-0.12}$   | 2.70-6.33   |               |                 | 10.6-<br>19.5-<br>14.3 | 0          | 0             | 1979     |
| $Cr_3Rh$  | 0.072       |               |                 | 9.1                    | 0          | 0             | 707      |
| $Cr_{0.1}Ti_{0.3}V_{0.6}$                       | 5.6         | 0.071         | 1.36            | 84.4<br>>27            | 0<br>4.2   | 0             | 584 616  |
| $Cr_{0.099}V_{0.901}$                           | 3.30        |               |                 | 7.5                    | 0          | 0             | 1979 441 |
| $Cr_{0-18ppm}Zn$                                | 0.85-<0.037 |               |                 | Data<br>given          |            | 0             | 1322     |
| $Cs_{0.1}F_{0.12-0.2}Li_{0.02-0.1}O_{2.88-2.8}$ | 3.4-2.0     |               |                 | 6.9-<br>4.3            | 0          | 0             | 1242     |
| $Cs_{0.08-0.3}F_{0.08-0.3}O_{2.92-2.7}W$        | 4.5-1.4     |               |                 | 9.0-<br>4.0            | 0          | 0             | 1242     |
| $Cs_{0.3}MoS_2$                                 | 6.8         |               |                 | 12<br>  30             | 4.2<br>5.8 | 0             | 1532     |
| $Cu_{1.5}Mo_{4.5}S_6$                           | 10.3, 9.6   |               |                 | 130,<br>160            | 0          | 0             | 1664     |
| $CuMo_3S_4$                                     | 10.8        |               |                 | ~85                    | 5          | 0             | 1725     |
| $Cu_{0-0.69}Nb_{1-0.31}$                        |             |               |                 | Data<br>given          |            | 0             | 960      |
| $CuPb$  |             |               |                 | Data<br>given          |            | 0             | 1395     |
| $Cu_{0.14}Sn_{0.86}$ (Deposited<br>4.2K, 1620°) | 6.62        |               |                 | 17.5                   | 1.7        | v1774 v1949   |          |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material  | $T_c$ (K)    | $H_{c1}$      | $H_c$         | $H_{c2}$                   | $H_{c3}$ | $T_{obs}$ (K) | Refs. |
|---|--------------|---------------|---------------|----------------------------|----------|---------------|-------|
| $F_{0.12-0.2}^{Li} O_{2.88-2.8}^{Rb} W_{0.1}$     | 4.0-2.1      |               |               | 6.2-<br>4.8                |          | 0             | 1242  |
| $F_{0.08-0.3}^{O} O_{2.92-2.7}^{Rb} W_{0.08-0.3}$ | 3.7-0.9      |               |               | 8-<br>9.4-<br>5.9          |          | 0             | 1242  |
| $Fe_{0-0.04} Ga_4 Mo_{1-0.96}$                    | 8.0-4.2      |               |               | 74-37                      |          | 0             | 1295  |
| $Fe_{0-0.01} Ir_{0.23-0.22} Mo_{0.77}$            | 8.3-<1.2     |               |               | 82-19                      |          | 0             | 1756  |
| $Fe_{0.0008} Mo_{0.725} Nb_{0.061} Re_{0.187}$    | 1.85         |               |               | 1.3                        |          | 0             | 881   |
| $Fe_x Mo_{0.865} Re_{0.135}$                      | 2.1-6.1      |               |               | 3.6-<br>1.7<br>3.1-<br>1.7 |          | 0             | 881   |
| $Fe_{0.0006} Mo_{0.865} Re_{0.135}$               |              | 0.408         | 1.44          |                            | 5.55     | 5.55          | 982   |
| $Fe_{0.05} Nb_{0.38} Ti_{0.57}$                   |              |               | 83<br>Max.    |                            | 4.2      |               | 905   |
| $Fe_{0.01} Nb_{0.80} Ti_{0.19}$                   |              |               | 41            |                            | 4.2      |               | 1391  |
| Ga (gamma)  | 7.62         |               | >3            |                            |          | 642           |       |
| Ga (Deposited 4.2K,<br>1650 Å)                    | 8.27<br>8.05 |               | 15<br>115     |                            | 1.7<br>2 | 1774<br>1949  |       |
| $Ga_4 Mn_{0-0.01} Mo_{1-0.99}$                    | 8-4.0        |               | 74-25         |                            | 0        |               | 1295  |
| $Ga_4 Mo$   | 8.0          |               | 73.7          |                            | 0        |               | 1295  |
| $Ga_4 Mo_{1-0.96} Nb_{0-0.04}$                    | 8.0          |               | 74-78         |                            | 0        |               | 1295  |
| $Ga_{0.5} Mo_5 S_6 Sn$                            | 13.3         |               | Data<br>given |                            |          |               | 1725  |
| GaN   | 5.85         | 0.725         |               |                            |          | 433           |       |
| $Ga_{0.245} Nb_{0.755}$                           | 20.2         |               | 341           |                            | 0        | 1339          | 1660  |
| $Ga_{0.32} Nb_{0.68}$                             | 20.2         |               | 336           |                            | 4.2      |               | 1339  |
| $Ga_{0.3} Nb_{0.7}$                               | 16.3         |               | 199<br>220    |                            | 4.2<br>0 |               | 1339  |
| $Ga_{0.19} Nb_{0.81}$                             | 13.3         |               | 133           |                            | 4.2      |               | 1339  |
| $Ga_{0.09-0.39} Nb_{0.91-0.61}$                   |              |               | >28           |                            | 4.2      |               | 583   |
| GaSb (~120 kbar, 77K)                             | 4.24         |               | 2.64          |                            | 3.5      |               | 695   |
| $Ga_{0.71} V_{0.29}$                              | 4.2          | 0.2<br>(1.4K) | 2.7           |                            | 0        |               | 1675  |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                                  | $T_c$ (K)                | $H_{c1}$ | $H_c$ | $H_{c2}$                                 | $H_{c3}$      | $T_{obs}$ (K)            | Refs. |
|---|--------------------------|----------|-------|--|---------------|--------------------------|-------|
| $Ga_{0.32-0.22}V_{0.68-0.78}$             | 6.3-14.45                |          |       | 230-<br>300<br>(Linear<br>extrapolation) |               | 646                      |       |
| $GaV_3$                                   | 14.19                    |          |       | 270±<br>60                               | 0             | 1407 1075<br>310 564 316 |       |
| $GaV_3$                                   | 14.83, 14.17,<br>14.1,   |          |       | 236,<br>208,<br>208                      | 0             | 880# 684 877             |       |
|   | 14.17, 14.0              |          |       | 215,<br>196,<br>200                      | 4.2           | 872 684 787              |       |
| $Ga_{0.18}V_{0.82}$                       | 8.6                      |          |       | 95                                       | 4.2           | 787                      |       |
| $Ga_{0.18}V_{0.82}$                       | 9.15                     |          |       | 121                                      | 0             | 684                      |       |
| $Ga_{0.18}V_{0.82}$                       | 9.15                     |          |       | 94                                       | 4.2           | 684                      |       |
| $Gd_{0-0.073}InLa_{3-2.927}$              | 8.5-2.7                  |          |       | 52-14<br>7.4-~0.3<br>1-1.05-1            | 2<br>0.3<br>1 | 1125 1435                |       |
| $Gd_{0.0396}InLa_{2.96}$                  | 6.0                      |          |       | 5.4-7.4-<br>0.3                          | 0.3           | 1125                     |       |
| $Gd_{0.0640}InLa_{2.94}$                  | 3.4                      |          |       | 1.0-1.05-1                               | 1             | 1125                     |       |
| $Gd_{0-0.006}La_{1-0.994}$                | 4.5-2.3                  |          |       | Data<br>given                            |               | 1265 1358                |       |
| $Gd_{0.08}La_{0.92}Sn_3$                  | 4.3                      |          |       | 0.60                                     | 0             | 1329                     |       |
| $Gd_{0.067}La_{0.933}Sn_3$                | 4.6                      |          |       | 0.70                                     | 0             | 1329                     |       |
| $Gd_{0.2}Mo_6PbS_8$                       | 14.3                     |          |       | ~610<br>~530                             | 0<br>4.2      | 1759                     |       |
| $Gd_{0-0.01}Nb_{1-0.99}$                  | 8.98-9.19                |          |       | 2.95-<br>2.93                            | 4.2           | 1771                     |       |
| $GeNb_3$                                  | ~23                      |          |       | ~370<br>~50                              | 4.2<br>20.4   | ▽1653                    |       |
| $Ge_{0-0.2}Nb_{0.55-0.75}Ti_{0.45-0.23}$  | 9.6 Max.                 |          |       | 120                                      | 4.2           | 1464 1463                |       |
| $Ge_{0.6}Pd_{0.4}$ (Deposited<br>4.2 K)   | 3.1<br>2.1<br>(annealed) |          |       | Data<br>given                            |               | ▽1683                    |       |
| $GeTe_{1.03}$ ( $n=1.52 \times 10^{21}$ ) | 0.172                    |          |       | 0.095                                    | 0             | 807# 770                 |       |
| $GeV_3$                                   | 6.9                      |          |       | 31                                       | 1.3           | 719                      |       |
| $GeV_3$ (13,000 Å)                        | 6.7                      |          |       | 73                                       | 1.3           | ▽719                     |       |
| $GeV_3$ (220,000 Å)                       | 6.7                      |          |       | 51                                       | 1.3           | ▽719                     |       |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                                    | $T_c$ (K)                 | $H_{c1}$ | $H_c$ | $H_{c2}$                           | $H_{c3}$     | $T_{obs}$ (K)                   | Refs. |
|---|---------------------------|----------|-------|------------------------------------|--------------|---------------------------------|-------|
| $H_x Pd$                                    | 7.7-3.4                   |          |       | 2.52-<br>2.18                      | 0            | 1727#                           |       |
| $H_x Ta$                                    |                           |          |       | >1.5                               |              | 346                             |       |
| $H_{3.6-3.65} Th$                           | 8.05-8.35                 |          |       | 25-30                              | 1.1          | 1117                            |       |
| $Hf_{0-1} NNb_{1-0}$                        | 14.6-5.3                  |          |       | 135-10                             | 4.2          | 1203                            |       |
