Small-Angle Rayleigh Scattering of Photons at High Energies: Tabulations of Relativistic HFS Modified Atomic Form Factors[a)]

D. Schaupp, M. Schumacher, F. Smend, and P. Rullhusen

II. Physikalisches Institut der Universität Göttingen, D-3400 Göttingen, Germany

and

J. H. Hubbell

National Bureau of Standards, Washington, DC 20234

Tabulations are presented of relativistic Hartree–Fock–Slater modified atomic form factors from $x = 0$ to 100 $Å^{-1}$ for all elements from $Z = 1$ to $Z = 100$. These modified form factors represent the atomic Rayleigh scattering amplitudes with good accuracy at energies well above the K-shell binding energies and small momentum transfers and therefore should be used instead of the normal relativistic atomic form factors in the MeV energy range.

Key words: atomic form factor; cross sections; gamma rays; photons; Rayleigh scattering; tabulations; x rays.

1. Introduction

The elastic scattering of photons by atoms is composed of the following elementary processes: atomic Rayleigh (R) scattering by its bound electrons,[1] Delbrück (D) scattering by the electrostatic field of the nucleus,[2–4] and nuclear scattering. One part of the nuclear scattering process is coherent with R and D scattering and may be split up into two portions: (i) into the center-of-mass motion of the nucleus, i.e., nuclear Thomson (T) scattering, and (ii) into scattering via photoexcitation of the giant-dipole-resonance (GDR) of the nucleus (N). For the N scattering process the terms "nuclear Rayleigh" or "nuclear resonance" scattering have been used in the literature. At energies well above the particle threshold, where the widths of nuclear levels are much larger than the distances between levels, the imaginary and the real parts of the N scattering amplitude can be calculated from the nuclear photoabsorption cross section via optical theorem and dispersion relation, respectively. Below the particle threshold, the N scattering amplitude has only a real part which to a good approximation may be calculated in the same way as described for energies in the continuum GDR region. A discussion of nuclear scattering has been given in Refs. 3, 5, and 6. In addition to the coherent elastic scattering processes discussed above, incoherent elastic scattering may take place either by photoexcitation of isolated nuclear levels or by the tensorial excitation of the GDR.[7]

The present paper is concerned with R scattering in the MeV energy region. Here, R scattering is the dominating process at small angles and is unimportant at large angles. "Exact" calculations of R scattering may be based on the second-order S-matrix of quantum electrodynamics (QED) and self-consistent relativistic (DHFS) wave functions. Though recently there has been considerable progress in carrying out these exact calculations,[1,4,8] there is still a need for approximations. The reasons for this are that the exact calculations have been possible only for few inner shells and that in the forward direction many subshells contribute to the R scattering process, leading to large computational difficulties when treated by the exact procedure.

The approximation commonly used at low energies is the form factor based on appropriate nonrelativistic or relativistic wave functions, supplemented by dispersion corrections which are necessary when the photon energy is close to the binding energy of an atomic shell. This procedure has a firm theoretical basis in the nonrelativistic limit but leads to sizable discrepancies between theory and experiment already at the near relativistic energy of 60 keV.[9] At intermediate energies above 100 keV dispersion effects become small, but irrespective of this the form factor only leads to a rough approximation of the exact amplitude. At MeV energies and large angles the form factor completely loses validity.[10]

In the forward direction the optical theorem

$$\mathrm{Im}\, A\,(E,0) = \frac{E}{4\pi\hbar c}\,\sigma(E) \tag{1}$$

and the subtracted dispersion relation

$$\mathrm{Re}\, A\,(E,0) = \mathrm{Re}\, A\,(\infty,0) + \frac{1}{2\pi^2\hbar c}\,P\int_0^\infty \frac{E'^2\sigma(E')}{E'^2 - E^2}\,dE' \tag{2}$$

make a firm prediction about the imaginary and real parts of the scattering amplitude A in terms of the cross section σ. The cross section σ is equal to the photoelectric cross section

a)Supported by the Deutsche Forschungsgemeinschaft, contract SCHU 222.

σ_{pe} at energies below $2m_0c^2 - \epsilon$ (ϵ = electron binding energy), and equal to $\sigma_{pe} - \sigma_{pc}$ above $2m_0c^2 - \epsilon$, with σ_{pc} being the cross section for a pair production process where the electron of the electron–positron pair is created in an unoccupied bound state.[1] Then, at high energies (> 500 keV) a finite-angle approximation may be obtained by neglecting the terms containing σ and by using the Thomson amplitude

$$-\left(\frac{e^2}{mc^2}\right)\epsilon_f\cdot\epsilon_i \tag{3}$$

(where e is the electron charge, mc^2 the electron rest mass, ϵ_f, ϵ_i the final and initial photon polarization) as high-energy limit for the single electron. This procedure extrapolates the zero-angle results of Eq. (2) to finite scattering angles and leads to the form factor approximation

$$A(E,\theta) = -\epsilon_f\cdot\epsilon_i \frac{e^2}{mc^2}\int\psi^*\psi e^{iqr}d\tau \tag{4}$$

[where $q = 2\,(E_\gamma/mc^2)\sin(\theta/2)$ is the momentum transfer and $f(q) = \int\psi^*\psi e^{iqr}d\tau$ the form factor] for the scattering amplitude. In (4) $q = 2\,(E_\gamma/mc^2)\sin(\theta/2)$ denotes the momentum transfer in units of mc. This corresponds to $x = \sin(\theta/2)/\lambda$ in units of $Å^{-1}$, where λ is the photon wavelength in Å. Conversion of q arguments to x arguments is accomplished by multiplying q by the factor 20.607 44. However, as has been stressed by Goldberger and Low,[11] the conjecture that the Thomson amplitude represents the high energy limit is wrong. Consequently, the form factor cannot be valid in the forward direction at high energies.

There have been two procedures used to overcome this difficulty: Florescu and Gavrila[12] have evaluated the matrix element for R scattering by atomic K-shell electrons in the limit of high photon energies at finite momentum transfers q. The expression obtained for the matrix element is equivalent to the one found by Goldberger and Low.[11] The evaluation of the matrix element is carried out in momentum space for the case of a Coulomb atomic field.

Brown and Mayers,[13] following a previous suggestion of Franz[14] have proposed to use the "modified" or "corrected" form factor (MFF)

$$g(q) = \int\psi^*\psi\frac{mc^2}{E - V(r)}e^{iqr}d\tau \tag{5}$$

(E = relativistic total energy of the bound electron,

$V(r)$ = central potential)

instead of the form factor when calculating the small-angle scattering amplitude above 500 keV. Comparing the MFF with the exact amplitudes they found that it gave improved results.[13] Furthermore, they noticed that the MFF exactly reproduces the zero-angle amplitude at infinite energy as calculated by Levinger and Rustgi,[15] and that it was suggested by the Born-approximation calculation of Brown and Woodward.[16] When the MFF is expanded in powers of $Z\alpha$, it reproduces the first- and second-order terms of this approximation.

The MFF is favored in comparison to the approximation introduced by Florescu and Gavrila[12] because of the ease of carrying out the calculations on the basis of DHFS wave functions for any subshell of the atom. On the other hand, the range of momentum transfers where the approximations are valid and the sizes of the deviations from the exact amplitudes are roughly the same for both approximations.[1,17]

2. Accuracy of MFF

The accuracy of the MFF has been studied by Kissel *et al.*[1] The upper limit of the momentum transfer where the MFF leads to reasonable results is given by $(Z\alpha mc)/n^2$ with n being the principal quantum number. Up to this momentum transfer the relative difference between the MFF and the exact amplitude is almost constant. In general the accuracy of the MFF increases with increasing photon energy and decreasing binding energies of the electrons. This means that the relative difference between the MFF and the exact calculation is smaller for light atoms than for heavy atoms and smaller for outer shells than for inner shells. The errors in the resulting total-atom differential scattering amplitudes for light-Z atoms will be less than 10% at energies of about $5\epsilon_K$ (ϵ_K being the K-shell binding energy), 5% at about $10\epsilon_K$ and 1% at about $25\epsilon_K$. The errors in the resulting total-atom differential scattering amplitudes for heavy-Z atoms will be less than 1% at about $3\epsilon_K$ because of the larger number of outer electrons.[1] An improvement of the accuracy of the forward-angle R amplitudes may be obtained by combining the available exact R amplitudes for the K shell with MFF amplitudes for the higher shells. For this purpose the present tabulations contain total-atom MFF amplitudes both with and without the K-shell contribution.

3. Numerical Calculations of Form Factors

For the pure Coulomb potential, i.e., $V(r) = -(Z\alpha)/r$ both the form factor and the MFF may be calculated by using the analytic expressions of Bethe and Levinger[18] and Smend and Schumacher.[19] The specialized versions for two electrons in the K shell are

$$f(q) = \frac{(2Z\alpha)^{2\gamma+1}}{\gamma q}\frac{\sin[2\gamma\arctan(q/2Z\alpha)]}{[(2Z\alpha)^2 + q^2]^\gamma} \tag{6}$$

and

$$g(q) = \frac{2}{q}(Z\alpha)^{4\gamma+1}\left(\frac{2mc^2}{E}\right)^{2\gamma+1} \times \mathrm{Im}\left\{\exp\left[(2Z\alpha - iq)\frac{Z\alpha mc^2}{E}\right] \times \Gamma\left(-2\gamma, (2Z\alpha - iq)\frac{Z\alpha mc^2}{E}\right)\right\} \tag{7}$$

($\gamma = \sqrt{1 - Z^2\alpha^2}$),

respectively, where in the latter expression the incomplete gamma function may be represented via the gamma function and the confluent hypergeometric function.[19] These analytical expressions for the form factor are very helpful for the purpose of interpolation or for checking the validity of the numerical procedures described as follows. The present tabulation is based on self-consistent wave functions. For a complete subshell the electronic charge distribution is of spherical symmetry. This means that the MFF may be written in the form

$$g(q) = 4\pi\int_0^\infty |\psi|^2\frac{mc^2}{E - V(r)}r^2\frac{\sin(qr)}{qr}dr. \tag{8}$$

The potential $V(r)$, the binding energy $\epsilon = E - mc^2$, and the electron density $|\psi|^2$ (i.e., the sum of the squared large and small components of the wave function) were calculated for all charge numbers $Z = 1$ to 100 using the relativistic self-consistent field program of Liberman *et al.*[20] Great care had to be taken to avoid numerical inaccuracies due to the rapid oscillation of the function $\sin(qr)$ for high momentum transfers q. This was achieved by approximating the function

$$\phi(r) = |\psi|^2 \frac{mc^2}{E - V(r)} r \tag{9}$$

by a cubic spline function

$$\phi_k(r) = \sum_{i=0}^{3} C_{ik}(r - r_k)^i \tag{10}$$

for $r_k < r < r_{k+1}$ using the abscissas r_k as provided by the radial mesh of the program of Liberman *et al.*[20] This procedure leads to the relation

$$g(q) = \frac{4\pi}{q} \sum_k \sum_{i=0}^{3} C_{ik} \int_{r_k}^{r_{k+1}} (r - r_k)^i \sin(qr) dr, \tag{11}$$

where the four integrals are given by analytical expressions. The intervals (r_k, r_{k+1}) of the radial mesh increase strongly with k and, therefore, contain an increasing number of periods of $\sin(qr)$. Hence, the evaluation of $g(q)$ by using Eq. (11) largely reduces the errors due to round off and cancellation of terms as compared to the direct numerical integration of Eq. (8). This increase in accuracy was essential at high momentum transfers q where the direct numerical integration of Eq. (8) did not lead to meaningful numerical results. The numerical accuracy of $g(q)$ achieved in this way was found to be better than 0.01% for all Z and for all q.