| $Hf_{0-0.82} Nb_{1-0.18}$                   | 9.3-9.8-5.5-9             |          |       | 10-80-<br>55                       | 4.2          | 1559 616 441 466<br>218 289 399 |       |
| $Hf_{0.04} Nb_{0.42} Ta_{0.04} Ti_{0.5}$    |                           |          |       | 107                                | 4.2          | 1391                            |       |
| $Hf_{0.04} Nb_{0.32} Ti_{0.64}$             |                           |          |       | 114                                | 4.2          | 1391                            |       |
| $Hf_{0.04} Nb_{0.4} Ti_{0.52} V_{0.04}$     |                           |          |       | 109                                | 4.2          | 1391                            |       |
| $Hf_{0.7-0} Nb_{0.3} Ti_{0-0.7} Zr_{0.7-0}$ | ~9-~5                     |          |       | 115-<br>100-<br>~40                | 4.2          | 1748 1092                       |       |
| $Hf_{0.2} Nb_{0.4} Ti_{0.2} Zr_{0.2}$       |                           |          |       | 90                                 | 4.2          | 1391                            |       |
| $Hf_{0.11} Nb_{0.67} Ti_{0.11} Zr_{0.11}$   |                           |          |       | 71                                 | 4.2          | 1391                            |       |
| $Hf_{0-0.5} Nb_{0.5} Zr_{0.5-0}$            | 9.3-7,<br>6.6-6.5,<br>4.8 |          |       | 86-67<br>(cold<br>worked)<br>77-55 | 4.2          | 1747                            |       |
| $Hf_{0-0.7} Nb_{0.3} Zr_{0.7-0}$            | 9-~6, 7                   |          |       | 110-~40                            | 4.2          | 1747                            |       |
| $Hf_{0.13} Nb_{0.74} Zr_{0.13}$             |                           |          |       | 65                                 | 4.2          | 1391                            |       |
| $Hf_{0.3} Nb_{0.4} Zr_{0.3}$                |                           |          |       | 87                                 | 4.2          | 1391                            |       |
| $Hf_x Ta_{1-x}$                             |                           |          |       | ~28-<br>86                         | 1.2          | 218 289 399 466                 |       |
| $HfV_2$                                     |                           |          |       | 200                                | 4.2          | 1189#                           |       |
| $Hf_x V_2 Zr_{1-x}$                         | 9.3-10.1-<br>8.5          |          |       | 200-<br>230-<br>105                | 4.2          | 1381 1630                       |       |
| $Hf_{0.5} V_2 Zr_{0.5}$                     | 10.1                      |          |       | 230                                | 4.2          | 1381# 1189#                     |       |
| Hg (droplets)                               | 4.19                      | ~0.3     |       | >1.2                               | 1.225        | 350                             |       |
| Hg (in chrysotile asbestos)                 | 4.3                       |          |       | 30-<br>>70                         | 0            | 1284 331                        |       |
| $Hg_{0.101} Pb_{0.899}$                     |                           | 0.23     |       | 4.3                                |              | 322                             |       |
| $Hg_{0.05} Pb_{0.95}$                       |                           | 0.235    |       | 2.3                                |              | 322                             |       |
| $Hg_{0.15} Pb_{0.85}$                       | ~6.75                     |          |       | >9<br>>13                          | 4.23<br>2.93 | 403 404                         |       |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material  | $T_c$ (K)          | $H_{c1}$        | $H_c$          | $H_{c2}$                      | $H_{c3}$      | $T_{obs}$ (K)         | Refs.               |
|---|--------------------|-----------------|----------------|-------------------------------|---------------|-----------------------|---------------------|
| In (In porous medium,<br>31-80 Å)                           | 3.95-4.24          |                 |                | 29-69                         |               | 0                     | 1642                |
| In (In glass pores,<br>65-250 Å)                            | 4.17-3.68          |                 |                | 58.4-<br>11.6                 |               |                       | 738                 |
| In (Deposited 4.2K,<br>5000 Å)                              | 3.4-4.1            |                 |                | <1-23                         |               | 4.2                   | ▽1877               |
| In (Deposited 4.2K,<br>10-40,000 Å)                         |                    |                 |                | Data<br>given                 |               |                       | ▽1741 ▽1268         |
| InLa <sub>3</sub>   | 9.2                |                 |                | 61                            |               | 2                     | 1125                |
| In <sub>0.488</sub> Na <sub>0.025</sub> Pb <sub>0.488</sub> | >6                 |                 |                | 3.4                           |               | 4.23                  | 1886                |
| In <sub>1-0.87</sub> Pb <sub>0-0.13</sub>                   |                    |                 | 0.28-<br>0.565 | Data<br>given                 |               |                       | 1029 480            |
| In <sub>0.98</sub> Pb <sub>0.02</sub>                       | 3.45               | 0.1             | 0.310<br>(0K)  |                               | 0.12          | 2.76                  | 662                 |
| In <sub>0.961</sub> Pb <sub>0.039</sub>                     | 3.64               |                 |                | Type II<br>at lowest<br>temp. |               |                       | 1025                |
| In <sub>0.96-0.90</sub> Pb <sub>0.04-0.10</sub>             |                    | 0.11-<br>0.10   | 0.10-<br>0.18  | 0.11-<br>0.39                 | 0.23-<br>0.77 | (at 0.8<br>of $T_c$ ) | 1074                |
| In <sub>0.955</sub> Pb <sub>0.045</sub>                     | 3.69               | 0.311           | 0.353          | 0.431                         |               | 0                     | 1140#               |
| In <sub>0.96</sub> Pb <sub>0.04</sub>                       | 3.68               | 0.10            | 0.348<br>(0K)  | 0.12                          | 0.25          | 2.94                  | 662                 |
| In <sub>0.95</sub> Pb <sub>0.05</sub>                       | 3.73               | 0.318           | 0.375          | 0.492                         |               | 0                     | 1140#               |
| In <sub>0.94</sub> Pb <sub>0.06</sub>                       | 3.90               | 0.095           | 0.385<br>(0K)  | 0.18                          | 0.35          | 3.12                  | 662                 |
| In <sub>0.913</sub> Pb <sub>0.087</sub>                     | 4.2                | ~0.17           |                | 0.55                          | 2.65          |                       | 665                 |
| In <sub>0.18-0.89</sub> Pb <sub>0.82-0.11</sub>             | Data<br>given      | 0.170-<br>0.028 |                | 3.0-4.1<br>-0.15              |               | 4.2                   | 949 1917            |
| In <sub>0.6</sub> Pb <sub>0.4</sub>                         | 6.36               | 0.630<br>0.362  |                | 3.250                         |               | 0<br>3.9              | 809 1917            |
| In <sub>0-0.6</sub> Pb <sub>1-0.4</sub>                     | 7.19-6.76-<br>6.21 |                 |                | ~7-<br>~3                     |               | 0                     | 1610                |
| In <sub>0.30</sub> Pb <sub>0.70</sub>                       |                    |                 |                | 3.9                           |               | 4.2                   | 683 322             |
| In <sub>0.25-0</sub> Pb <sub>0.75-1</sub>                   |                    | 0.18-<br>0.26   | 0.70-<br>0.55  | 3.5-<br>0.55                  | 6.6-<br>1.46  | 4.2                   | 1529 1408           |
| In <sub>0.17</sub> Pb <sub>0.83</sub>                       |                    |                 |                | 2.8                           | 5.5           | 4.2                   | 627 1713            |
| In <sub>0.14</sub> Pb <sub>0.86</sub>                       |                    | 0.3<br>0.25     |                | 3.75<br>2.4                   |               | 1.75<br>4.22          | 080 322             |
| In <sub>0.08</sub> Pb <sub>0.92</sub>                       |                    | 0.31<br>0.22    |                | 3.78<br>2.40                  |               | 1.75<br>4.22          | 401 1269 118<br>080 |
| In <sub>0.063</sub> Pb <sub>0.937</sub>                     |                    | 0.43            |                | 2.3                           |               | 1.2                   | 844                 |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material   | $T_c$ (K)            | $H_{c1}$        | $H_c$          | $H_{c2}$           | $H_{c3}$     | $T_{\text{obs}}$ (K) | Refs.                  |
|--|----------------------|-----------------|----------------|--------------------|--------------|----------------------|------------------------|
| $\text{In}_{0.035}\text{Pb}_{0.965}$                                       |                      | 0.6<br>0.53     |                | 1.75<br>0.98       |              | 0<br>4.22            | 919 118<br>080 401 322 |
| $\text{In}_{0.02}\text{Pb}_{0.98}$   | 7.2, 7.12            | 0.73<br>0.53    |                | 1.52<br>0.98       |              | 1.95<br>4.22         | 401 080 1452<br>1836   |
| $\text{In}_{0.99}\text{Pb}_{0.01}$ (200-200,000 Å)                         |                      |                 |                | ↓ Data given       |              |                      | 7888 750               |
| $\text{In}_{0.22}\text{Pb}_{0.57}\text{Sn}_{0.21}$ (Sn precipitate formed) |                      |                 |                | 4.8<br>3.0         | 2.0<br>4.2   |                      | 1041 1972              |
| InSb   | ~3.4                 |                 |                | Data given         |              |                      | 1129                   |
| $\text{In}_{0.88}\text{Sn}_{0.12}$   | 5.03                 |                 | 0.253<br>0.092 | 0.562<br>0.192     | 3.43<br>4.49 |                      | 1641                   |
| $\text{In}_{0.51}\text{Sn}_{0.49}$   | 7.45                 |                 |                | 6.408              | 1.3          |                      | 1917                   |
| $\text{In}_{0.05}\text{Sn}_{0.95}$   | 3.625                |                 |                | 0.12               | 0.195        | 3                    | 1612                   |
| $\text{In}_{0.06-0.01}\text{Sn}_{0.94-0.99}$                               | 3.645-3.625-<br>3.64 |                 |                | Data given         |              |                      | 1050 910#              |
| $\text{In}_{0.02, 0.04}\text{Sn}_{0.98, 0.96}$                             |                      |                 |                | Data given         |              |                      | 666                    |
| $\text{In}_x\text{Sn}_{1-x}$   |                      |                 | Data given     | Data given         |              |                      | 71619 7854             |
| $\text{InTe}_{1.002}$ (II)   |                      |                 |                | 1.2                | 0            |                      | 507                    |
| $\text{In}_{0.73-0.63}\text{Tl}_{0.27-0.37}$                               |                      |                 |                | 0.275-<br>0.350    | 2.15         |                      | 1155                   |
| $\text{In}_{0.95-0.75}\text{Tl}_{0.05-0.25}$                               |                      | 0.263-<br>0.216 |                | 0.263-<br>0.50     |              |                      | 338                    |
| In(RRR 2.5-2000)   | 0.05-<br>0.1125      |                 | 0.0155         | 0.032(RRR<br>= 4)  | 0            |                      | 1492                   |
| La   |                      |                 |                | 8-10.8 (vs<br>RRR) | 1.4          |                      | 1265 925               |
| $\text{La}_{0.98}\text{Lu}_{0.02}$   | 4.643                |                 |                | 11.5               | 0            |                      | 1271                   |
| $\text{La}_{0.98}\text{Lu}_{0.02-0.007}$<br>$\text{Tb}_{0-0.013}$          | 4.643-<br>0.632      |                 |                | 10-<br>0.6         | 0            |                      | 1493                   |
| $\text{La}_{0.98}\text{Lu}_{0.0115}$<br>$\text{Tb}_{0.0085}$               | 2.582                |                 |                | 1.38               | 0            |                      | 1271                   |
| $\text{La}_{0.98}\text{Lu}_{0.01}\text{Tb}_{0.01}$                         | 2.108                |                 |                | 0.82               | 0            |                      | 1271                   |
| $\text{La}_{0.2}\text{Mo}_{6.35}\text{Pb}_{0.8}\text{S}_8$                 | 13.2                 |                 |                | ~560<br>480        | 0<br>4.2     |                      | 1759                   |
| LaN  | 1.35                 | 0.45            |                |                    | 0.76         |                      | 668                    |
| LaOs <sub>2</sub>  | 8.9                  |                 | ≈ 30           |                    | 0            |                      | 1897#                  |
| LaRu <sub>2</sub>  | 3.08                 |                 | 9              |                    | 2.49         |                      | 1783#                  |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material   | $T_c$ (K)      | $H_{c1}$       | $H_c$          | $H_{c2}$       | $H_{c3}$               | $T_{obs}$ (K) | Refs.     |
|--|----------------|----------------|----------------|----------------|------------------------|---------------|-----------|
| $\text{La}_3\text{S}_4$  | 6.5            | $\approx 0.15$ |                | >25            |                        | 1.3           | 534       |
| $\text{La}_3\text{Se}_4$                                       | 8.6            | $\approx 0.2$  |                | >25            |                        | 1.25          | 534       |
| $\text{LaSn}_3$  |                |                | 1.32<br>0.70   |                |                        | 1.14<br>4.2   | 1329      |
| $\text{La}_{0.92, 0.84}\text{Sn}_3$<br>$\text{Tm}_{0.08-0.16}$ | 5.2, 3.3       |                |                | Data given     |                        |               | 1329      |
| $\text{La}_3\text{Te}_4$                                       | 3.75,<br>2.15  | 0.02 -<br>0.06 |                | 8-12.5         |                        | 1.4           | 1024      |
| Mg (Deposited 4.2K,<br>100 Å)                                  | 5.5            |                |                | 7.23           |                        | 0             | 7710      |
| $\text{Mn}_x\text{Zn}_{1-x}$                                   | 0.85 -<br>0.12 |                |                | Data given     |                        |               | 1322      |
| $\text{Mo}_{0.2}\text{Nb}_{0.8}$                               | 4.163          |                | 0.38<br>(2.5K) | 3.73           |                        | 2.0           | 1452      |
| $\text{Mo}_{0.2}\text{Nb}_{0.8}$                               | 4.28, 4.23     |                | 0.747<br>(OK)  | 5.437<br>4.85  |                        | 0             | 1547 1550 |
| $\text{Mo}_{\sim 0.2}\text{Nb}_{\sim 0.8}$                     | 4.22           | 0.15           | 0.50           | 2.99           |                        | 2.39          | 1103 441  |
| $\text{Mo}_{\sim 0.15}\text{Nb}_{\sim 0.85}$                   | 5.30           | 0.16           | 0.46           | 2.47           |                        | 3.77          | 1103      |
| $\text{Mo}_{\sim 0.1}\text{Nb}_{\sim 0.9}$                     | 6.38           | 0.29           | 0.785          | 4.14           |                        | 3.78          | 1103      |
| $\text{Mo}_{0.07-0.01}$<br>$\text{Nb}_{0.93-0.99}$             | 7.1-8.7        |                |                | 6.42 -<br>5.65 | (at 0.25<br>of $T_c$ ) |               | 1929      |
| $\text{Mo}_{\sim 0.05}\text{Nb}_{\sim 0.95}$                   | 7.84           | 0.49           | 1.07           | 4.265          |                        | 4.17          | 1103      |
| $\text{Mo}_{0.725}\text{Nb}_{0.061}$<br>$\text{Re}_{0.187}$    | 5.0            |                |                | 2.65           |                        | 0             | 881       |
| $\text{Mo}_{0.01}\text{Nb}_{0.34}\text{Ti}_{0.65}$             |                |                |                | 112            |                        | 4.2           | 1391      |
| $\text{Mo}_{6.35}\text{Pb S}_8$                                | 12.6           |                |                | ~540<br>450    |                        | 0<br>4.2      | 1759      |
| $\text{Mo}_{6.35}\text{Pb S}_8$                                | 11.0           |                |                | ~455<br>360    |                        | 0<br>4.2      | 1759      |
| $\text{Mo}_6\text{Pb S}_7$                                     | 14.0           |                |                | Data given     |                        |               | 1831      |
| $\text{Mo}_{5.1}\text{Pb}_{0.9}\text{S}_6$                     | 11.7           |                |                | 486<br>390     |                        | 0<br>4.2      | 1597      |
| $\text{Mo}_{5.1}\text{Pb}_{1.0}\text{S}_6$                     | 14.4           |                |                | 598<br>~510    |                        | 0<br>4.2      | 1597      |
| $\text{Mo}_{5.1}\text{Pb}_{0.9}\text{S}_6$                     | 11.5           |                |                | 450            |                        | 0             | 1664      |
| $\text{Mo}_5\text{Pb S}_7$                                     | 12.5           |                |                | ~140           |                        | 8.5           | 1725      |
| $\text{Mo}_{6.3}\text{Pb S}_6\text{Se}_2$                      | 5.4            |                |                | 130            |                        | 3             | 1759      |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                                     | $T_c$ (K)   | $H_{c1}$        | $H_c$ | $H_{c2}$       | $H_{c3}$     | $T_{obs}$ (K) | Refs.                        |
|--|-------------|-----------------|-------|----------------|--------------|---------------|------------------------------|
| $Mo_{0.35}Pb_{0.9}S_8Sn_{0.12}$              | ~11         |                 |       | 395<br>385     | 0<br>4.2     |               | 1759                         |
| $Mo_{0.35}Pb_{0.7}S_8Sn_{0.36}$              | 10.0        |                 |       | 335            | 0            |               | 1759                         |
| $Mo_{0.865}Re_{0.135}$                       | 6.1         |                 | 0.471 | 1.57           |              | 4.2           | 881                          |
| $Mo_{0.815}Re_{0.185}$                       | 8.27        |                 |       | 7.0            | 0            |               | 881                          |
| $Mo_{0.66}Re_{0.34}$                         | 11.8        | 0.381           |       | 11.34          |              | 4.2           | 1331# 429 383<br>310 406 455 |
| $Mo_{0.6}Re_{0.4}$<br>(cold worked)          | 10.6        |                 |       | 25.5<br>19     | 37.3<br>28.3 | 1.3<br>4.2    | 555                          |
| $Mo_{0.6}Re_{0.4}$<br>(annealed)             | 10.6        |                 |       | 19<br>14.5     | 26.2<br>19.6 | 1.3<br>4.2    | 555                          |
| $Mo_{0.52}Re_{0.48}$<br>(as cast)            |             | 0.836           |       | 20.1           |              | 1.94          | 1151                         |
| $Mo_{0.52}Re_{0.48}$<br>(annealed)           |             | 0.613<br>(5.4K) |       | 16.2           |              | 1.16          | 1151                         |
| $Mo_{0.52}Re_{0.48}$<br>(cold worked)        | 11.1        |                 |       | 27.9<br>21.3   | 42.8<br>33   | 1.3<br>4.2    | 555                          |
| $Mo_{0.52}Re_{0.48}$<br>(annealed, quenched) | 11.1        |                 |       | 19.2<br>14.6   |              | 1.3<br>4.2    | 555                          |
| $Mo_{0.52}Re_{0.48}$<br>(2000C, slow cooled) | 11.1        |                 |       | 18.3<br>14.8   | 37.5<br>27.3 | 1.3<br>4.2    | 555 202                      |
| $Mo_5S_6Sn$                                  | 13.4, 11.7  |                 |       | 344            |              | 0             | 1597 1644                    |
| $Mo_5S_6Sn$                                  | 11.3        |                 |       | ~140           |              | 6.3           | 1725                         |
| $MoS_2Sr_{0.2}$                              | 5.6         |                 |       | 19<br>  25     |              | 2.6<br>3.2    | 1532                         |
| $MoS_2Sr_{0.06-0.1}$                         | 5.6         |                 |       | ~12<br>  >35   |              | 0             | 1928                         |
| $Mo_{0.913}Ti_{0.087}$                       | 2.95        | 0.060           |       | ~15            |              | 4.2           | 600                          |
| $Mo_{0.16}Ti_{0.84}$                         | 4.246       | 0.905           |       | 59.3<br>60-66  | 1.18<br>0    |               | 805#                         |
| $Mo_{0.16}Ti_{0.84}$                         | 4.10        |                 |       | 65             | 0            |               | 740#                         |
| $Mo_{0.16}Ti_{0.84}$                         | 4.246, 4.18 | 0.028           |       | 98.7<br>36, 38 | 0<br>3.0     |               | 584<br>565 616               |
| $Mo_xTi_{1-x}$                               |             |                 |       | Data given     |              |               | 218 289 399 301<br>252 268   |