For the determination of this accuracy the following checks have been carried out:

(i) The spline interpolation procedure was tested by applying it to $\chi(r) = |\psi|^2 r$ instead of $\phi(r) = |\psi|^2 \{(mc^2)/[E - V(r)]\}$ and by using the resulting spline function for calculating the normalization integral $\int \chi(r) r\, dr$. In all cases the result was equal to 1 within 0.01%.

(ii) The spline interpolation and integration procedure (9) to (11) was applied to the MFF calculated from hydrogen-like wave functions instead of DHFS wave funtions. There was agreement with the analytical results[19] within 0.01%.

To minimize errors due to round off, $g(q)$ was evaluated using double precision arithmetic.

4. Explanation and Discussion of Tables

The modified form factors $F_{MFF}(x,Z)$ listed in Table 1 are identical with the quantities $g(q)$ defined in Eq. (11) of the present work. These modified form factors $F_{MFF}(x,Z)$ should be used instead of the form factors $F(x,Z)$ of Refs. 21 and 22 at energies above 0.5 MeV for predicting Rayleigh scattering at forward angles. Here Rayleigh scattering is the dominating process up to few MeV. At very high energies (> 50 MeV) Rayleigh scattering is negligible[23,24] even in the forward direction. Here, the dominating process is Delbrück scattering.[23,24] At intermediate energies, around 10 MeV, both Rayleigh and Delbrück scattering have to be taken into consideration.[25]

Table 2 shows nonrelativistic (FF), relativistic (RFF), and modifed (MFF) form factors $F(x,Z)$ for a selected number of elements and momentum transfers. In addition, percent deviations of the FF and RFF from the MFF are given. As a general rule the MFF may be considered as an improved approximation of the exact scattering amplitudes as long as the three form factors are of the same order of magnitude. At higher momentum transfers where the differences are larger than 100% the MFF is no longer meaningful. Due to recent calculations[26] an increasing number of exact Rayleigh amplitudes have become available for the K shell. But only a few data have been calculated for the outer shells, i.e., L and higher shells. There is evidence[27] that for the outer shells the MFF is a useful approximation to the real parts of the scattering amplitudes up to momentum transfers of $x = 50$ Å^{-1}, i.e., up to the angles θ_{max} (50 Å^{-1}) listed in Table 3. For larger momentum transfers the real parts of the outer shell scattering amplitudes may be calculated from the relativistic form factors (RFF) scaled in proportion to the ratio of K-shell RFF and K-shell exact amplitudes.[1,27]

At very high momentum transfers where exact amplitudes are not available and where the MFF results of the present tabulation are not applicable, we recommend following the prescriptions given in Ref. 22.

Modified form factors for specific subshells may be obtained from the authors on request.

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$

x sin(theta/2) /lambda	1 H total	1 H without K-shell	2 He total	2 He without K-shell	3 Li total	3 Li without K-shell	4 Be total	4 Be without K-shell	5 B total	5 B without K-shell
.0	1.000+000	.000	2.000+000	.000	3.000+000	1.000+000	3.999+000	2.000+000	4.999+000	3.000+000
1.0-002	9.978-001	.000	1.998+000	.000	2.986+000	9.873-001	3.986+000	1.987+000	4.986+000	2.987+000
2.0-002	9.912-001	.000	1.992+000	.000	2.947+000	9.501-001	3.948+000	1.950+000	4.949+000	2.951+000
3.0-002	9.804-001	.000	1.983+000	.000	2.885+000	8.915-001	3.886+000	1.890+000	4.887+000	2.891+000
4.0-002	9.655-001	.000	1.971+000	.000	2.804+000	8.158-001	3.803+000	1.810+000	4.805+000	2.809+000
5.0-002	9.469-001	.000	1.954+000	.000	2.711+000	7.285-001	3.702+000	1.712+000	4.703+000	2.710+000
6.0-002	9.249-001	.000	1.935+000	.000	2.609+000	6.350-001	3.587+000	1.601+000	4.585+000	2.594+000
7.0-002	8.998-001	.000	1.913+000	.000	2.506+000	5.405-001	3.461+000	1.480+000	4.454+000	2.466+000
8.0-002	8.722-001	.000	1.887+000	.000	2.404+000	4.492-001	3.329+000	1.353+000	4.314+000	2.329+000
9.0-002	8.424-001	.000	1.859+000	.000	2.308+000	3.643-001	3.194+000	1.224+000	4.167+000	2.186+000
1.0-001	8.108-001	.000	1.828+000	.000	2.219+000	2.881-001	3.059+000	1.095+000	4.016+000	2.039+000
1.1-001	7.779-001	.000	1.795+000	.000	2.139+000	2.216-001	2.926+000	9.704-001	3.863+000	1.891+000
1.2-001	7.442-001	.000	1.761+000	.000	2.067+000	1.652-001	2.799+000	8.511-001	3.712+000	1.744+000
1.3-001	7.099-001	.000	1.724+000	.000	2.004+000	1.185-001	2.678+000	7.389-001	3.563+000	1.601+000
1.4-001	6.755-001	.000	1.686+000	.000	1.949+000	8.083-002	2.565+000	6.351-001	3.418+000	1.462+000
1.5-001	6.413-001	.000	1.647+000	.000	1.901+000	5.111-002	2.460+000	5.401-001	3.279+000	1.329+000
1.6-001	6.075-001	.000	1.606+000	.000	1.859+000	2.827-002	2.364+000	4.543-001	3.145+000	1.202+000
1.7-001	5.743-001	.000	1.565+000	.000	1.822+000	1.122-002	2.276+000	3.776-001	3.019+000	1.082+000
1.8-001	5.421-001	.000	1.523+000	.000	1.789+000	-1.086-003	2.196+000	3.097-001	2.899+000	9.701-001
1.9-001	5.109-001	.000	1.481+000	.000	1.759+000	-9.565-003	2.124+000	2.502-001	2.787+000	8.656-001
2.0-001	4.808-001	.000	1.439+000	.000	1.731+000	-1.503-002	2.060+000	1.986-001	2.682+000	7.686-001
2.2-001	4.244-001	.000	1.354+000	.000	1.680+000	-1.955-002	1.951+000	1.162-001	2.493+000	5.972-001
2.4-001	3.733-001	.000	1.271+000	.000	1.633+000	-1.877-002	1.863+000	5.740-002	2.332+000	4.541-001
2.5-001	3.497-001	.000	1.230+000	.000	1.609+000	-1.728-002	1.826+000	3.526-002	2.260+000	3.923-001
2.6-001	3.275-001	.000	1.190+000	.000	1.586+000	-1.536-002	1.792+000	1.719-002	2.194+000	3.366-001
2.8-001	2.870-001	.000	1.111+000	.000	1.539+000	-1.093-002	1.734+000	-8.781-003	2.078+000	2.418-001
3.0-001	2.513-001	.000	1.036+000	.000	1.491+000	-6.369-003	1.686+000	-2.415-002	1.981+000	1.664-001
3.2-001	2.200-001	.000	9.648-001	.000	1.442+000	-2.150-003	1.643+000	-3.182-002	1.899+000	1.077-001
3.4-001	1.927-001	.000	8.974-001	.000	1.393+000	1.521-003	1.605+000	-3.406-002	1.829+000	6.272-002
3.5-001	1.804-001	.000	8.653-001	.000	1.368+000	3.129-003	1.588+000	-3.370-002	1.799+000	4.467-002
3.6-001	1.690-001	.000	8.341-001	.000	1.343+000	4.585-003	1.571+000	-3.259-002	1.771+000	2.919-002
3.8-001	1.483-001	.000	7.749-001	.000	1.293+000	7.061-003	1.537+000	-2.873-002	1.720+000	4.957-003
4.0-001	1.304-001	.000	7.196-001	.000	1.243+000	9.005-003	1.505+000	-2.343-002	1.677+000	-1.182-002
4.2-001	1.149-001	.000	6.682-001	.000	1.194+000	1.049-002	1.473+000	-1.740-002	1.639+000	-2.270-002
4.4-001	1.014-001	.000	6.204-001	.000	1.145+000	1.158-002	1.441+000	-1.114-002	1.604+000	-2.897-002
4.5-001	9.533-002	.000	5.978-001	.000	1.121+000	1.200-002	1.425+000	-8.036-003	1.588+000	-3.072-002
4.6-001	8.967-002	.000	5.761-001	.000	1.097+000	1.235-002	1.409+000	-4.993-003	1.573+000	-3.172-002
4.8-001	7.947-002	.000	5.351-001	.000	1.051+000	1.286-002	1.376+000	8.139-004	1.544+000	-3.184-002
5.0-001	7.059-002	.000	4.971-001	.000	1.005+000	1.315-002	1.343+000	6.137-003	1.516+000	-3.004-002
5.5-001	5.298-002	.000	4.144-001	.000	8.974-001	1.321-002	1.259+000	1.694-002	1.451+000	-2.069-002
6.0-001	4.032-002	.000	3.464-001	.000	7.988-001	1.267-002	1.175+000	2.418-002	1.388+000	-8.801-003
6.5-001	3.109-002	.000	2.907-001	.000	7.097-001	1.183-002	1.091+000	2.847-002	1.325+000	2.571-003
7.0-001	2.428-002	.000	2.448-001	.000	6.299-001	1.086-002	1.009+000	3.059-002	1.260+000	1.216-002
8.0-001	1.533-002	.000	1.756-001	.000	4.958-001	8.885-003	8.567-001	3.091-002	1.130+000	2.520-002
9.0-001	1.009-002	.000	1.280-001	.000	3.912-001	7.126-003	7.223-001	2.862-002	1.003+000	3.160-002
1.0+000	6.878-003	.000	9.468-002	.000	3.101-001	5.672-003	6.068-001	2.531-002	8.839-001	3.353-002
1.1+000	4.836-003	.000	7.111-002	.000	2.472-001	4.515-003	5.091-001	2.181-002	7.745-001	3.271-002
1.2+000	3.491-003	.000	5.421-002	.000	1.985-001	3.611-003	4.274-001	1.859-002	6.762-001	3.048-002
1.3+000	2.579-003	.000	4.192-002	.000	1.604-001	2.908-003	3.594-001	1.577-002	5.892-001	2.771-002
1.4+000	1.944-003	.000	3.287-002	.000	1.306-001	2.358-003	3.031-001	1.333-002	5.131-001	2.481-002