| $Mo_{0.305-0.116}$                           | 1.97-       |                 |       | >25            |              |               | 349                          |
| $U_{0.695-0.874}$                            | 2.06-       |                 |       |                |              |               |                              |
|  | 1.85        |                 |       |                |              |               |                              |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                                      | $T_c$ (K)     | $H_{c1}$ | $H_c$ | $H_{c2}$          | $H_{c3}$       | $T_{obs}$ (K)   | Refs.                |
|---|---------------|----------|-------|-------------------|----------------|-----------------|----------------------|
| $Mo_x Zr_{1-x}$                               |               |          |       | >30               |                |                 | 289 399              |
| NNb   | 16.0          | 0.093    |       | 158<br>118-132    |                | 4.2             | 1473#<br>1234        |
| NNb   | 15.0          |          |       | ~250              | 0              | 1044            |                      |
| $N_{0.96}Nb$                                  | 15.2          |          |       | >9.5              | 13.2           | 343             |                      |
| $N_{0.93}Nb$                                  |               | 0.008    |       |                   | 15.8           | 1070            |                      |
| $N_{0.92}Nb$                                  | 16.3          |          |       | 130               | 0              | 880#            |                      |
| $N_{0.93}Nb$                                  | 15.85         |          |       | 158               | 0              | 880#            |                      |
| NNb (Diffusion wires)                         | 16.1          |          |       | 153<br>132<br>53  | 0<br>4.2<br>12 | 553 243 873 190 |                      |
| $N_{0.0023}Nb_{0.998}$                        | 9.20          |          |       | 5.0               | 7.8            | 4.2             | 771                  |
| NNb (Sputtered)                               | 14.1-16.2     |          |       | 150-290           |                | 4.2             | v1433 v1406<br>v1174 |
| $N_x Nb_{1-x}$                                | 6-17          |          |       | 150-230           |                | 4.2             | v1828 v1175<br>v1527 |
| $N_x Nb_{1-x} N_2$ (Sputtered,<br>at 300C)    | 6-13.8        |          |       | 200-280           | 0              |                 | v1694                |
| NNb   | 15.23         | 0.040    |       | >250              |                | 4.2             | v1473#               |
| NNb (whiskers)                                | 10-14.5       |          |       | Data given        |                |                 | 582                  |
| $NNb_x O_y$                                   | 13.5-17.0     |          |       | >38               |                |                 | 483                  |
| $N_{0.91}Nb_{0.99}Ta_{0.01}$                  | 15.62         |          |       | 135               | 0              |                 | 880#                 |
| $N_{0.92}Nb_{0.946}Ta_{0.054}$                | 14.41         |          |       | 135               | 0              |                 | 880#                 |
| $N_{0.91}Nb_{0.82}Ta_{0.18}$                  | 10.9          |          |       | 100               | 0              |                 | 880#                 |
| NNb <sub>1-0</sub> Ti <sub>0-1</sub>          | 14.6-16.5-4.4 |          |       | 135-<br>145-<br>5 |                | 4.2             | 1203                 |
| NNb <sub>~0.4-0.6</sub> Ti <sub>0.6-0.4</sub> | ~15.5         |          |       | ≤250              | 0              |                 | 1044                 |
| $N_{0.90}Nb_{0.114}Ti_{0.886}$                | 10.1          |          |       | 100               | 0              |                 | 880#                 |
| $N_{0.88}Nb_{0.256}Ti_{0.744}$                | 14.72         |          |       | 104               | 0              |                 | 880#                 |
| $N_{0.85}Nb_{0.66}Ti_{0.34}$                  | 17.61         |          |       | 119               | 0              |                 | 880#                 |
| $N_x Nb_{1-x} Ti_{y-y}$<br>(Hot substrate)    | 15.5-17.5     |          |       | <200              |                | 4.2             | v1344                |
| NNb <sub>0.8</sub> Ti <sub>0.2</sub>          |               |          |       | >180              | 0              |                 | v1405                |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                               | $T_c$ (K)     | $H_{c1}$     | $H_c$        | $H_{c2}$                                     | $H_{c3}$    | $T_{obs}$ (K) | Refs.                                   |
|--|---------------|--------------|--------------|--|-------------|---------------|---|
| NNbTi                                  |               |              |              | >136   |             | 4.2           | 7839                                    |
| $N_{0.93}Nb_{0.85}Zr_{0.15}$           | 13.8          |              |              | >130   |             |               | 652                                     |
| $N_{0.95}Nb_{0.75}Zr_{0.25}$           | 12.96         |              |              | 116  | 0           |               | 880#                                    |
| $N_{0.76}Nb_{0.85}Zr_{0.15}$           | 14.16         |              |              | 132  | 0           |               | 880#                                    |
| $N_{0.74}Nb_{0.9}Zr_{0.1}$             | 14.42         |              |              | 136  | 0           |               | 880#                                    |
| $N_{0.73}Nb_{0.95}Zr_{0.05}$           | 15.42         |              |              | 146  | 0           |               | 880#                                    |
| NNb <sub>x</sub> Zr <sub>1-x</sub>     | 9.8-13.8      |              |              | 4->130                                       |             |               | 652 553 517                             |
| $N_xNb_yZr_{1-x-y}$<br>(Hot substrate) | ~15-9         |              |              | ~200   |             |               | 71344                                   |
| NNbZr                                  |               |              |              | >136   |             | 4.2           | 7839                                    |
| $N_{0.95}Zr$ (Monocrystal needles)     | 9.6           |              |              | 2.5-3  | 0           |               | 1968                                    |
| $Na_{0.086}Pb_{0.914}$                 |               | 0.19         |              | 6  |             |               | 322 1312                                |
| $Na_{0.07}Pb_{0.93}$                   |               | 0.15         |              | 5.3  | 4.21        |               | 1312                                    |
| $Na_{0.016}Pb_{0.984}$                 |               | 0.28         |              | 2.05   |             |               | 322                                     |
| Nb(RRR=1600)                           | 9.25          | 1.73         |              | 4.05   | 0           |               | 743                                     |
| Nb                                     | 9.1-9.27      |              |              | 4.005-<br>4.4                                | 0           |               | 1639 1359 1550<br>928 1929              |
| Nb(RRR~10,000)<br>(RRR~300)            | 9.20<br>9.20  | 1.8<br>1.8   |              | 4.00<br>>4                                   | 18.3<br>8.1 | 0             | 994                                     |
| Nb(RRR=1-2,000)                        | 9.20, 9.23    | 1.85         | 2.07         | 3.9  |             | 0             | 1099# 864#                              |
| Nb(RRR=750)                            |               |              |              | [111]4.44<br>  [110]4.17<br>  [001]4.02      | 0           |               | 1142 1574<br>1560 827<br>1300 1237 1560 |
| Nb                                     | 9.29          |              |              | 10.4   |             | 0             | 1979                                    |
| Nb                                     | 9.15          |              | 2.02<br>1.71 |  |             | 1.4<br>4.2    | 531 722                                 |
| Nb (Wires) (RRR=145)                   | 9.26          | 0.31<br>1.81 |              | 0.42<br>3.71                                 |             | 3.396<br>2.04 | 1892                                    |
| Nb (RRR=14,000)                        |               |              |              | 4.70<br>(as prepared)<br>2.80<br>(outgassed) | 4.2         |               | 895                                     |
| Nb (Unstrained)                        | 1.1-<br>1.8   |              |              | 3.40<br>9.1                                  | 6.0-<br>9.1 | 4.2           | 538                                     |
| Nb (Strained)                          | 1.25-<br>1.92 |              |              | 3.44   | 6.0-<br>8.7 | 4.2           | 538 1805 771                            |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material  | $T_c$ (K)  | $H_{c1}$               | $H_c$                           | $H_{c2}$               | $H_{c3}$ | $T_{obs}$ (K) | Refs.   |
|---|------------|------------------------|---------------------------------|------------------------|----------|---------------|---|
| Nb (Cold drawn wire)                                      |            | 2.48                   |                                 | 4.10                   | ~10      | 4.2           | 538 751 1771  |
| Nb (Irradiated, $\text{O}^{n^1}$ , at 4.6K)               |            |                        |                                 | 2.5-<br>4.3            |          |               | 832   |
| Nb  |            | Data given             |                                 |                        |          |               | 1298 334 1839   |
| Nb  |            |                        | Data given                      |                        |          |               | 1135 883 1316<br>1549 1805 1021<br>334 995 1087#<br>400 |
| Nb  |            |                        |                                 | Data given             |          |               | 995 334 1021<br>1549 1135                               |
| Nb (410, 1050Å)   | 7.02-8.6   | 0.011-<br>19           |                                 | 20-32                  |          |               | ▽1251   |
| Nb (245Å)   | 9.3        |                        |                                 | 68                     |          | 1.3           | ▽719  |
| Nb (270Å)   | 9.1        |                        |                                 | 53                     |          | 1.3           | ▽719  |
| Nb (37, 000Å)   | 10.0       |                        |                                 | 40                     |          | 0             | ▽719 ▽913 ▽518<br>▽1411                                 |
| $\text{NbO}_{200\text{ppm}}$                              |            |                        | 8.5<br>8.0<br>(cold<br>worked)  |                        | 4.2      |               | 771   |
| $\text{Nb}_{1-0.965}\text{O}_{0-0.035}$<br>(Interstitial) | 9.23-6.13  | 1.91-<br>1.102<br>(0K) |                                 | 2.91-<br>9.17-<br>8.51 |          | 4.2           | 1776# 1523  |
| $\text{Nb}_{0.9916}\text{O}_{0.0084}$                     |            |                        |                                 | 7.74                   | ~13      | 4.2           | 772   |
| $\text{Nb}_{0.985}\text{O}_{0.0152}$                      | 8.04       |                        |                                 | 9.6                    | 11.5     | 4.2           | 771   |
| $\text{Nb}_{0.993}\text{O}_{0.007}$ (Ribbon)              |            |                        | Data<br>given                   | Data<br>given          | 4.2      |               | 771   |
| $\text{Nb}_{1-x}\text{O}_x$                               |            |                        | Data<br>given                   |                        |          |               | 944 1788 441<br>190                                     |
| $\text{Nb}_{0.45}\text{O}_{0.0024}\text{Tl}_{0.54}$       |            |                        | 106.5<br>97<br>(cold<br>worked) |                        | 4.2      |               | 1796  |
| $\text{Nb}_3\text{Os}$                                    | 0.943      |                        |                                 | 1.26                   | 0        |               | 707   |
| $\text{NbS}_2$ (0-13 kbar)                                | 6.20-6.26  |                        | Data<br>given                   |                        |          |               | 1853  |
| NbSc  |            |                        | >30                             |                        |          |               | 399 289   |
| $\text{NbSe}_2$   | 7.34, 7.0  |                        |                                 | 8.5<br>64              |          | 4.2           | 1717 1500 1262<br>1505#                                 |
| $\text{NbSe}_2$   |            |                        |                                 | 130<br>40              |          | 1.2           | 1503 1853 654<br>996                                    |
| $\text{NbSe}_2$   | 7.27, 7.14 | 2.04                   | 174                             |                        | 0        |               | 1827  |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material  | $T_c$ (K)       | $H_{c1}$             | $H_c$ | $H_{c2}$      | $H_{c3}$      | $T_{obs}$ (K) | Refs.  |
|---|-----------------|----------------------|-------|---------------|---------------|---------------|--|
| $Nb_3Sn$  | 18.0            |                      |       | 235           |               | 4.2           | 787  |
| $Nb_{0.75-0.82}^{Sn} 0.25-0.18$<br>(Vapor deposit)  | 18.31-8.2       |                      |       | 225           |               | 4.2           | 1167   |
| $Nb_3Sn$ (Diffusion layer)  | 18.21           |                      |       | 245           |               | 0             | 877  |
| $Nb_3Sn$ (Cladding and<br>coated wires)   | 18.00,<br>18.21 |                      |       | 260,<br>280   |               | 0             | 880#   |
| $Nb_3Sn$  | 18.3            | ~0.2<br>0.35,<br>0.4 |       |               |               |               | 1850 316   |
| $Nb_3Sn$  |                 |                      |       | 180-<br>185   |               |               | 189 310 406 174  |
| $Nb_3Sn$  |                 |                      |       | Data<br>given |               |               | 1660 1743 1034<br>564 485 434 365<br>326 321 383 1075<br>831 |
| $Nb_6Sn_5$  | <2.8            |                      |       | <0.6          |               | 2.1           | 1210   |
| $Nb_3Sn$ (With Bi, Mo,<br>Si, Ta, Ti, V, $CO_2$ , $H_6$ )   | 15.2-16.8       |                      |       | 172-<br>225   |               | 4.2           | 71437  |
| $Nb_3Sn$ ( $CO_2$ , CO, $N_2$ , $O_2$<br>methane, ethane, propane<br>boron trichloride, hydrogen<br>sulfide, ammonium, nitrogen<br>oxide) |                 |                      |       | Data<br>given |               | 4.2           | 1169 1188  |
| $Nb_3Sn$ ( $Fe_2Mn_{0.5}Zn_{0.5}O_4$ )  | 14.7-17.0       |                      |       | Data<br>given |               |               | 831  |
| $Nb_{0.675-0.71}^{Sn} 0.25$<br>$Zr_{0.075-0.04}$  | 17.98-18.07     |                      |       | 260           |               | 0             | 880  |
| $Nb_{1-0.6}Ta_{0-0.4}$  | 9.23-6.56       |                      |       | 4.2-<br>9.2   |               | 0             | 928  |
| $Nb_{0.9913}Ta_{0.0087}$  | 8.87            | 1.75                 | 2.05  | 4.40          | Data<br>given | 0             | 864# 1775 441  |
| $Nb_{0.9844}Ta_{0.0156}$  | 8.76            | 1.70                 | 2.03  | 4.50          |               | 0             | 864#   |
| $Nb_{0.99-0.85}Ta_{0.01-0.15}$  | 9.1-8.1         |                      |       | 4.38-<br>7.04 |               | ~2.6          | 1929   |
| $Nb_{0.98}Ta_{0.02}$  | 8.58            |                      |       | 8.0           |               | 0             | 1550   |
| $Nb_{0.96}Ta_{0.04}$  | 8.87            |                      |       | 6.14          |               | 0             | 928#   |
| $Nb_{0.9575}Ta_{0.0425}$  | 8.55            | 1.37                 | 1.98  | 5.30          |               | 0             | 864#   |
| $Nb_{0.95}Ta_{0.05}$  |                 |                      |       | 9             |               | 0             | 1611   |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material   | $T_c$ (K)                 | $H_{c1}$      | $H_c$           | $H_{c2}$            | $H_{c3}$    | $T_{obs}$ (K)          | Refs. |
|--|---------------------------|---------------|-----------------|---------------------|-------------|------------------------|-------|
| $\text{Nb}_{0.9378}\text{Ta}_{0.622}$  | 8.42                      | 1.12          | 1.89            | 5.56                | 0           | 864#                   |       |
| $\text{Nb}_{0.87}\text{Ta}_{0.13}$   | 8.15                      | 0.91          | 1.69            | 7.08                | 0           | 911                    |       |
| $\text{Nb}_{0.803}\text{Ta}_{0.197}$   | 7.50                      | 0.83          | 1.75            | 7.50                | 0           | 864#                   |       |
| $\text{Nb}_{0.8}\text{Ta}_{0.2}$   | 7.85, 7.51                | 0.83          | 1.65            | 7.93,<br>8.31       | 0           | 1837 911 441           |       |
| $\text{Nb}_{0.67}\text{Ta}_{0.33}$   | 6.81                      | 0.55          | 1.37            | 8.73                | 0           | 911                    |       |
| $\text{Nb}_{0.64}\text{Ta}_{0.36}$   |                           | 0.32,<br>0.14 |                 |                     | 4.2,<br>5.9 | 410 428 455            |       |
| $\text{Nb}_{0.55}\text{Ta}_{0.45}$   | 6.25                      | 0.48<br>0.24  | 1.27            | 8.60<br>3.6         | 0<br>4.2    | 911 439 455<br>410 428 |       |
| $\text{Nb}_{0.47}\text{Ta}_{0.53}$   |                           | 0.2<br>0.13   |                 |                     | 4.2<br>5.0  | 410                    |       |
| $\text{Nb}_{0.39}\text{Ta}_{0.61}$   | 5.52                      |               |                 | 7.20                | 0           | 1837                   |       |
| $\text{Nb}_{0.37}\text{Ta}_{0.63}$   | 5.31                      | 0.37          | 1.04            | 675                 | 0           | 911                    |       |
| $\text{Nb}_{0.29}\text{Ta}_{0.71}$   |                           | 0.14          |                 | Data given          | 4.2         | 410 1576               |       |
| $\text{Nb}_{0.17}\text{Ta}_{0.83}$   | 4.65, 4.82                | 0.33<br>0.1   | 0.83<br>(4.19K) | 4.26,<br>3.95       | 0           | 1837 1103 911          |       |
| $\text{Nb}_{0-0.16}\text{Ta}_{1-0.84}$   | 4.480-<br>4.465-<br>4.670 | Data given    | 0.795-<br>0.882 | Data given          | 0           | 1356                   |       |
| $\text{Nb}_{0.16}\text{Ta}_{0.84}$   |                           |               |                 | 2.98                | 0           | 1356                   |       |
| $\text{Nb}_{0.1}\text{Ta}_{0.9}$   |                           | 0.084         | 0.106           | 0.154               | 4.195       | 478                    |       |
| $\text{Nb}_{0.08}\text{Ta}_{0.92}$   | 4.540                     | 0.768         | 0.882           | 1.78                | 0           | 1356 410 1103          |       |
| $\text{Nb}_{0.05}\text{Ta}_{0.95}$   |                           |               |                 | 0.23-<br>0.39       | 4.19        | 1330 981               |       |
| $\text{Nb}_{0.04}\text{Ta}_{0.96}$   | 4.470                     | 0.772         | 0.817           | 1.17                | 0           | 1356                   |       |
| $\text{Nb}_{0.03}\text{Ta}_{0.97}$   | 4.50                      |               |                 | 1.25                | 0           | 1837                   |       |
| $\text{Nb}_{0.025}\text{Ta}_{0.975}$   | 4.465                     | 0.773         | 0.80            | 0.99                | 0           | 1356                   |       |
| $\text{Nb}_{0.016}\text{Ta}_{0.984}$   |                           |               |                 | 0.847               | 0           | 1356                   |       |
| $\text{Nb}_{x}\text{Ta}_{y}\text{Ti}_{z}$  | ~9 Max.                   |               |                 | <66-<br>124         | 4.2         | 1398 1391              |       |
| $\text{Nb}_{0-0.36}\text{Ta}_{0.36-0}$<br>$\text{Ti}_{0.64}$                     | 7.5-9.2                   |               |                 | 100-<br>120-<br>108 | 4.2         | 1398                   |       |
| $\text{Nb}_{0.05-0.65}\text{Ta}_{0.04-}$<br>$\text{Ti}_{x}\text{Zr}_{0.04-0.10}$ | 7.7-9.8                   |               |                 | 70-<br>131          | 4.2         | 1465                   |       |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                                       | $T_c$ (K)    | $H_{c1}$    | $H_c$      | $H_{c2}$            | $H_{c3}$   | $T_{obs}$ (K) | Refs.                  |
|--|--------------|-------------|------------|---------------------|------------|---------------|------------------------|
| $Nb_{0.1} Ta_{0.05} Ti_{0.25}$<br>$Zr_{0.05}$  | 8.3          |             |            | 181                 |            | 4.2           | 1465                   |
| $Nb_{0.39} Ta_{0.04} Ti_{0.53}$<br>$Zr_{0.04}$ |              |             |            | 117                 |            | 4.2           | 1391                   |
| $Nb_{0.7} Ta_{0.05} Zr_{0.25}$                 | >4.2         |             |            | >90                 |            |               | 225                    |
| $Nb_{0.73-0.65} Ta_{0.02-0.1}$<br>$Zr_{0.25}$  | >4.2         |             |            | >70                 |            |               | 225                    |
| $Nb_{0.985} Ti_{0.015}$                        |              |             |            | ~12                 |            | 0             | 1611 441               |
| $Nb_{0.955} Ti_{0.045}$                        |              |             |            | ~23                 |            | 0             | 1611                   |
| $Nb_{0.95} Ti_{0.05}$                          | 9.38, 9.41   | 0.675       |            | 18, 19.5<br>16.5    |            | 0<br>4.2      | 1241 1371#<br>1216     |