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x	1 H		2 He		3 Li		4 Be		5 B	
sin(theta/2) /lambda	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell
1.5+000	1.492-003	.000	2.609-002	.000	1.071-001	1.926-003	2.563-001	1.127-002	4.468-001	2.198-002
1.6+000	1.163-003	.000	2.095-002	.000	8.837-002	1.582-003	2.176-001	9.543-003	3.894-001	1.936-002
1.7+000	9.198-004	.000	1.699-002	.000	7.342-002	1.308-003	1.853-001	8.111-003	3.398-001	1.700-002
1.8+000	7.365-004	.000	1.390-002	.000	6.138-002	1.089-003	1.585-001	6.911-003	2.970-001	1.492-002
1.9+000	5.965-004	.000	1.145-002	.000	5.163-002	9.133-004	1.361-001	5.908-003	2.601-001	1.308-002
2.0+000	4.880-004	.000	9.505-003	.000	4.368-002	7.705-004	1.173-001	5.074-003	2.282-001	1.147-002
2.2+000	3.358-004	.000	6.681-003	.000	3.177-002	5.572-004	8.807-002	3.784-003	1.769-001	8.871-003
2.4+000	2.383-004	.000	4.824-003	.000	2.357-002	4.111-004	6.710-002	2.864-003	1.385-001	6.909-003
2.5+000	2.029-004	.000	4.140-003	.000	2.044-002	3.558-004	5.887-002	2.506-003	1.230-001	6.117-003
2.6+000	1.737-004	.000	3.574-003	.000	1.780-002	3.094-004	5.182-002	2.199-003	1.095-001	5.431-003
2.8+000	1.296-004	.000	2.705-003	.000	1.366-002	2.366-004	4.053-002	1.711-003	8.732-002	4.309-003
3.0+000	9.854-005	.000	2.080-003	.000	1.064-002	1.836-004	3.208-002	1.348-003	7.029-002	3.451-003
3.3+000	6.747-005	.000	1.435-003	.000	7.489-003	1.289-004	2.304-002	9.627-004	5.159-002	2.515-003
3.5+000	5.337-005	.000	1.139-003	.000	6.015-003	1.033-004	1.871-002	7.785-004	4.240-002	2.059-003
3.6+000	4.770-005	.000	1.021-003	.000	5.412-003	9.282-005	1.692-002	7.030-004	3.855-002	1.868-003
3.9+000	3.466-005	.000	7.500-004	.000	4.000-003	6.847-005	1.267-002	5.238-004	2.929-002	1.412-003
4.0+000	3.133-005	.000	6.798-004	.000	3.633-003	6.213-005	1.155-002	4.775-004	2.681-002	1.290-003
4.2+000	2.578-005	.000	5.612-004	.000	3.015-003	5.150-005	9.652-003	3.979-004	2.258-002	1.083-003
4.6+000	1.791-005	.000	3.901-004	.000	2.125-003	3.623-005	6.879-003	2.822-004	1.631-002	7.782-004
5.0+000	1.282-005	.000	2.813-004	.000	1.538-003	2.616-005	5.023-003	2.054-004	1.203-002	5.718-004
5.4+000	9.408-006	.000	2.073-004	.000	1.139-003	1.935-005	3.746-003	1.529-004	9.051-003	4.285-004
5.5+000	8.739-006	.000	1.925-004	.000	1.060-003	1.799-005	3.492-003	1.429-004	8.452-003	4.002-004
5.8+000	7.056-006	.000	1.553-004	.000	8.601-004	1.462-005	2.846-003	1.161-004	6.925-003	3.269-004
6.0+000	6.155-006	.000	1.358-004	.000	7.525-004	1.276-005	2.496-003	1.017-004	6.092-003	2.874-004
6.2+000	5.393-006	.000	1.194-004	.000	6.611-004	1.120-005	2.198-003	8.955-005	5.379-003	2.533-004
6.6+000	4.189-006	.000	9.286-005	.000	5.159-004	8.731-006	1.722-003	7.008-005	4.236-003	1.991-004
7.0+000	3.301-006	.000	7.310-005	.000	4.083-004	6.932-006	1.367-003	5.556-005	3.377-003	1.584-004
7.4+000	2.636-006	.000	5.860-005	.000	3.270-004	5.539-006	1.098-003	4.458-005	2.722-003	1.275-004
8.0+000	1.920-006	.000	4.269-005	.000	2.392-004	4.054-006	8.063-004	3.267-005	2.007-003	9.383-005
9.0+000	1.187-006	.000	2.653-005	.000	1.487-004	2.508-006	5.035-004	2.037-005	1.260-003	5.876-005
1.0+001	7.702-007	.000	1.728-005	.000	9.687-005	1.635-006	3.291-004	1.330-005	8.269-004	3.850-005
1.1+001	5.194-007	.000	1.165-005	.000	6.554-005	1.107-006	2.232-004	9.011-006	5.626-004	2.616-005
1.2+001	3.616-007	.000	8.066-006	.000	4.574-005	7.721-007	1.561-004	6.298-006	3.945-004	1.832-005
1.4+001	1.889-007	.000	4.134-006	.000	2.399-005	4.048-007	8.212-005	3.310-006	2.083-004	9.659-006
1.6+001	1.064-007	.000	2.340-006	.000	1.357-005	2.288-007	4.655-005	1.876-006	1.184-004	5.486-006
1.8+001	6.336-008	.000	1.433-006	.000	8.109-006	1.367-007	2.788-005	1.123-006	7.110-005	3.292-006
2.0+001	3.935-008	.000	8.960-007	.000	5.053-006	8.519-008	1.741-005	7.010-007	4.450-005	2.059-006
2.2+001	2.521-008	.000	5.686-007	.000	3.249-006	5.476-008	1.122-005	4.516-007	2.874-005	1.330-006
2.5+001	1.341-008	.000	3.040-007	.000	1.744-006	2.942-008	6.047-006	2.434-007	1.555-005	7.193-007
2.8+001	7.302-009	.000	1.668-007	.000	9.620-007	1.623-008	3.355-006	1.350-007	8.673-006	4.011-007
3.1+001	3.968-009	.000	9.138-008	.000	5.323-007	8.975-009	1.872-006	7.533-008	4.877-006	2.256-007
3.5+001	1.615-009	.000	3.836-008	.000	2.289-007	3.859-009	8.221-007	3.311-008	2.184-006	1.011-007
4.0+001	2.681-010	.000	7.744-009	.000	5.258-008	8.896-010	2.099-007	8.463-009	6.064-007	2.811-008
4.5+001	-3.150-010	.000	-5.427-009	.000	-2.439-008	-4.099-010	-5.913-008	-2.360-009	-9.158-008	-4.133-009
5.0+001	-5.581-010	.000	-1.145-008	.000	-5.757-008	-9.693-010	-1.767-007	-7.091-009	-4.002-007	-1.841-008
6.0+001	-6.596-010	.000	-1.382-008	.000	-7.347-008	-1.237-009	-2.364-007	-9.492-009	-5.645-007	-2.602-008
7.0+001	-6.033-010	.000	-1.275-008	.000	-6.827-008	-1.150-009	-2.216-007	-8.905-009	-5.347-007	-2.466-008
8.0+001	-5.199-010	.000	-1.098-008	.000	-5.899-008	-9.938-010	-1.919-007	-7.712-009	-4.643-007	-2.142-008
9.0+001	-4.412-010	.000	-9.326-009	.000	-5.001-008	-8.423-010	-1.627-007	-6.536-009	-3.935-007	-1.815-008
1.0+002	-3.745-010	.000	-7.893-009	.000	-4.228-008	-7.121-010	-1.374-007	-5.519-009	-3.320-007	-1.531-008

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	6 C total	6 C without K-shell	7 N total	7 N without K-shell	8 O total	8 O without K-shell	9 F total	9 F without K-shell	10 Ne total	10 Ne without K-shell
.0	5.998+000	4.000+000	6.997+000	4.999+000	7.996+000	5.999+000	8.995+000	6.999+000	9.993+000	7.998+000
1.0-002	5.987+000	3.989+000	6.987+000	4.990+000	7.987+000	5.990+000	8.987+000	6.991+000	9.986+000	7.991+000
2.0-002	5.953+000	3.955+000	6.957+000	4.960+000	7.960+000	5.964+000	8.962+000	6.967+000	9.964+000	7.969+000
3.0-002	5.898+000	3.901+000	6.908+000	4.911+000	7.916+000	5.920+000	8.922+000	6.927+000	9.927+000	7.932+000
4.0-002	5.823+000	3.827+000	6.840+000	4.844+000	7.855+000	5.859+000	8.867+000	6.872+000	9.876+000	7.882+000
5.0-002	5.729+000	3.735+000	6.756+000	4.760+000	7.778+000	5.783+000	8.796+000	6.802+000	9.811+000	7.817+000
6.0-002	5.619+000	3.626+000	6.655+000	4.661+000	7.686+000	5.692+000	8.712+000	6.718+000	9.733+000	7.740+000
7.0-002	5.495+000	3.504+000	6.540+000	4.547+000	7.580+000	5.587+000	8.614+000	6.621+000	9.643+000	7.650+000
8.0-002	5.359+000	3.370+000	6.412+000	4.421+000	7.461+000	5.469+000	8.504+000	6.512+000	9.541+000	7.549+000
9.0-002	5.214+000	3.227+000	6.274+000	4.285+000	7.332+000	5.341+000	8.383+000	6.392+000	9.427+000	7.436+000
1.0-001	5.061+000	3.078+000	6.127+000	4.140+000	7.192+000	5.203+000	8.252+000	6.262+000	9.304+000	7.314+000
1.1-001	4.904+000	2.923+000	5.972+000	3.987+000	7.044+000	5.057+000	8.111+000	6.123+000	9.172+000	7.182+000
1.2-001	4.743+000	2.766+000	5.812+000	3.830+000	6.889+000	4.904+000	7.963+000	5.976+000	9.031+000	7.043+000
1.3-001	4.582+000	2.608+000	5.649+000	3.669+000	6.729+000	4.745+000	7.808+000	5.823+000	8.883+000	6.896+000
1.4-001	4.421+000	2.451+000	5.483+000	3.506+000	6.564+000	4.583+000	7.648+000	5.664+000	8.728+000	6.743+000
1.5-001	4.262+000	2.296+000	5.316+000	3.342+000	6.396+000	4.417+000	7.483+000	5.501+000	8.568+000	6.584+000
1.6-001	4.105+000	2.145+000	5.149+000	3.178+000	6.226+000	4.249+000	7.314+000	5.334+000	8.403+000	6.421+000
1.7-001	3.953+000	1.997+000	4.983+000	3.016+000	6.055+000	4.081+000	7.143+000	5.165+000	8.235+000	6.254+000
1.8-001	3.805+000	1.854+000	4.820+000	2.856+000	5.884+000	3.913+000	6.970+000	4.994+000	8.063+000	6.084+000
1.9-001	3.663+000	1.717+000	4.659+000	2.700+000	5.714+000	3.746+000	6.797+000	4.823+000	7.890+000	5.913+000
2.0-001	3.526+000	1.586+000	4.502+000	2.547+000	5.546+000	3.580+000	6.623+000	4.651+000	7.715+000	5.739+000
2.2-001	3.271+000	1.343+000	4.201+000	2.254+000	5.216+000	3.257+000	6.277+000	4.311+000	7.363+000	5.392+000
2.4-001	3.040+000	1.125+000	3.919+000	1.981+000	4.898+000	2.947+000	5.939+000	3.978+000	7.012+000	5.046+000
2.5-001	2.934+000	1.026+000	3.786+000	1.853+000	4.746+000	2.798+000	5.773+000	3.815+000	6.839+000	4.874+000
2.6-001	2.834+000	9.327-001	3.658+000	1.730+000	4.597+000	2.653+000	5.610+000	3.655+000	6.667+000	4.705+000
2.8-001	2.652+000	7.652-001	3.418+000	1.501+000	4.313+000	2.377+000	5.294+000	3.346+000	6.330+000	4.373+000
3.0-001	2.492+000	6.205-001	3.199+000	1.294+000	4.048+000	2.121+000	4.993+000	3.052+000	6.004+000	4.053+000
3.2-001	2.352+000	4.968-001	3.002+000	1.109+000	3.801+000	1.884+000	4.708+000	2.775+000	5.690+000	3.745+000
3.4-001	2.229+000	3.921-001	2.824+000	9.439-001	3.574+000	1.666+000	4.440+000	2.514+000	5.390+000	3.451+000
3.5-001	2.175+000	3.462-001	2.742+000	8.686-001	3.467+000	1.565+000	4.312+000	2.391+000	5.245+000	3.310+000
3.6-001	2.124+000	3.042-001	2.664+000	7.979-001	3.365+000	1.468+000	4.189+000	2.271+000	5.104+000	3.173+000
3.8-001	2.032+000	2.312-001	2.522+000	6.697-001	3.173+000	1.287+000	3.955+000	2.046+000	4.834+000	2.909+000
4.0-001	1.952+000	1.711-001	2.395+000	5.576-001	2.999+000	1.124+000	3.737+000	1.837+000	4.579+000	2.662+000
4.2-001	1.883+000	1.223-001	2.283+000	4.603-001	2.840+000	9.775-001	3.535+000	1.645+000	4.339+000	2.430+000
4.4-001	1.823+000	8.300-002	2.183+000	3.763-001	2.697+000	8.461-001	3.349+000	1.468+000	4.115+000	2.213+000
4.5-001	1.796+000	6.651-002	2.137+000	3.388-001	2.630+000	7.858-001	3.261+000	1.386+000	4.008+000	2.110+000
4.6-001	1.771+000	5.189-002	2.095+000	3.041-001	2.567+000	7.289-001	3.177+000	1.307+000	3.905+000	2.011+000
4.8-001	1.725+000	2.767-002	2.016+000	2.426-001	2.449+000	6.247-001	3.019+000	1.160+000	3.709+000	1.824+000
5.0-001	1.684+000	9.205-003	1.947+000	1.905-001	2.343+000	5.324-001	2.875+000	1.026+000	3.527+000	1.651+000
5.5-001	1.599+000	-1.790-002	1.806+000	9.402-002	2.123+000	3.473-001	2.565+000	7.447-001	3.126+000	1.274+000
6.0-001	1.531+000	-2.683-002	1.699+000	3.445-002	1.953+000	2.152-001	2.318+000	5.283-001	2.797+000	9.699-001
6.5-001	1.471+000	-2.559-002	1.616+000	2.543-004	1.822+000	1.235-001	2.121+000	3.646-001	2.527+000	7.271-001
7.0-001	1.416+000	-1.926-002	1.548+000	-1.707-002	1.719+000	6.180-002	1.966+000	2.429-001	2.307+000	5.357-001
8.0-001	1.310+000	-2.211-003	1.438+000	-2.349-002	1.568+000	-2.493-003	1.741+000	9.005-002	1.982+000	2.717-001
9.0-001	1.204+000	1.298-002	1.343+000	-1.372-002	1.459+000	-2.199-002	1.590+000	1.528-002	1.764+000	1.188-001
1.0+000	1.099+000	2.363-002	1.253+000	-3.295-004	1.369+000	-2.091-002	1.480+000	-1.579-002	1.613+000	3.538-002
1.1+000	9.968-001	2.986-002	1.164+000	1.171-002	1.288+000	-1.176-002	1.392+000	-2.363-002	1.501+000	-5.818-003
1.2+000	8.990-001	3.263-002	1.076+000	2.076-002	1.209+000	-7.653-004	1.315+000	-2.010-002	1.413+000	-2.230-002
1.3+000	8.074-001	3.308-002	9.901-001	2.669-002	1.132+000	9.204-003	1.243+000	-1.189-002	1.338+000	-2.502-002
1.4+000	7.230-001	3.213-002	9.076-001	3.004-002	1.057+000	1.708-002	1.175+000	-2.634-003	1.271+000	-2.072-002

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x	6 C		7 N		8 O		9 F		10 Ne	
sin(theta/2) /lambda	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell
1.5+000	6.462-001	3.039-002	8.293-001	3.149-002	9.834-001	2.275-002	1.107+000	5.881-003	1.207+000	-1.343-002
1.6+000	5.768-001	2.820-002	7.560-001	3.162-002	9.123-001	2.649-002	1.041+000	1.296-002	1.146+000	-5.443-003
1.7+000	5.146-001	2.585-002	6.878-001	3.086-002	8.442-001	2.869-002	9.769-001	1.845-002	1.086+000	2.076-003
1.8+000	4.590-001	2.351-002	6.250-001	2.951-002	7.796-001	2.968-002	9.146-001	2.246-002	1.028+000	8.599-003
1.9+000	4.096-001	2.128-002	5.674-001	2.781-002	7.188-001	2.976-002	8.545-001	2.519-002	9.706-001	1.395-002
2.0+000	3.658-001	1.919-002	5.149-001	2.597-002	6.619-001	2.919-002	7.970-001	2.684-002	9.152-001	1.814-002
2.2+000	2.925-001	1.551-002	4.240-001	2.222-002	5.599-001	2.693-002	6.906-001	2.776-002	8.099-001	2.340-002
2.4+000	2.352-001	1.252-002	3.497-001	1.873-002	4.729-001	2.401-002	5.963-001	2.674-002	7.132-001	2.552-002
2.5+000	2.113-001	1.125-002	3.178-001	1.714-002	4.346-001	2.248-002	5.536-001	2.582-002	6.684-001	2.577-002
2.6+000	1.902-001	1.012-002	2.892-001	1.568-002	3.995-001	2.098-002	5.138-001	2.474-002	6.259-001	2.564-002
2.8+000	1.547-001	8.223-003	2.400-001	1.310-002	3.379-001	1.814-002	4.425-001	2.233-002	5.482-001	2.456-002
3.0+000	1.267-001	6.713-003	2.000-001	1.094-002	2.864-001	1.559-002	3.812-001	1.987-002	4.796-001	2.286-002
3.3+000	9.511-002	5.010-003	1.535-001	8.399-003	2.247-001	1.237-002	3.056-001	1.642-002	3.924-001	1.988-002
3.5+000	7.916-002	4.153-003	1.294-001	7.071-003	1.918-001	1.060-002	2.642-001	1.438-002	3.435-001	1.788-002
3.6+000	7.238-002	3.791-003	1.190-001	6.498-003	1.775-001	9.822-003	2.459-001	1.345-002	3.216-001	1.691-002
3.9+000	5.583-002	2.908-003	9.325-002	5.074-003	1.414-001	7.833-003	1.990-001	1.099-002	2.643-001	1.423-002
4.0+000	5.135-002	2.670-003	8.617-002	4.683-003	1.312-001	7.272-003	1.857-001	1.028-002	2.478-001	1.342-002
4.2+000	4.362-002	2.261-003	7.383-002	4.001-003	1.135-001	6.282-003	1.620-001	8.994-003	2.181-001	1.192-002
4.6+000	3.195-002	1.647-003	5.490-002	2.961-003	8.569-002	4.732-003	1.243-001	6.920-003	1.700-001	9.398-003
5.0+000	2.385-002	1.223-003	4.150-002	2.227-003	6.561-002	3.610-003	9.640-002	5.367-003	1.337-001	7.434-003
5.4+000	1.811-002	9.248-004	3.184-002	1.701-003	5.088-002	2.790-003	7.560-002	4.203-003	1.060-001	5.912-003
5.5+000	1.695-002	8.646-004	2.986-002	1.594-003	4.784-002	2.621-003	7.126-002	3.960-003	1.002-001	5.589-003
5.8+000	1.397-002	7.104-004	2.476-002	1.317-003	3.994-002	2.182-003	5.991-002	3.325-003	8.484-002	4.734-003
6.0+000	1.233-002	6.262-004	2.194-002	1.166-003	3.553-002	1.939-003	5.353-002	2.966-003	7.614-002	4.248-003
6.2+000	1.092-002	5.537-004	1.950-002	1.034-003	3.170-002	1.726-003	4.794-002	2.654-003	6.847-002	3.820-003
6.6+000	8.648-003	4.372-004	1.554-002	8.218-004	2.543-002	1.381-003	3.873-002	2.138-003	5.571-002	3.104-003
7.0+000	6.927-003	3.494-004	1.251-002	6.601-004	2.060-002	1.116-003	3.156-002	1.739-003	4.569-002	2.542-003
7.4+000	5.607-003	2.823-004	1.018-002	5.351-004	1.683-002	9.092-004	2.592-002	1.426-003	3.774-002	2.098-003
8.0+000	4.155-003	2.087-004	7.585-003	3.978-004	1.262-002	6.799-004	1.958-002	1.073-003	2.871-002	1.592-003
9.0+000	2.626-003	1.314-004	4.829-003	2.523-004	8.104-003	4.344-004	1.268-002	6.919-004	1.877-002	1.037-003
1.0+001	1.732-003	8.646-005	3.202-003	1.667-004	5.407-003	2.889-004	8.517-003	4.633-004	1.270-002	6.994-004
1.1+001	1.183-003	5.894-005	2.196-003	1.141-004	3.726-003	1.986-004	5.900-003	3.200-004	8.845-003	4.857-004
1.2+001	8.316-004	4.138-005	1.549-003	8.035-005	2.638-003	1.403-004	4.195-003	2.270-004	6.317-003	3.462-004
1.4+001	4.411-004	2.190-005	8.259-004	4.272-005	1.414-003	7.498-005	2.262-003	1.220-004	3.429-003	1.873-004
1.6+001	2.515-004	1.247-005	4.727-004	2.441-005	8.126-004	4.300-005	1.306-003	7.026-005	1.988-003	1.083-004
1.8+001	1.514-004	7.504-006	2.854-004	1.472-005	4.922-004	2.601-005	7.935-004	4.264-005	1.213-003	6.598-005
2.0+001	9.500-005	4.704-006	1.795-004	9.252-006	3.104-004	1.639-005	5.019-004	2.694-005	7.696-004	4.182-005
2.2+001	6.150-005	3.044-006	1.165-004	6.001-006	2.020-004	1.066-005	3.275-004	1.756-005	5.036-004	2.734-005
2.5+001	3.342-005	1.653-006	6.355-005	3.272-006	1.106-004	5.833-006	1.801-004	9.653-006	2.781-004	1.509-005
2.8+001	1.873-005	9.267-007	3.580-005	1.843-006	6.263-005	3.301-006	1.024-004	5.489-006	1.589-004	8.618-006
3.1+001	1.061-005	5.250-007	2.042-005	1.051-006	3.596-005	1.895-006	5.918-005	3.171-006	9.235-005	5.009-006
3.5+001	4.835-006	2.393-007	9.453-006	4.869-007	1.689-005	8.909-007	2.816-005	1.511-006	4.449-005	2.416-006
4.0+001	1.438-006	7.134-008	2.976-006	1.538-007	5.581-006	2.955-007	9.705-006	5.227-007	1.590-005	8.672-007
4.5+001	-7.561-008	-3.437-009	7.244-008	4.467-009	4.802-007	2.685-008	1.327-006	7.400-008	2.850-006	1.596-007
5.0+001	-7.520-007	-3.690-008	-1.239-006	-6.301-008	-1.845-006	-9.568-008	-2.527-006	-1.324-007	-3.208-006	-1.688-007
6.0+001	-1.127-006	-5.551-008	-1.994-006	-1.020-007	-3.227-006	-1.687-007	-4.886-006	-2.592-007	-7.013-006	-3.757-007
7.0+001	-1.079-006	-5.319-008	-1.932-006	-9.890-008	-3.170-006	-1.659-007	-4.868-006	-2.586-007	-7.099-006	-3.812-007
8.0+001	-9.405-007	-4.635-008	-1.689-006	-8.651-008	-2.783-006	-1.457-007	-4.293-006	-2.282-007	-6.291-006	-3.381-007
9.0+001	-7.975-007	-3.930-008	-1.434-006	-7.341-008	-2.364-006	-1.238-007	-3.651-006	-1.942-007	-5.358-006	-2.881-007
1.0+002	-6.722-007	-3.314-008	-1.208-006	-6.186-008	-1.991-006	-1.043-007	-3.075-006	-1.636-007	-4.513-006	-2.427-007