| $Nb_{0.93} Ti_{0.0723}$                        | 9.53         |             | 2.2        |                     |            | 0             | 1754#                  |
| $Nb_{0.91} Ti_{0.09}$                          |              |             |            | ~35                 |            | 0             | 1611 289               |
| $Nb_{0.9} Ti_{0.1}$                            | 9.61         | 0.50        |            | 35, 37<br>36        |            | 0<br>4.2      | 1241 1371#             |
| $Nb_{0.75} Ti_{0.25}$                          | 9.93, 9.8    | 0.35        |            | 90.5,<br>100<br>73  |            | 0<br>4.2      | 1371 1241<br>1391 1398 |
| $Nb_{0.63} Ti_{0.37}$                          | 9.2          |             |            | 96                  |            | 0             | 725 310 455            |
| $Nb_{0.55} Ti_{0.45}$                          | 9.4          |             |            | 108                 |            | 4.2           | 830 321                |
| $Nb_{0.44} Ti_{0.56}$                          | 9.0          |             |            | 141                 |            | 0             | 725 968 874 439        |
| $Nb_{0.4} Ti_{0.6}$                            |              |             |            | 117,<br>107,<br>126 |            | 4.2           | 1391 830 1409          |
| $Nb_{0.33} Ti_{0.67}$                          |              |             |            | Data given          |            |               | 968 991                |
| $Nb_{0.22} Ti_{0.78}$                          | 7.5, 7.8     | 1.125 3.572 |            | 77                  |            | 4.2           | 991                    |
| $Nb_{0.22} Ti_{0.78}$                          | 6.92<br>7.72 |             |            | 30.1<br>33.7        | 45<br>41.8 | 5.54<br>6.48  | 993                    |
| $Nb_{0.22} Ti_{0.78}$                          | 7.39-8.26    |             | Data given | 42-84               | Data given | 0             | 1575                   |
| $Nb_{0.2} Ti_{0.8}$                            | 6.5-4.5      |             |            | 50-15               |            | 4.2           | 1414 965               |
| $Nb_{0.11} Ti_{0.89}$                          | 5.40         |             |            | ~84                 |            | 0             | 1638                   |
| $Nb_x Ti_{1-x}$                                |              |             |            | ~38-<br>145         |            | 4.2           | 218 399 439 289<br>290 |
| $Nb_x Ti_y V_z$                                |              |             |            | 126-<br>10          |            | 4.2           | 1409                   |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                                     | $T_c$ (K) | $H_{c1}$ | $H_c$ | $H_{c2}$  | $H_{c3}$ | $T_{obs}$ (K) | Refs.         |
|--|-----------|----------|-------|---|----------|---------------|---------------|
| $Nb_{0.5}Ti_{0.3}V_{0.2}$                    | 7.8-7.5   |          |       | ~85<br>~75<br>(Irradiated,<br>$\text{O}^{n1}$ ) |          | 4.2           | 1792          |
| $b_{0.35}Ti_{0.64}W_{0.01}$<br>$x Ti_y Zr_z$ |           |          |       | 114   |          | 4.2           | 1391          |
| $Nb_{0.8}Ti_{0.1}Zr_{0.1}$                   |           |          |       | 135-75  |          |               | 1876 830 1463 |
| $Nb_{0.78}Ti_{0.21}Zr_{0.01}$                |           |          |       | 76  |          | 4.2           | 1391          |
| $Nb_{0.77}Ti_{0.1}Zr_{0.13}$                 |           |          |       | 55  |          | 4.2           | 1391          |
| $Nb_{0.75}Ti_{0.15}Zr_{0.1}$                 | 9.7       |          |       | 77  |          | 4.2           | 1391          |
| $Nb_{0.69}Ti_{0.15}Zr_{0.16}$                |           |          |       | 57  |          | 4.2           | 830           |
| $Nb_{0.66}Ti_{0.15}Zr_{0.19}$                |           |          |       | 76  |          | 4.2           | 1391          |
| $Nb_{0.65}Ti_{0.25}Zr_{<0.10}$               | 9.8-10    |          |       | 75  |          | 4.2           | 1438          |
| $Nb_{0.65}Ti_{0.15}Zr_{0.2}$                 | 9.8       |          |       | ~76   |          | 4.2           | 830           |
| $Nb_{0.62}Ti_{0.14}Zr_{0.24}$                | 9.6       |          |       | 65  |          | 4.2           | 830           |
| $Nb_{0.62}Ti_{0.14}Zr_{0.24}$                | 9.7, 9.6  |          |       | 69  |          | 4.2           | 830           |
| $Nb_{0.60}Ti_{0.30}Zr_{0.10}$                |           |          |       | 76  |          | 4.2           | 1391          |
| $Nb_{0.58}Ti_{0.30}Zr_{0.12}$                |           |          |       | 87  |          | 4.2           | 1391          |
| $Nb_{0.57}Ti_{0.33}Zr_{0.1}$                 | 9.6       |          |       | 90  |          | 4.2           | 1391          |
| $Nb_{0.52}Ti_{0.16}Zr_{0.32}$                | 9.4, 9.5  |          |       | 78  |          | 4.2           | 830           |
| $Nb_{0.53}Ti_{0.18}Zr_{0.29}$                | 9.1, 9.0  |          |       | 71, 72  |          | 4.2           | 830           |
| $Nb_{0.5}Ti_{0.1}Zr_{0.4}$                   | 9.1, 9.0  |          |       | 81, 80  |          | 4.2           | 830           |
| $Nb_{0.5}Ti_{0.45}Zr_{0.05}$                 | 10.3      |          |       | 105   |          | 4.2           | 1789          |
| $Nb_{0.48}Ti_{0.3}Zr_{0.22}$                 |           |          |       | 97  |          | 4.2           | 1391          |
| $Nb_{0.47}Ti_{0.48}Zr_{0.05}$                | 8.9-9.1   |          |       | 78-80   |          | 4.2           | 830           |
| $Nb_{0.43}Ti_{0.27}Zr_{0.3}$                 | 8.7       |          |       | 89  |          | 4.2           | 830           |
| $Nb_{0.41}Ti_{0.23}Zr_{0.36}$                | 8.6-9.1   |          |       | 75-77   |          | 4.2           | 830           |
| $Nb_{0.35}Ti_{0.64}Zr_{0.05}$                | 8.6       |          |       | 78-77   |          | 4.2           | 1789          |
| $Nb_{0.35}Ti_{0.45}Zr_{0.2}$                 |           |          |       | ~113  |          | 4.2           | 1391          |
| $Nb_{0.35}Ti_{0.30}Zr_{0.35}$                |           |          |       | 103   |          | 4.2           | 1391          |
|  |           |          |       | 98  |          | 4.2           | 1391          |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                                     | $T_c$ (K)                | $H_{c1}$          | $H_c$ | $H_{c2}$                  | $H_{c3}$ | $T_{obs}$ (K)                             | Refs. |
|--|--------------------------|-------------------|-------|---------------------------|----------|---|-------|
| $Nb_{0.22-0.15}Ti_{0.74-0.25}Zr_{0.53-0.07}$ | 10.05, 9.1               |                   |       | Data given                |          | 1205 965                                  |       |
| $Nb_{0.222}U_{0.778}$                        | 1.98                     |                   |       | >25                       |          | 349 466                                   |       |
| $Nb_xV_{1-x}$                                | 5.19-3.97-<br>9.29       |                   |       | 10.1-<br>19.9-<br>10.4    | 0        | 1979                                      |       |
| $Nb_{1-x}W_x$                                |                          |                   |       | Data given                |          | 441                                       |       |
| $Nb_{1-0.98}Y_{0-0.02}$                      | 9.38-9.25                |                   |       | 4.91-<br>2.91             | 4.2      | 1771                                      |       |
| $Nb_xZr_{1-x}$                               |                          |                   |       | 35-<br>125                |          | 218 289 399 268<br>847 465 321 383<br>455 |       |
| $Nb_{0.9-0.15}Zr_{0.1-0.85}$                 |                          |                   |       | 123-<br>44                | 0        | 686                                       |       |
| $Nb_{0.75}Zr_{0.25}$                         | 10.6, 11.1               |                   |       | 81.9,<br>83.4             | 0        | 975 420 600 597<br>368 406 310            |       |
| $Nb_{0.66}Zr_{0.33}$                         |                          |                   |       | >83                       | 4.2      | 597 429                                   |       |
| $Nb_{0.5}Zr_{0.5}$                           | 10.8                     |                   |       | 92                        | 0        | 739 429 1301 466<br>441                   |       |
| $Nb_{\sim 0.4}Zr_{\sim 0.6}$                 |                          |                   |       | 123                       | 0        | 686                                       |       |
| $Nb_{0.25}Zr_{0.75}$                         |                          |                   |       | >87                       | 4.2      | 429 441                                   |       |
| $Nb_{0.2}Zr_{0.8}$                           |                          | 1.12              | 3.57  | 80                        | 4.2      | 991 441                                   |       |
| $NbZr$ (Deposited 350,<br>360C, 3000-4000 Å) | 1.6-9.3                  |                   |       | Data given                |          | ▽1275                                     |       |
| $O_3Rb_{0.33-0.20}W$                         | 2.15-2.90-<br><1.20-4.35 |                   |       | 0.643-<br>1.290<br>-0.950 | 0        | 1882 1942# 1080                           |       |
| $O_3Rb_{0.33}W$                              | 2.15                     |                   |       | 0.643                     | 0        | 1882                                      |       |
| $O_3Rb_{0.30}W$                              | 2.90                     |                   |       | 1.290                     | 0        | 1882                                      |       |
| $O_3SrTi$ ( $n \sim 10^{20}$ )               | 0.43<br>0.33             | 0.0049<br>0.00195 |       | 0.504<br>0.420            | 0<br>0   | 594 1005<br>611 770                       |       |
| $O_3SrTi$ ( $n \sim 10^{20}$ )               | 0.43                     | 0.0044            |       | 0.300                     | 0.15     | 594#                                      |       |
| $O_3SrTi$ ( $n \sim 10^{20}$ )               | 0.33                     | 0.0012            |       | 0.180                     | 0.19     | 594#                                      |       |
| $O_3SrTi$ ( $n \sim 10^{20}$ )               | 0.43                     | 0.0013            |       | 0.070                     | 0.39     | 594#                                      |       |
| $O_3SrTi$ ( $n \sim 10^{20}$ )               | 0.33                     | 0.00045           |       | 0.004                     | 0.315    | 594# 1005                                 |       |
| P (P=170-220 kbar)                           | 5.8~5.6                  |                   |       | ~4.8-<br>>10              | 0        | 786                                       |       |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE: Magnetic fields in kiloersteds.