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	11 Na total	11 Na without K-shell	12 Mg total	12 Mg without K-shell	13 Al total	13 Al without K-shell	14 Si total	14 Si without K-shell	15 P total	15 P without K-shell
.0	1.099+001	8.997+000	1.199+001	9.997+000	1.299+001	1.100+001	1.398+001	1.199+001	1.498+001	1.299+001
1.0-002	1.097+001	8.978+000	1.197+001	9.975+000	1.296+001	1.097+001	1.396+001	1.197+001	1.496+001	1.297+001
2.0-002	1.092+001	8.922+000	1.190+001	9.912+000	1.289+001	1.089+001	1.388+001	1.189+001	1.489+001	1.290+001
3.0-002	1.083+001	8.832+000	1.180+001	9.810+000	1.276+001	1.077+001	1.376+001	1.177+001	1.477+001	1.278+001
4.0-002	1.071+001	8.714+000	1.167+001	9.674+000	1.260+001	1.061+001	1.360+001	1.161+001	1.461+001	1.263+001
5.0-002	1.057+001	8.575+000	1.150+001	9.510+000	1.241+001	1.041+001	1.340+001	1.141+001	1.442+001	1.243+001
6.0-002	1.041+001	8.421+000	1.132+001	9.325+000	1.219+001	1.019+001	1.317+001	1.118+001	1.419+001	1.220+001
7.0-002	1.025+001	8.259+000	1.111+001	9.124+000	1.195+001	9.958+000	1.292+001	1.093+001	1.394+001	1.195+001
8.0-002	1.008+001	8.093+000	1.090+001	8.913+000	1.170+001	9.711+000	1.265+001	1.066+001	1.367+001	1.168+001
9.0-002	9.918+000	7.928+000	1.069+001	8.699+000	1.145+001	9.460+000	1.238+001	1.039+001	1.338+001	1.139+001
1.0-001	9.755+000	7.765+000	1.048+001	8.486+000	1.120+001	9.210+000	1.209+001	1.011+001	1.308+001	1.109+001
1.1-001	9.596+000	7.606+000	1.027+001	8.276+000	1.095+001	8.964+000	1.181+001	9.826+000	1.278+001	1.079+001
1.2-001	9.440+000	7.452+000	1.006+001	8.073+000	1.071+001	8.726+000	1.154+001	9.549+000	1.248+001	1.049+001
1.3-001	9.289+000	7.302+000	9.865+000	7.878+000	1.048+001	8.496+000	1.127+001	9.279+000	1.217+001	1.019+001
1.4-001	9.142+000	7.155+000	9.677+000	7.691+000	1.026+001	8.277+000	1.100+001	9.018+000	1.188+001	9.894+000
1.5-001	8.996+000	7.011+000	9.498+000	7.513+000	1.005+001	8.068+000	1.075+001	8.768+000	1.159+001	9.607+000
1.6-001	8.853+000	6.869+000	9.328+000	7.343+000	9.854+000	7.869+000	1.051+001	8.528+000	1.131+001	9.329+000
1.7-001	8.710+000	6.728+000	9.164+000	7.181+000	9.665+000	7.681+000	1.028+001	8.301+000	1.105+001	9.063+000
1.8-001	8.568+000	6.587+000	9.008+000	7.026+000	9.485+000	7.503+000	1.007+001	8.086+000	1.079+001	8.807+000
1.9-001	8.425+000	6.446+000	8.857+000	6.877+000	9.315+000	7.334+000	9.863+000	7.882+000	1.055+001	8.564+000
2.0-001	8.282+000	6.304+000	8.712+000	6.732+000	9.153+000	7.173+000	9.670+000	7.689+000	1.031+001	8.334+000
2.2-001	7.992+000	6.018+000	8.432+000	6.456+000	8.851+000	6.873+000	9.314+000	7.336+000	9.887+000	7.908+000
2.4-001	7.699+000	5.729+000	8.164+000	6.190+000	8.573+000	6.598+000	8.996+000	7.020+000	9.505+000	7.528+000
2.5-001	7.552+000	5.583+000	8.032+000	6.060+000	8.442+000	6.468+000	8.849+000	6.874+000	9.330+000	7.355+000
2.6-001	7.404+000	5.437+000	7.902+000	5.932+000	8.314+000	6.341+000	8.709+000	6.735+000	9.165+000	7.190+000
2.8-001	7.107+000	5.145+000	7.644+000	5.677+000	8.068+000	6.099+000	8.447+000	6.476+000	8.861+000	6.889+000
3.0-001	6.812+000	4.854+000	7.387+000	5.425+000	7.831+000	5.865+000	8.205+000	6.237+000	8.587+000	6.618+000
3.2-001	6.519+000	4.566+000	7.133+000	5.174+000	7.601+000	5.639+000	7.979+000	6.013+000	8.339+000	6.372+000
3.4-001	6.232+000	4.284+000	6.879+000	4.925+000	7.375+000	5.416+000	7.763+000	5.801+000	8.111+000	6.147+000
3.5-001	6.091+000	4.146+000	6.754+000	4.802+000	7.263+000	5.306+000	7.659+000	5.698+000	8.004+000	6.041+000
3.6-001	5.951+000	4.009+000	6.628+000	4.679+000	7.152+000	5.197+000	7.556+000	5.597+000	7.900+000	5.938+000
3.8-001	5.679+000	3.743+000	6.379+000	4.435+000	6.930+000	4.979+000	7.353+000	5.398+000	7.700+000	5.742+000
4.0-001	5.416+000	3.485+000	6.134+000	4.195+000	6.710+000	4.764+000	7.155+000	5.203+000	7.510+000	5.555+000
4.2-001	5.163+000	3.239+000	5.893+000	3.959+000	6.492+000	4.550+000	6.959+000	5.011+000	7.326+000	5.374+000
4.4-001	4.920+000	3.003+000	5.657+000	3.729+000	6.275+000	4.338+000	6.764+000	4.821+000	7.147+000	5.199+000
4.5-001	4.803+000	2.889+000	5.542+000	3.616+000	6.168+000	4.233+000	6.667+000	4.726+000	7.059+000	5.113+000
4.6-001	4.689+000	2.779+000	5.427+000	3.505+000	6.061+000	4.129+000	6.571+000	4.632+000	6.971+000	5.027+000
4.8-001	4.469+000	2.566+000	5.204+000	3.288+000	5.849+000	3.922+000	6.379+000	4.444+000	6.798+000	4.857+000
5.0-001	4.261+000	2.365+000	4.988+000	3.078+000	5.641+000	3.720+000	6.188+000	4.258+000	6.625+000	4.689+000
5.5-001	3.789+000	1.913+000	4.483+000	2.589+000	5.140+000	3.233+000	5.719+000	3.801+000	6.199+000	4.273+000
6.0-001	3.385+000	1.530+000	4.030+000	2.155+000	4.673+000	2.781+000	5.266+000	3.361+000	5.779+000	3.865+000
6.5-001	3.042+000	1.210+000	3.631+000	1.774+000	4.244+000	2.369+000	4.835+000	2.946+000	5.370+000	3.468+000
7.0-001	2.753+000	9.453-001	3.283+000	1.447+000	3.857+000	1.999+000	4.433+000	2.559+000	4.975+000	3.087+000
8.0-001	2.310+000	5.541-001	2.724+000	9.323-001	3.205+000	1.386+000	3.724+000	1.883+000	4.248+000	2.389+000
9.0-001	2.003+000	3.027-001	2.317+000	5.735-001	2.703+000	9.261-001	3.146+000	1.342+000	3.622+000	1.795+000
1.0+000	1.789+000	1.475-001	2.024+000	3.323-001	2.327+000	5.944-001	2.691+000	9.259-001	3.102+000	1.311+000
1.1+000	1.636+000	5.640-002	1.813+000	1.758-001	2.047+000	3.625-001	2.339+000	6.166-001	2.684+000	9.305-001
1.2+000	1.522+000	6.551-003	1.660+000	7.834-002	1.840+000	2.054-001	2.071+000	3.930-001	2.354+000	6.399-001
1.3+000	1.434+000	-1.749-002	1.544+000	2.090-002	1.685+000	1.026-001	1.867+000	2.359-001	2.096+000	4.238-001
1.4+000	1.360+000	-2.598-002	1.454+000	-1.012-002	1.568+000	3.831-002	1.712+000	1.287-001	1.896+000	2.670-001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x	11 Na		12 Mg		13 Al		14 Si		15 P	
sin(theta/2) /lambda	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell
1.5+000	1.295+000	-2.561-002	1.380+000	-2.425-002	1.476+000	4.733-004	1.592+000	5.817-002	1.740+000	1.562-001
1.6+000	1.236+000	-2.060-002	1.317+000	-2.798-002	1.401+000	-1.950-002	1.498+000	1.394-002	1.618+000	8.015-002
1.7+000	1.179+000	-1.358-002	1.260+000	-2.564-002	1.338+000	-2.783-002	1.422+000	-1.186-002	1.522+000	2.993-002
1.8+000	1.124+000	-6.062-003	1.207+000	-2.007-002	1.282+000	-2.882-002	1.358+000	-2.503-002	1.443+000	-1.518-003
1.9+000	1.071+000	1.081-003	1.156+000	-1.310-002	1.231+000	-2.546-002	1.302+000	-2.977-002	1.378+000	-1.961-002
2.0+000	1.019+000	7.410-003	1.107+000	-5.825-003	1.183+000	-1.973-002	1.252+000	-2.914-002	1.322+000	-2.840-002
2.2+000	9.181-001	1.707-002	1.013+000	7.302-003	1.093+000	-6.019-003	1.163+000	-1.954-002	1.227+000	-2.925-002
2.4+000	8.229-001	2.296-002	9.214-001	1.710-002	1.007+000	6.667-003	1.080+000	-6.414-003	1.145+000	-1.953-002
2.5+000	7.777-001	2.474-002	8.774-001	2.069-002	9.646-001	1.197-002	1.040+000	-4.099-005	1.106+000	-1.332-002
2.6+000	7.344-001	2.589-002	8.347-001	2.348-002	9.235-001	1.648-002	1.001+000	5.820-003	1.069+000	-6.989-003
2.8+000	6.533-001	2.677-002	7.532-001	2.705-002	8.440-001	2.323-002	9.249-001	1.558-002	9.961-001	4.797-003
3.0+000	5.798-001	2.631-002	6.776-001	2.855-002	7.686-001	2.736-002	8.515-001	2.260-002	9.257-001	1.445-002
3.3+000	4.838-001	2.426-002	5.759-001	2.828-002	6.647-001	2.991-002	7.481-001	2.873-002	8.247-001	2.442-002
3.5+000	4.286-001	2.247-002	5.159-001	2.711-002	6.018-001	2.997-002	6.841-001	3.056-002	7.611-001	2.842-002
3.6+000	4.034-001	2.153-002	4.882-001	2.635-002	5.723-001	2.967-002	6.537-001	3.097-002	7.305-001	2.977-002
3.9+000	3.367-001	1.870-002	4.135-001	2.373-002	4.917-001	2.791-002	5.692-001	3.077-002	6.443-001	3.178-002
4.0+000	3.171-001	1.780-002	3.913-001	2.281-002	4.673-001	2.714-002	5.433-001	3.036-002	6.174-001	3.193-002
4.2+000	2.816-001	1.606-002	3.504-001	2.095-002	4.220-001	2.546-002	4.946-001	2.919-002	5.664-001	3.165-002
4.6+000	2.229-001	1.300-002	2.817-001	1.745-002	3.444-001	2.190-002	4.096-001	2.609-002	4.757-001	2.959-002
5.0+000	1.776-001	1.049-002	2.275-001	1.439-002	2.817-001	1.852-002	3.393-001	2.268-002	3.991-001	2.657-002
5.4+000	1.425-001	8.483-003	1.846-001	1.183-002	2.313-001	1.552-002	2.817-001	1.943-002	3.350-001	2.332-002
5.5+000	1.350-001	8.047-003	1.754-001	1.127-002	2.203-001	1.485-002	2.690-001	1.866-002	3.207-001	2.252-002
5.8+000	1.152-001	6.883-003	1.507-001	9.738-003	1.906-001	1.297-002	2.345-001	1.652-002	2.816-001	2.021-002
6.0+000	1.038-001	6.211-003	1.364-001	8.841-003	1.734-001	1.186-002	2.143-001	1.520-002	2.584-001	1.875-002
6.2+000	9.375-002	5.613-003	1.237-001	8.034-003	1.579-001	1.084-002	1.959-001	1.399-002	2.373-001	1.738-002
6.6+000	7.686-002	4.604-003	1.022-001	6.654-003	1.314-001	9.073-003	1.644-001	1.185-002	2.006-001	1.491-002
7.0+000	6.344-002	3.800-003	8.491-002	5.536-003	1.100-001	7.617-003	1.385-001	1.004-002	1.702-001	1.277-002
7.4+000	5.271-002	3.155-003	7.097-002	4.629-003	9.246-002	6.417-003	1.171-001	8.531-003	1.449-001	1.094-002
8.0+000	4.039-002	2.414-003	5.480-002	3.573-003	7.196-002	5.000-003	9.190-002	6.715-003	1.146-001	8.711-003
9.0+000	2.667-002	1.589-003	3.656-002	2.378-003	4.851-002	3.369-003	6.263-002	4.584-003	7.894-002	6.030-003
1.0+001	1.818-002	1.080-003	2.512-002	1.630-003	3.360-002	2.329-003	4.374-002	3.200-003	5.562-002	4.253-003
1.1+001	1.274-002	7.549-004	1.771-002	1.146-003	2.384-002	1.649-003	3.125-002	2.282-003	4.001-002	3.057-003
1.2+001	9.141-003	5.405-004	1.277-002	8.247-004	1.729-002	1.193-003	2.278-002	1.660-003	2.932-002	2.237-003
1.4+001	4.997-003	2.945-004	7.034-003	4.525-004	9.595-003	6.597-004	1.275-002	9.258-004	1.655-002	1.259-003
1.6+001	2.912-003	1.712-004	4.121-003	2.644-004	5.653-003	3.876-004	7.555-003	5.471-004	9.870-003	7.486-004
1.8+001	1.783-003	1.046-004	2.534-003	1.622-004	3.491-003	2.388-004	4.687-003	3.386-004	6.151-003	4.655-004
2.0+001	1.135-003	6.652-005	1.618-003	1.035-004	2.238-003	1.528-004	3.015-003	2.175-004	3.972-003	3.000-004
2.2+001	7.449-004	4.361-005	1.065-003	6.803-005	1.477-003	1.008-004	1.996-003	1.438-004	2.639-003	1.991-004
2.5+001	4.131-004	2.416-005	5.931-004	3.785-005	8.261-004	5.630-005	1.121-003	8.071-005	1.489-003	1.122-004
2.8+001	2.371-004	1.387-005	3.420-004	2.182-005	4.785-004	3.260-005	6.525-004	4.693-005	8.702-004	6.554-005
3.1+001	1.386-004	8.106-006	2.010-004	1.283-005	2.827-004	1.926-005	3.875-004	2.788-005	5.195-004	3.913-005
3.5+001	6.755-005	3.955-006	9.903-005	6.326-006	1.407-004	9.600-006	1.947-004	1.403-005	2.634-004	1.987-005
4.0+001	2.493-005	1.466-006	3.761-005	2.414-006	5.484-005	3.759-006	7.767-005	5.622-006	1.073-004	8.135-006
4.5+001	5.367-006	3.229-007	9.264-006	6.069-007	1.499-005	1.047-006	2.307-005	1.700-006	3.413-005	2.632-006
5.0+001	-3.788-006	-2.122-007	-4.106-006	-2.456-007	-3.950-006	-2.423-007	-3.064-006	-1.784-007	-1.141-006	-2.257-008
6.0+001	-9.679-006	-5.576-007	-1.290-005	-8.081-007	-1.666-005	-1.110-006	-2.093-005	-1.468-006	-2.568-005	-1.877-006
7.0+001	-9.969-006	-5.760-007	-1.354-005	-8.516-007	-1.785-005	-1.196-006	-2.295-005	-1.620-006	-2.888-005	-2.128-006
8.0+001	-8.881-006	-5.137-007	-1.213-005	-7.642-007	-1.610-005	-1.081-006	-2.084-005	-1.474-006	-2.642-005	-1.952-006
9.0+001	-7.578-006	-4.386-007	-1.038-005	-6.539-007	-1.380-005	-9.269-007	-1.791-005	-1.268-006	-2.276-005	-1.684-006
1.0+002	-6.384-006	-3.696-007	-8.745-006	-5.514-007	-1.164-005	-7.822-007	-1.512-005	-1.071-006	-1.924-005	-1.424-006