| Material                          | $T_c$ (K)       | $H_{c1}$       | $H_c$                      | $H_{c2}$            | $H_{c3}$     | $T_{obs}$ (K)               | Refs.        |
|-----------------------------------|-----------------|----------------|----------------------------|---------------------|--------------|-----------------------------|--------------|
| Pb                                |                 |                |                            | Data given          | Data given   | 430 322 666<br>1287 586 357 |              |
| Pb (In porous media,<br>32,58 Å)  | 7.049,<br>7.150 |                | 96,<br>55                  |                     | 0            | 1642                        |              |
| Pb (800 Å)<br>(3700 Å)            |                 |                | 4.5, 12.2<br>  1.28, 10.80 |                     | 1.6          | 7752 7985<br>71124 71268    |              |
| Pb (1070 Å)<br>(7000 Å)           |                 |                | 1.43,<br>  0.64            |                     | 4.2          | 71644 7672                  |              |
| Pb (Deposited 4.2K,<br>300-450 Å) |                 |                | 5-22                       |                     | 0            | 71739                       |              |
| $Pb_{1-x}Sb_x$                    |                 |                |                            | >0.7-19             |              | 4.2                         | 458 589      |
| $Pb_{0.965}Sn_{0.035}$            |                 | 0.53           |                            | ~0.56               |              |                             | 322 457      |
| $Pb_{0.871}Sn_{0.129}$            |                 | 0.45           |                            | ~1.1                |              |                             | 322          |
| $Pb_{0.57}Sn_{0.43}$              | 7.45            |                |                            | 1.5                 |              | 1.3                         | 1917         |
| $Pb_{0.36}Sn_{0.64}$              | 7.75            |                |                            | 2.036               |              | 1.3                         | 1917         |
| $Pb_{0.28}Sn_{0.72}$              | 7.06            |                |                            | 0.832               |              | 1.3                         | 1917         |
| PbTe                              | 5.3-5.34        |                |                            | Data given          |              |                             | 669          |
| $Pb_{0.5-1}Tl_{0.5-0.008}$        |                 | 0.15-<br>0.55  |                            | 2.1-<br>0.7         |              | 4.22                        | 080 356 401  |
| $Pb_{1-0.26}Tl_{0-0.74}$          | 7.20-3.68       |                |                            | 2-6.96              |              | 0                           | 649          |
| $Pb_{0.99}Tl_{0.01}$              |                 | 0.82<br>(0K)   |                            | 1.6<br>0.906        | 1.6<br>4.2   |                             | 586 979 666  |
| $Pb_{0.97}Tl_{0.03}$              |                 |                |                            |                     | 1.415        | 4.2                         | 586 666      |
| $Pb_{0.965}Tl_{0.035}$            |                 | 0.8            | 1.2                        | 1.5                 |              | 0                           | 919          |
| $Pb_{0.96}Tl_{0.04}$              | 7.10            | 0.586<br>0.029 |                            | 1.00<br>0.039       | 3.50<br>6.98 |                             | 1710 653#    |
| $Pb_{0.95}Tl_{0.05}$              |                 |                | 0.35                       | 1.048,<br>1.02      | 1.844        | 4.2                         | 586 322 653# |
| $Pb_{0.91}Tl_{0.09}$              |                 |                |                            | 1.691               | 2.974        | 4.2                         | 586          |
| $Pb_{0.85}Tl_{0.15}$              | 6.73            |                |                            | 4.5                 |              | 0                           | 653#         |
| $Pb_{0.83}Tl_{0.17}$              |                 |                |                            | 2.58                | 4.404        | 4.2                         | 586          |
| $Pb_{0.77}Tl_{0.23}$              |                 |                |                            | 2.927               | 4.751        | 4.2                         | 586          |
| $Pb_{0.73}Tl_{0.27}$              | 6.43            | 0.76           |                            | ~6<br>5.2<br>(1.7K) |              | 0                           | 1200         |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material   | $T_c$ (K)              | $H_{c1}$ | $H_c$ | $H_{c2}$                    | $H_{c3}$           | $T_{obs}$ (K)             | Refs.    |
|--|------------------------|----------|-------|-----------------------------|--------------------|---------------------------|----------|
| Pb <sub>0.696</sub> Tl <sub>0.304</sub>                    |                        | 0.145    |       | ~2.9                        |                    |                           | 322      |
| Pb <sub>0.6</sub> Tl <sub>0.4</sub>                        |                        | 0.0964   | 0.33  | 2.884                       |                    | 4.2                       | 1434 403 |
| PtTi <sub>3</sub>  | 0.486                  |          |       | 3.45                        | 0                  |                           | 707      |
| Re (Deposited 78K,<br>500-600K)                            | 1.7-2.2                |          |       | Data<br>given               |                    |                           | ▽1881    |
| Re <sub>0.26</sub> W <sub>0.74</sub>                       |                        |          |       | >30                         |                    |                           | 289      |
| Rh <sub>0.14</sub> Zr <sub>0.86</sub>                      | 11.1                   |          |       | 80                          | 4.2                |                           | 1858     |
| S <sub>1.2</sub> Se <sub>0.8</sub> Ta                      | 3.9                    |          |       | 112, 13<br>75, 92           | 2.34               |                           | 1262     |
| SSeTa  | 3.7                    |          |       | 19, 11<br>54, 74            | 2.2                |                           | 1262     |
| S <sub>0.8</sub> Se <sub>1.2</sub> Ta                      | 3.9                    |          |       | 16.7<br>110.4<br>45         | 2.9<br>2.34<br>2.0 |                           | 1262     |
| SSeTa(pyridine)  | 1.5                    |          |       | 12.6<br>14.0<br>19.1        | 1.1<br>0.9<br>1.1  |                           | 1262     |
| S <sub>2</sub> Ta (pyridine)                               | 3.25                   |          |       | 14.9<br>>150<br>11.4<br>>66 | 1.4<br>2.0         | 1262 1027<br>1027 1262    |          |
| Sb (Prepared 120 kbar;<br>and below 77K)                   | 2.6-2.7                |          |       | 4.4                         | 1.55               |                           | 520      |
| Sb <sub>0.05</sub> Sn <sub>0.95</sub><br>(weight fraction) | 3.75                   |          |       | 0.358                       | 1.3                |                           | 1917     |
| Sc <sub>0.01-0.6</sub> V <sub>0.99-0.4</sub>               | 5.5-7.04-<br>6.8       |          |       | Data<br>given               |                    |                           | 1698     |
| SiV <sub>3</sub>   |                        | 0.55     |       |                             |                    | 316 317                   |          |
| SiV <sub>3</sub>   |                        |          |       | 250<br>228                  | 0<br>4.2           |                           | 787      |
| SiV <sub>3</sub> (Diffusion layers,<br>wires)              | 16.9,<br>16.86         |          |       | 235,<br>230                 | 0                  | 877 880#<br>1075 310 406  |          |
| SiV <sub>3</sub> (1000 to 100,000 Å)                       | 14.85-<br>~16.61       |          |       | ~105                        | 10                 | ▽716 ▽1645                |          |
| Sn (In porous media,<br>31 Å, 39 Å)                        | 4.936,<br>4.248        |          |       | 54, 39                      | 0                  |                           | 1642     |
| Sn (Deposited 4.2K)  | 3.7-4.44<br>(Deformed) |          |       | 40-50                       | 4.2                | ▽1877 405                 |          |
| Sn (650-2000 Å,<br>100-500 Å grain size)                   | 3.84-4.66              |          |       | ~5 Max.                     | 3                  | ▽1967 ▽723<br>▽1268 ▽1645 |          |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE: Magnetic fields in kiloersteds.

| Material   | $T_c$ (K)            | $H_{c1}$                         | $H_c$                     | $H_{c2}$                         | $H_{c3}$                | $T_{obs}$ (K)                | Refs.                                       |
|--|----------------------|----------------------------------|---------------------------|----------------------------------|-------------------------|------------------------------|---|
| $\text{SnTa}_3$  | 8.35<br>(High order) |                                  |                           | 72.5                             |                         | 4.2                          | 581   |
|  | 6.2<br>(Low order)   |                                  |                           | 15.5                             |                         | 4.2                          |   |
| $\text{SnTa}_3$  | 7.0 Max.             |                                  |                           | 50 Max.                          |                         | 4.2                          | 1462 1362                                   |
| $\text{SnTe}$ ( $n=7.5-20 \times 10^{20}$ )                  | 0.034-<br>0.214      | 0.0005-<br>0.0019                | 0.001-<br>0.0105          | ~0.005-<br>0.09                  |                         | 0                            | 1022  |
| $\text{SnTe}$ ( $n=20 \times 10^{20}$ )                      |                      | 0.00168                          |                           | 0.0775                           | 0.079<br>0.043          |                              | 687   |
| $\text{SnTe}$ ( $n=16.5 \times 10^{20}$ )                    |                      | 0.00236                          |                           | 0.052                            | 0.063<br>0.020          |                              | 687   |
| $\text{SnTe}$ ( $n=12.5 \times 10^{20}$ )                    |                      | 0.00043                          |                           | 0.005                            | 0.068                   |                              | 687   |
| $\text{SnTe}$ ( $n=10.5 \times 10^{20}$ )                    |                      | 0.00045                          |                           | 0.0052                           | 0.015<br>0.012          |                              | 687   |
| $\text{Sn}_{0.65}\text{Ti}_{0.35}$<br>(Pressure preparation) | 6-7.1                |                                  |                           | 3.46                             | 4.2                     |                              | 900   |
| $\text{Sr}$ (Deposited 4.2K,<br>$100\text{\AA}$ )            | 3.7                  |                                  |                           | 5.77                             | 0                       |                              | 7710  |
| $\text{Ta}$ (99.95%)   |                      | 0.425<br>0.325<br>0.275<br>0.090 |                           | 1.850<br>1.425<br>1.175<br>0.375 | Data<br>given<br>(1393) | 1.30<br>2.27<br>2.66<br>3.72 | 519 1393                                    |
| $\text{Ta}$ (300°)   | 3.16                 |                                  |                           | 26                               | 1.3                     |                              | 7719  |
| $\text{Ta}_{1-0.3}\text{Ti}_{0-0.7}$                         |                      |                                  | 1-93-<br>65               |                                  | 4.2                     |                              | 1797 252 289<br>321 299 429                 |
| $\text{Ta}_{0.65-0}\text{Ti}_{0.35-1}$                       | 4.4-7.8              |                                  |                           | 14-138                           |                         |                              | 252   |
| $\text{Ta}_{0.53}\text{Ti}_{0.47}$                           |                      |                                  |                           | 93, 86                           | 4.2                     |                              | 1797 1391 874<br>466                        |
| $\text{Ta}_{0.63}\text{Ti}_{0.30}\text{Zr}_{0.07}$           |                      |                                  |                           | 77                               | 4.2                     |                              | 1391  |
| $\text{Ta}_{1-0}\text{V}_{0-1}$                              | 4.33-2.73-<br>5.7    |                                  | 0.769-<br>0.573-<br>1.336 |                                  | 0                       |                              | 1307  |
| $\text{Ta}_{1-0.9}\text{Zr}_{0-0.1}$                         |                      |                                  |                           | Data<br>given                    |                         |                              | 441   |
| $\text{Tc}$ (Monocrystal)                                    | 7.46                 | 1.16                             | 1.55                      | 3.12                             | 0                       |                              | 1430 <sub>z</sub> 1161 <sub>z</sub><br>1438 |
| $\text{Tc}$  | 7.82                 |                                  |                           | 113.47<br>119.71                 | ?                       |                              | 1437  |
| $\text{Tc}_{0.95}\text{V}_{0.05}$                            | 10.99                |                                  |                           | 115.5                            | 0                       |                              | 1436  |
| $\text{Tc}_{0.90}\text{V}_{0.10}$                            | 11.32                |                                  |                           | 111.1                            | 0                       |                              | 1438  |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE: Magnetic fields in kiloersteds.

| Material                              | $T_c$ (K)                           | $H_{c1}$               | $H_c$ | $H_{c2}$   | $H_{c3}$            | $T_{obs}$ (K)      | Refs. |
|---------------------------------------|-------------------------------------|------------------------|-------|--|---------------------|--------------------|-------|
| $Tc_{0.80}V_{0.20}$                   | 11.24                               |                        |       | 42.3   | 0                   | 1138               |       |
| $Tc_{0.75}V_{0.25}$                   | 11.24,<br>~7.6<br>11.07             |                        |       | 34.8<br>23.7   | 0                   | 1138               |       |
| $Tc_{0.7}V_{0.3}$                     | 8.82<br>6.41                        |                        |       | 14.0<br>31.7   | 0                   | 1138               |       |
| $Tc_{0.65}V_{0.35}$                   | 4.49                                |                        |       | 21.4   | 0                   | 1138               |       |
| $Tc_{0.7}V_{0.3}$                     | 7.0-8.3<br>(Precipitate)<br>7.0-6.6 |                        |       | 6-11<br>37-4   | Data given          | 0                  | 1791  |
| $Tc_{0.6-0.3}W_{0.4-0.7}$             | 7.88-5.75                           |                        |       | 43.5-<br>7.5   | 4.2                 | 524                |       |
| Te (99.999%)<br>(~57 kbar)            | ~3.3                                | 0.25                   |       |  | 0                   | 510                |       |
| $Te_3Tl_5$ ( $n > 2 \times 10^{21}$ ) | 2.19-2.23                           |                        |       | ~1.7   | 1.2                 | 848                |       |
| Ti                                    |                                     |                        |       | 2.7  | 4.2                 | 688                |       |
| $Ti_{0.775}V_{0.225}$                 | 4.7                                 | 0.024                  |       | ~22<br>(arc cast)<br>172                               | 4.2<br>0            | 616 838<br>584 218 |       |
| $Ti_{0.75}V_{0.25}$                   |                                     |                        |       | ~34<br>(arc<br>cast)<br>~36<br>(cold<br>rolled)<br>199 | 4.2<br>0            | 616 289<br>616 399 |       |
| $Ti_{0.6}V_{0.4}$                     | 7.0                                 |                        |       | 110<br>109<br>86                                       | 1.18<br>2.18<br>4.2 | 878 600            |       |
| $Ti_{0.516}V_{0.484}$                 | 7.20                                | 0.062                  |       | ~28  | 4.2                 | 600 466 455<br>874 |       |
| $Ti_{0.415}V_{0.585}$                 | 7.49                                | 0.078                  |       | ~25  | 4.2                 | 600 441#           |       |
| $Ti_{0.12}V_{0.88}$                   |                                     |                        |       | 17.3   | 28.1                | 4.2                | 688   |
| $Ti_{0.09}V_{0.91}$                   |                                     |                        |       | 14.3   | 16.4                | 4.2                | 688   |
| $Ti_{0.06}V_{0.94}$                   |                                     |                        |       | 8.2  | 12.7                | 4.2                | 688   |
| $Ti_{0.03}V_{0.97}$                   |                                     |                        |       | 3.8  | 6.8                 | 4.2                | 688   |
| Tl (In porous media,<br>32 Å, 58 Å)   | 2.649,<br>2.612                     |                        |       | 48,<br>21  | 0                   | 1642               |       |
| Tl (Deposited 4.2K)<br>(Deformed)     | 2.42-3.15                           |                        |       | ~45<br>Max.  | 4.2                 | 71877              |       |
| $Tl_{1-0.7}Sb_{0-0.3}$                | 2.905-~5.3-<br>4.198                | 0.18-<br>0.46-<br>0.29 |       | 0.86-<br>~7.3-<br>3.9                                  | 0                   | 1378               |       |

TABLE 5. (Cont'd). Critical Magnetic Fields  $H_{c1}$ ,  $H_{c2}$  and  $H_{c3}$  of Superconductive Materials  
(Mainly Type II) NOTE : Magnetic fields in kiloersteds.

| Material                      | $T_c$ (K)       | $H_{c1}$       | $H_c$ | $H_{c2}$                                | $H_{c3}$    | $T_{obs}$ (K)        | Refs. |
|-------------------------------|-----------------|----------------|-------|---|-------------|----------------------|-------|
| U (1-9 kbar)                  |                 |                |       | 0.25-<br>1.0                            |             |                      | 1416  |
| V (RRR=430)                   | 5.43            |                | 1.408 | 2.68<br>0.745(4.2K)                     | 0           | 1719 1162<br>1935    |       |
| V                             | 5.17            | 0.72           | 1.34  | 4.58                                    | 0           | 917 1106 548<br>1515 |       |
| V                             | 5.06            | 0.70           | 1.33  | 5.5                                     | 0           | 917# 617             |       |
| V                             | 4.68            | 0.36           | 1.16  | 8.0                                     | 0           | 917# 1979            |       |
| V (RRR=720)                   |                 | 0.26           |       | 0.40 0.595                              | 4.726       |                      | 1549  |
| V (RRR=140)                   | 5.385           |                |       | [111]3.17<br>  [110]2.99<br>  [001]2.86 | 0           |                      | 1639  |
| V(100-20,400 Å)               |                 |                |       | Data<br>given                           |             |                      | ▽1444 |
| $V_2Zr$                       |                 |                |       | 103                                     | 4.2         |                      | 1189  |
| $V_{0.1-0.9}Zr_{0.9-0.1}$     | 6.5-8.3-<br>7.6 |                |       | 28-100-<br>62                           | 4.2         |                      | 889   |
| $V_{0.4}Zr_{0.6}$             | ~7.8            |                |       | ~110                                    | 4.2         |                      | 889   |
| $V_{0.39}Zr_{0.61}$           | ~5.9            | 0.238<br>0.165 |       |   | 1.05<br>3.5 |                      | 678   |
| $V_{0.06-0.09}Zr_{0.94-0.91}$ | 7.0-<4.2        |                |       | ~18-<br>~25                             | 4.2         |                      | 1306  |
| W (~2000 Å)                   | 1.7-4.1         |                |       | >34                                     | 1           |                      | ▽671  |

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| Young, H. S.          | 643, 891, 1665                                      | Zucker, M.         | 318  |
| Young, R. A.          | 9, 18, 40, 67                                       | Zwicker, U.        | 499, 522, 905, 1000<br>1801, 1803  |
| Yukhanov, V. A.       | 1765  | Zyuzin, N. I.      | 129  |
| Yun Lung Shen, L.     | 525   |                    |  |
| Yvon, K.              | 1420, 1721  |                    |  |
| Zachariassen, W. H.   | 25, 146, 491, 698<br>767, 1019, 1305, 1486          |                    |  |
| Zacharko, W.          | 1085, 1767, 1934                                    |                    |  |
| Zackay, V. F.         | 571, 628, 691, 859<br>1824                          |                    |  |
| Zagryazhskii, V. L.   | 792, 1808   |                    |  |
| Zakharov, A. E.       | 1091  |                    |  |