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	16 S total	16 S without K-shell	17 Cl total	17 Cl without K-shell	18 Ar total	18 Ar without K-shell	19 K total	19 K without K-shell	20 Ca total	20 Ca without K-shell
.0	1.598+001	1.399+001	1.698+001	1.499+001	1.797+001	1.599+001	1.897+001	1.699+001	1.996+001	1.798+001
1.0-002	1.596+001	1.397+001	1.695+001	1.497+001	1.795+001	1.597+001	1.893+001	1.695+001	1.993+001	1.794+001
2.0-002	1.589+001	1.390+001	1.689+001	1.491+001	1.789+001	1.591+001	1.883+001	1.684+001	1.981+001	1.783+001
3.0-002	1.578+001	1.379+001	1.679+001	1.480+001	1.780+001	1.581+001	1.866+001	1.668+001	1.962+001	1.764+001
4.0-002	1.563+001	1.364+001	1.665+001	1.466+001	1.766+001	1.568+001	1.844+001	1.646+001	1.937+001	1.739+001
5.0-002	1.544+001	1.346+001	1.647+001	1.448+001	1.749+001	1.551+001	1.819+001	1.621+001	1.908+001	1.710+001
6.0-002	1.523+001	1.324+001	1.626+001	1.427+001	1.729+001	1.531+001	1.791+001	1.593+001	1.875+001	1.677+001
7.0-002	1.498+001	1.299+001	1.602+001	1.403+001	1.706+001	1.508+001	1.762+001	1.563+001	1.840+001	1.642+001
8.0-002	1.471+001	1.272+001	1.576+001	1.377+001	1.681+001	1.482+001	1.731+001	1.533+001	1.804+001	1.606+001
9.0-002	1.442+001	1.243+001	1.547+001	1.349+001	1.653+001	1.454+001	1.701+001	1.503+001	1.769+001	1.571+001
1.0-001	1.411+001	1.213+001	1.517+001	1.318+001	1.623+001	1.425+001	1.671+001	1.473+001	1.733+001	1.535+001
1.1-001	1.380+001	1.182+001	1.485+001	1.287+001	1.592+001	1.393+001	1.640+001	1.442+001	1.698+001	1.500+001
1.2-001	1.348+001	1.150+001	1.453+001	1.254+001	1.559+001	1.361+001	1.610+001	1.412+001	1.665+001	1.467+001
1.3-001	1.316+001	1.118+001	1.420+001	1.221+001	1.526+001	1.327+001	1.580+001	1.382+001	1.632+001	1.434+001
1.4-001	1.284+001	1.086+001	1.386+001	1.188+001	1.491+001	1.293+001	1.549+001	1.352+001	1.600+001	1.402+001
1.5-001	1.253+001	1.055+001	1.353+001	1.155+001	1.457+001	1.259+001	1.519+001	1.321+001	1.570+001	1.372+001
1.6-001	1.222+001	1.024+001	1.320+001	1.122+001	1.423+001	1.225+001	1.489+001	1.291+001	1.539+001	1.342+001
1.7-001	1.192+001	9.938+000	1.288+001	1.090+001	1.389+001	1.191+001	1.458+001	1.260+001	1.510+001	1.312+001
1.8-001	1.163+001	9.648+000	1.256+001	1.058+001	1.355+001	1.157+001	1.428+001	1.230+001	1.481+001	1.284+001
1.9-001	1.135+001	9.369+000	1.225+001	1.027+001	1.322+001	1.124+001	1.397+001	1.199+001	1.453+001	1.255+001
2.0-001	1.108+001	9.101+000	1.195+001	9.970+000	1.289+001	1.091+001	1.367+001	1.169+001	1.425+001	1.227+001
2.2-001	1.058+001	8.601+000	1.138+001	9.403+000	1.227+001	1.029+001	1.307+001	1.110+001	1.370+001	1.172+001
2.4-001	1.013+001	8.150+000	1.086+001	8.882+000	1.168+001	9.706+000	1.250+001	1.052+001	1.316+001	1.119+001
2.5-001	9.918+000	7.942+000	1.061+001	8.639+000	1.141+001	9.432+000	1.222+001	1.024+001	1.290+001	1.093+001
2.6-001	9.720+000	7.745+000	1.038+001	8.408+000	1.114+001	9.158+000	1.195+001	9.974+000	1.264+001	1.067+001
2.8-001	9.357+000	7.384+000	9.954+000	7.981+000	1.065+001	8.676+000	1.143+001	9.455+000	1.214+001	1.017+001
3.0-001	9.033+000	7.062+000	9.569+000	7.598+000	1.020+001	8.229+000	1.094+001	8.970+000	1.165+001	9.684+000
3.2-001	8.743+000	6.774+000	9.224+000	7.255+000	9.795+000	7.826+000	1.049+001	8.521+000	1.119+001	9.225+000
3.4-001	8.482+000	6.516+000	8.915+000	6.948+000	9.430+000	7.463+000	1.008+001	8.109+000	1.076+001	8.792+000
3.5-001	8.361+000	6.396+000	8.773+000	6.807+000	9.262+000	7.296+000	9.883+000	7.916+000	1.055+001	8.586+000
3.6-001	8.246+000	6.282+000	8.639+000	6.674+000	9.103+000	7.138+000	9.698+000	7.733+000	1.035+001	8.386+000
3.8-001	8.030+000	6.069+000	8.390+000	6.427+000	8.810+000	6.847+000	9.354+000	7.390+000	9.972+000	8.008+000
4.0-001	7.830+000	5.872+000	8.164+000	6.204+000	8.546+000	6.585+000	9.041+000	7.080+000	9.620+000	7.659+000
4.2-001	7.644+000	5.689+000	7.958+000	6.001+000	8.308+000	6.349+000	8.758+000	6.799+000	9.296+000	7.337+000
4.4-001	7.467+000	5.515+000	7.769+000	5.815+000	8.092+000	6.136+000	8.502+000	6.545+000	8.999+000	7.041+000
4.5-001	7.381+000	5.431+000	7.679+000	5.726+000	7.992+000	6.037+000	8.383+000	6.427+000	8.860+000	6.903+000
4.6-001	7.298+000	5.349+000	7.593+000	5.641+000	7.896+000	5.942+000	8.269+000	6.315+000	8.726+000	6.771+000
4.8-001	7.134+000	5.189+000	7.427+000	5.478+000	7.715+000	5.764+000	8.058+000	6.105+000	8.477+000	6.523+000
5.0-001	6.974+000	5.033+000	7.269+000	5.324+000	7.548+000	5.600+000	7.864+000	5.914+000	8.249+000	6.298+000
5.5-001	6.585+000	4.653+000	6.899+000	4.962+000	7.171+000	5.231+000	7.444+000	5.501+000	7.759+000	5.814+000
6.0-001	6.204+000	4.282+000	6.548+000	4.620+000	6.832+000	4.900+000	7.088+000	5.152+000	7.358+000	5.419+000
6.5-001	5.827+000	3.916+000	6.204+000	4.286+000	6.513+000	4.589+000	6.771+000	4.843+000	7.018+000	5.086+000
7.0-001	5.456+000	3.557+000	5.864+000	3.956+000	6.201+000	4.287+000	6.475+000	4.556+000	6.718+000	4.794+000
8.0-001	4.746+000	2.873+000	5.196+000	3.312+000	5.587+000	3.693+000	5.909+000	4.008+000	6.177+000	4.269+000
9.0-001	4.102+000	2.258+000	4.564+000	2.705+000	4.986+000	3.116+000	5.353+000	3.473+000	5.663+000	3.774+000
1.0+000	3.542+000	1.729+000	3.986+000	2.156+000	4.416+000	2.570+000	4.809+000	2.951+000	5.156+000	3.288+000
1.1+000	3.070+000	1.290+000	3.479+000	1.678+000	3.893+000	2.075+000	4.292+000	2.458+000	4.659+000	2.814+000
1.2+000	2.682+000	9.388-001	3.046+000	1.277+000	3.430+000	1.640+000	3.815+000	2.008+000	4.187+000	2.365+000
1.3+000	2.370+000	6.642-001	2.685+000	9.502-001	3.029+000	1.271+000	3.388+000	1.610+000	3.749+000	1.953+000
1.4+000	2.121+000	4.548-001	2.388+000	6.894-001	2.690+000	9.640-001	3.016+000	1.266+000	3.354+000	1.585+000

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x	16 S		17 Cl		18 Ar		19 K		20 Ca	
sin(theta/2)/lambda	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell
1.5+000	1.925+000	2.987-001	2.148+000	4.861-001	2.407+000	7.152-001	2.696+000	9.778-001	3.005+000	1.265+000
1.6+000	1.769+000	1.848-001	1.954+000	3.308-001	2.175+000	5.175-001	2.426+000	7.399-001	2.703+000	9.918-001
1.7+000	1.646+000	1.040-001	1.799+000	2.145-001	1.984+000	3.632-001	2.200+000	5.474-001	2.444+000	7.637-001
1.8+000	1.546+000	4.824-002	1.674+000	1.294-001	1.829+000	2.450-001	2.013+000	3.944-001	2.225+000	5.763-001
1.9+000	1.466+000	1.136-002	1.572+000	6.858-002	1.703+000	1.561-001	1.859+000	2.748-001	2.041+000	4.248-001
2.0+000	1.399+000	-1.165-002	1.489+000	2.655-002	1.599+000	9.071-002	1.731+000	1.828-001	1.888+000	3.042-001
2.2+000	1.291+000	-3.051-002	1.361+000	-1.851-002	1.442+000	1.137-002	1.538+000	6.228-002	1.652+000	1.369-001
2.4+000	1.205+000	-2.931-002	1.265+000	-3.191-002	1.329+000	-2.328-002	1.402+000	1.712-005	1.487+000	4.101-002
2.5+000	1.166+000	-2.507-002	1.224+000	-3.196-002	1.283+000	-3.031-002	1.348+000	-1.675-002	1.423+000	1.171-002
2.6+000	1.129+000	-1.968-002	1.186+000	-2.940-002	1.242+000	-3.288-002	1.301+000	-2.688-002	1.368+000	-8.546-003
2.8+000	1.059+000	-7.726-003	1.115+000	-2.000-002	1.168+000	-2.956-002	1.221+000	-3.355-002	1.277+000	-2.958-002
3.0+000	9.913-001	3.621-003	1.050+000	-8.600-003	1.103+000	-2.045-002	1.153+000	-2.955-002	1.203+000	-3.400-002
3.3+000	8.940-001	1.708-002	9.560-001	7.226-003	1.012+000	-4.209-003	1.063+000	-1.547-002	1.110+000	-2.541-002
3.5+000	8.318-001	2.339-002	8.959-001	1.564-002	9.536-001	5.708-003	1.006+000	-4.997-003	1.054+000	-1.573-002
3.6+000	8.017-001	2.580-002	8.666-001	1.911-002	9.252-001	1.009-002	9.787-001	-1.220-005	1.028+000	-1.063-002
3.9+000	7.154-001	3.053-002	7.817-001	2.681-002	8.426-001	2.066-002	8.987-001	1.295-002	9.500-001	3.864-003
4.0+000	6.881-001	3.141-002	7.545-001	2.857-002	8.159-001	2.334-002	8.727-001	1.650-002	9.248-001	8.143-003
4.2+000	6.360-001	3.238-002	7.021-001	3.107-002	7.641-001	2.755-002	8.220-001	2.243-002	8.755-001	1.565-002
4.6+000	5.414-001	3.200-002	6.055-001	3.296-002	6.669-001	3.219-002	7.257-001	3.009-002	7.809-001	2.639-002
5.0+000	4.597-001	2.985-002	5.202-001	3.219-002	5.794-001	3.328-002	6.372-001	3.341-002	6.927-001	3.225-002
5.4+000	3.901-001	2.694-002	4.460-001	3.001-002	5.019-001	3.224-002	5.574-001	3.387-002	6.117-001	3.457-002
5.5+000	3.744-001	2.617-002	4.291-001	2.934-002	4.841-001	3.178-002	5.389-001	3.369-002	5.927-001	3.474-002
5.8+000	3.311-001	2.385-002	3.822-001	2.722-002	4.341-001	3.008-002	4.865-001	3.263-002	5.385-001	3.455-002
6.0+000	3.052-001	2.233-002	3.538-001	2.575-002	4.036-001	2.878-002	4.542-001	3.162-002	5.048-001	3.398-002
6.2+000	2.815-001	2.087-002	3.277-001	2.428-002	3.753-001	2.742-002	4.240-001	3.046-002	4.731-001	3.314-002
6.6+000	2.398-001	1.814-002	2.813-001	2.143-002	3.246-001	2.462-002	3.694-001	2.787-002	4.152-001	3.096-002
7.0+000	2.048-001	1.572-002	2.419-001	1.881-002	2.810-001	2.191-002	3.220-001	2.518-002	3.644-001	2.843-002
7.4+000	1.754-001	1.361-002	2.085-001	1.645-002	2.437-001	1.939-002	2.810-001	2.255-002	3.199-001	2.581-002
8.0+000	1.399-001	1.096-002	1.676-001	1.342-002	1.975-001	1.605-002	2.296-001	1.895-002	2.635-001	2.203-002
9.0+000	9.744-002	7.703-003	1.181-001	9.589-003	1.408-001	1.166-002	1.655-001	1.403-002	1.921-001	1.664-002
1.0+001	6.926-002	5.493-003	8.469-002	6.919-003	1.019-001	8.523-003	1.209-001	1.039-002	1.416-001	1.249-002
1.1+001	5.018-002	3.981-003	6.180-002	5.060-003	7.489-002	6.293-003	8.952-002	7.747-003	1.057-001	9.413-003
1.2+001	3.699-002	2.933-003	4.583-002	3.754-003	5.588-002	4.704-003	6.721-002	5.835-003	7.982-002	7.148-003
1.4+001	2.106-002	1.666-003	2.634-002	2.154-003	3.241-002	2.728-003	3.935-002	3.422-003	4.719-002	4.240-003
1.6+001	1.264-002	9.972-004	1.591-002	1.298-003	1.971-002	1.656-003	2.410-002	2.094-003	2.911-002	2.615-003
1.8+001	7.917-003	6.231-004	1.001-002	8.154-004	1.247-002	1.046-003	1.533-002	1.330-003	1.862-002	1.671-003
2.0+001	5.132-003	4.032-004	6.518-003	5.298-004	8.151-003	6.826-004	1.006-002	8.715-004	1.227-002	1.100-003
2.2+001	3.421-003	2.685-004	4.360-003	3.539-004	5.472-003	4.576-004	6.779-003	5.864-004	8.299-003	7.429-004
2.5+001	1.939-003	1.520-004	2.482-003	2.013-004	3.130-003	2.614-004	3.896-003	3.366-004	4.792-003	4.285-004
2.8+001	1.138-003	8.915-005	1.464-003	1.186-004	1.853-003	1.547-004	2.317-003	2.001-004	2.863-003	2.559-004
3.1+001	6.828-004	5.349-005	8.822-004	7.151-005	1.123-003	9.375-005	1.410-003	1.218-004	1.750-003	1.565-004
3.5+001	3.492-004	2.740-005	4.549-004	3.693-005	5.835-004	4.881-005	7.386-004	6.391-005	9.235-004	8.270-005
4.0+001	1.451-004	1.144-005	1.924-004	1.570-005	2.509-004	2.110-005	3.225-004	2.806-005	4.091-004	3.684-005
4.5+001	4.886-005	3.918-006	6.805-005	5.643-006	9.258-005	7.907-006	1.235-004	1.091-005	1.619-004	1.479-005
5.0+001	2.183-006	2.635-007	7.330-006	7.251-007	1.478-005	1.415-006	2.510-005	2.415-006	3.891-005	3.811-006
6.0+001	-3.082-005	-2.331-006	-3.625-005	-2.820-006	-4.185-005	-3.332-006	-4.748-005	-3.880-006	-5.294-005	-4.435-006
7.0+001	-3.564-005	-2.723-006	-4.324-005	-3.408-006	-5.168-005	-4.183-006	-6.097-005	-5.085-006	-7.105-005	-6.108-006
8.0+001	-3.287-005	-2.520-006	-4.023-005	-3.183-006	-4.854-005	-3.947-006	-5.785-005	-4.852-006	-6.817-005	-5.899-006
9.0+001	-2.841-005	-2.182-006	-3.490-005	-2.766-006	-4.227-005	-3.444-006	-5.058-005	-4.253-006	-5.986-005	-5.196-006
1.0+002	-2.404-005	-1.847-006	-2.956-005	-2.346-006	-3.586-005	-2.926-006	-4.299-005	-3.620-006	-5.098-005	-4.432-006

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	21 Sc total	21 Sc without K-shell	22 Ti total	22 Ti without K-shell	23 V total	23 V without K-shell	24 Cr total	24 Cr without K-shell	25 Mn total	25 Mn without K-shell
.0	2.096+001	1.898+001	2.196+001	1.998+001	2.295+001	2.098+001	2.395+001	2.197+001	2.494+001	2.297+001
1.0-002	2.092+001	1.894+001	2.192+001	1.994+001	2.292+001	2.094+001	2.392+001	2.194+001	2.491+001	2.294+001
2.0-002	2.081+001	1.883+001	2.181+001	1.984+001	2.282+001	2.084+001	2.383+001	2.185+001	2.482+001	2.285+001
3.0-002	2.063+001	1.865+001	2.164+001	1.967+001	2.265+001	2.068+001	2.368+001	2.171+001	2.467+001	2.270+001
4.0-002	2.039+001	1.841+001	2.141+001	1.944+001	2.244+001	2.046+001	2.349+001	2.152+001	2.447+001	2.250+001
5.0-002	2.010+001	1.813+001	2.114+001	1.916+001	2.217+001	2.020+001	2.325+001	2.128+001	2.422+001	2.226+001
6.0-002	1.978+001	1.780+001	2.082+001	1.885+001	2.186+001	1.989+001	2.297+001	2.100+001	2.394+001	2.197+001
7.0-002	1.943+001	1.745+001	2.048+001	1.850+001	2.153+001	1.955+001	2.267+001	2.070+001	2.362+001	2.165+001
8.0-002	1.907+001	1.709+001	2.012+001	1.814+001	2.117+001	1.920+001	2.234+001	2.037+001	2.328+001	2.131+001
9.0-002	1.869+001	1.672+001	1.974+001	1.777+001	2.080+001	1.883+001	2.200+001	2.003+001	2.292+001	2.095+001
1.0-001	1.832+001	1.634+001	1.936+001	1.739+001	2.042+001	1.845+001	2.165+001	1.967+001	2.255+001	2.058+001
1.1-001	1.796+001	1.598+001	1.899+001	1.701+001	2.004+001	1.807+001	2.128+001	1.931+001	2.217+001	2.020+001
1.2-001	1.760+001	1.562+001	1.862+001	1.664+001	1.966+001	1.769+001	2.092+001	1.895+001	2.179+001	1.982+001
1.3-001	1.725+001	1.527+001	1.825+001	1.628+001	1.929+001	1.732+001	2.056+001	1.859+001	2.141+001	1.944+001
1.4-001	1.691+001	1.493+001	1.790+001	1.592+001	1.892+001	1.695+001	2.019+001	1.822+001	2.103+001	1.906+001
1.5-001	1.658+001	1.460+001	1.755+001	1.557+001	1.856+001	1.659+001	1.983+001	1.786+001	2.065+001	1.868+001
1.6-001	1.626+001	1.428+001	1.721+001	1.524+001	1.821+001	1.624+001	1.947+001	1.750+001	2.028+001	1.831+001
1.7-001	1.594+001	1.397+001	1.688+001	1.490+001	1.786+001	1.589+001	1.911+001	1.714+001	1.992+001	1.795+001
1.8-001	1.564+001	1.366+001	1.656+001	1.458+001	1.753+001	1.555+001	1.876+001	1.679+001	1.956+001	1.759+001
1.9-001	1.534+001	1.336+001	1.624+001	1.427+001	1.719+001	1.522+001	1.841+001	1.644+001	1.920+001	1.723+001
2.0-001	1.504+001	1.307+001	1.593+001	1.396+001	1.687+001	1.490+001	1.806+001	1.610+001	1.885+001	1.689+001
2.2-001	1.447+001	1.250+001	1.533+001	1.335+001	1.624+001	1.427+001	1.738+001	1.542+001	1.817+001	1.621+001
2.4-001	1.392+001	1.194+001	1.474+001	1.277+001	1.563+001	1.366+001	1.672+001	1.475+001	1.751+001	1.555+001
2.5-001	1.364+001	1.167+001	1.446+001	1.249+001	1.533+001	1.336+001	1.640+001	1.443+001	1.719+001	1.522+001
2.6-001	1.338+001	1.141+001	1.418+001	1.221+001	1.504+001	1.307+001	1.607+001	1.411+001	1.687+001	1.491+001
2.8-001	1.286+001	1.089+001	1.364+001	1.167+001	1.447+001	1.250+001	1.545+001	1.348+001	1.625+001	1.429+001
3.0-001	1.236+001	1.039+001	1.311+001	1.114+001	1.391+001	1.195+001	1.484+001	1.288+001	1.565+001	1.369+001
3.2-001	1.188+001	9.908+000	1.260+001	1.064+001	1.338+001	1.142+001	1.426+001	1.230+001	1.507+001	1.310+001
3.4-001	1.142+001	9.452+000	1.212+001	1.016+001	1.287+001	1.091+001	1.370+001	1.174+001	1.450+001	1.254+001
3.5-001	1.120+001	9.233+000	1.189+001	9.924+000	1.263+001	1.066+001	1.343+001	1.147+001	1.423+001	1.227+001
3.6-001	1.098+001	9.020+000	1.166+001	9.697+000	1.238+001	1.042+001	1.317+001	1.121+001	1.396+001	1.200+001
3.8-001	1.058+001	8.614+000	1.122+001	9.262+000	1.192+001	9.957+000	1.266+001	1.070+001	1.344+001	1.148+001
4.0-001	1.020+001	8.234+000	1.081+001	8.852+000	1.148+001	9.517+000	1.218+001	1.022+001	1.294+001	1.098+001
4.2-001	9.839+000	7.880+000	1.043+001	8.467+000	1.106+001	9.102+000	1.172+001	9.765+000	1.247+001	1.051+001
4.4-001	9.509+000	7.551+000	1.006+001	8.107+000	1.067+001	8.711+000	1.129+001	9.337+000	1.201+001	1.006+001
4.5-001	9.354+000	7.397+000	9.893+000	7.936+000	1.048+001	8.524+000	1.109+001	9.133+000	1.180+001	9.842+000
4.6-001	9.204+000	7.248+000	9.728+000	7.772+000	1.030+001	8.344+000	1.089+001	8.936+000	1.159+001	9.631+000
4.8-001	8.923+000	6.969+000	9.415+000	7.461+000	9.956+000	8.002+000	1.051+001	8.560+000	1.118+001	9.228+000
5.0-001	8.665+000	6.713+000	9.126+000	7.173+000	9.635+000	7.683+000	1.016+001	8.210+000	1.080+001	8.847+000
5.5-001	8.107+000	6.160+000	8.495+000	6.548+000	8.930+000	6.982+000	9.384+000	7.436+000	9.942+000	7.995+000
6.0-001	7.653+000	5.712+000	7.981+000	6.039+000	8.349+000	6.406+000	8.739+000	6.796+000	9.219+000	7.276+000
6.5-001	7.277+000	5.342+000	7.558+000	5.621+000	7.870+000	5.933+000	8.205+000	6.267+000	8.614+000	6.675+000
7.0-001	6.956+000	5.028+000	7.204+000	5.274+000	7.473+000	5.541+000	7.763+000	5.830+000	8.109+000	6.175+000
8.0-001	6.410+000	4.498+000	6.629+000	4.713+000	6.848+000	4.929+000	7.077+000	5.156+000	7.330+000	5.407+000
9.0-001	5.920+000	4.025+000	6.146+000	4.245+000	6.353+000	4.448+000	6.555+000	4.646+000	6.758+000	4.847+000
1.0+000	5.445+000	3.569+000	5.695+000	3.811+000	5.913+000	4.024+000	6.113+000	4.219+000	6.301+000	4.403+000
1.1+000	4.976+000	3.120+000	5.252+000	3.388+000	5.493+000	3.621+000	5.705+000	3.827+000	5.899+000	4.016+000
1.2+000	4.519+000	2.685+000	4.816+000	2.972+000	5.080+000	3.226+000	5.309+000	3.448+000	5.520+000	3.652+000
1.3+000	4.084+000	2.273+000	4.393+000	2.569+000	4.673+000	2.839+000	4.919+000	3.076+000	5.149+000	3.299+000
1.4+000	3.680+000	1.894+000	3.990+000	2.190+000	4.279+000	2.466+000	4.538+000	2.714+000	4.785+000	2.952+000

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	21 Sc total	21 Sc without K-shell	22 Ti total	22 Ti without K-shell	23 V total	23 V without K-shell	24 Cr total	24 Cr without K-shell	25 Mn total	25 Mn without K-shell
1.5+000	3.313+000	1.554+000	3.616+000	1.839+000	3.905+000	2.114+000	4.170+000	2.367+000	4.428+000	2.614+000
1.6+000	2.987+000	1.255+000	3.274+000	1.523+000	3.556+000	1.789+000	3.821+000	2.040+000	4.084+000	2.290+000
1.7+000	2.702+000	9.976-001	2.969+000	1.244+000	3.238+000	1.494+000	3.496+000	1.737+000	3.758+000	1.985+000
1.8+000	2.455+000	7.802-001	2.699+000	1.001+000	2.950+000	1.232+000	3.198+000	1.462+000	3.452+000	1.702+000
1.9+000	2.244+000	5.991-001	2.464+000	7.938-001	2.695+000	1.003+000	2.928+000	1.216+000	3.171+000	1.443+000
2.0+000	2.065+000	4.506-001	2.261+000	6.192-001	2.471+000	8.053-001	2.686+000	9.999-001	2.916+000	1.211+000
2.2+000	1.786+000	2.348-001	1.937+000	3.551-001	2.105+000	4.956-001	2.285+000	6.503-001	2.480+000	8.240-001
2.4+000	1.587+000	1.015-001	1.703+000	1.819-001	1.834+000	2.818-001	1.978+000	3.980-001	2.139+000	5.336-001
2.5+000	1.510+000	5.742-002	1.611+000	1.213-001	1.726+000	2.036-001	1.855+000	3.024-001	1.999+000	4.199-001
2.6+000	1.444+000	2.477-002	1.533+000	7.442-002	1.634+000	1.411-001	1.748+000	2.239-001	1.877+000	3.245-001
2.8+000	1.338+000	-1.488-002	1.407+000	1.235-002	1.487+000	5.348-002	1.577+000	1.090-001	1.679+000	1.799-001
3.0+000	1.255+000	-3.135-002	1.312+000	-1.965-002	1.375+000	2.772-003	1.447+000	3.711-002	1.528+000	8.421-002
3.3+000	1.156+000	-3.231-002	1.203+000	-3.434-002	1.252+000	-2.985-002	1.306+000	-1.725-002	1.365+000	4.270-003
3.5+000	1.100+000	-2.528-002	1.143+000	-3.204-002	1.188+000	-3.450-002	1.234+000	-3.111-002	1.284+000	-2.102-002
3.6+000	1.073+000	-2.078-002	1.116+000	-2.897-002	1.159+000	-3.380-002	1.203+000	-3.378-002	1.250+000	-2.804-002
3.9+000	9.967-001	-6.246-003	1.040+000	-1.621-002	1.081+000	-2.497-002	1.121+000	-3.137-002	1.161+000	-3.443-002
4.0+000	9.722-001	-1.553-003	1.016+000	-1.152-002	1.057+000	-2.081-002	1.097+000	-2.840-002	1.136+000	-3.327-002
4.2+000	9.243-001	7.101-003	9.692-001	-2.331-003	1.011+000	-1.191-002	1.050+000	-2.087-002	1.088+000	-2.814-002
4.6+000	8.321-001	2.065-002	8.793-001	1.342-002	9.230-001	5.119-003	9.634-001	-3.931-003	1.002+000	-1.262-002
5.0+000	7.449-001	2.917-002	7.938-001	2.451-002	8.395-001	1.846-002	8.817-001	1.102-002	9.214-001	3.298-003
5.4+000	6.637-001	3.362-002	7.131-001	3.125-002	7.599-001	2.749-002	8.036-001	2.215-002	8.451-001	1.629-002
5.5+000	6.444-001	3.423-002	6.938-001	3.236-002	7.408-001	2.914-002	7.847-001	2.432-002	8.265-001	1.896-002
5.8+000	5.891-001	3.517-002	6.381-001	3.460-002	6.851-001	3.281-002	7.295-001	2.948-002	7.721-001	2.561-002
6.0+000	5.545-001	3.517-002	6.028-001	3.533-002	6.496-001	3.436-002	6.940-001	3.192-002	7.369-001	2.898-002
6.2+000	5.216-001	3.481-002	5.692-001	3.557-002	6.154-001	3.532-002	6.597-001	3.367-002	7.027-001	3.159-002
6.6+000	4.611-001	3.330-002	5.066-001	3.496-002	5.515-001	3.583-002	5.949-001	3.552-002	6.376-001	3.489-002
7.0+000	4.072-001	3.115-002	4.503-001	3.339-002	4.932-001	3.504-002	5.353-001	3.570-002	5.771-001	3.619-002
7.4+000	3.596-001	2.870-002	4.000-001	3.127-002	4.407-001	3.343-002	4.810-001	3.479-002	5.213-001	3.610-002
8.0+000	2.987-001	2.494-002	3.349-001	2.770-002	3.718-001	3.024-002	4.089-001	3.222-002	4.466-001	3.430-002
9.0+000	2.202-001	1.923-002	2.497-001	2.186-002	2.804-001	2.446-002	3.118-001	2.678-002	3.442-001	2.934-002
1.0+001	1.638-001	1.466-002	1.875-001	1.693-002	2.125-001	1.927-002	2.384-001	2.149-002	2.657-001	2.400-002
1.1+001	1.232-001	1.117-002	1.420-001	1.305-002	1.622-001	1.504-002	1.834-001	1.703-002	2.060-001	1.925-002
1.2+001	9.364-002	8.554-003	1.087-001	1.008-002	1.249-001	1.173-002	1.422-001	1.340-002	1.607-001	1.533-002
1.4+001	5.591-002	5.137-003	6.553-002	6.135-003	7.607-002	7.235-003	8.747-002	8.380-003	9.988-002	9.731-003
1.6+001	3.473-002	3.195-003	4.102-002	3.849-003	4.797-002	4.580-003	5.558-002	5.357-003	6.395-002	6.282-003
1.8+001	2.234-002	2.053-003	2.653-002	2.489-003	3.121-002	2.982-003	3.637-002	3.512-003	4.210-002	4.148-003
2.0+001	1.479-002	1.358-003	1.765-002	1.655-003	2.086-002	1.993-003	2.443-002	2.359-003	2.841-002	2.801-003
2.2+001	1.004-002	9.210-004	1.202-002	1.127-003	1.427-002	1.362-003	1.677-002	1.620-003	1.959-002	1.932-003
2.5+001	5.826-003	5.338-004	7.012-003	6.563-004	8.360-003	7.976-004	9.879-003	9.534-004	1.160-002	1.143-003
2.8+001	3.496-003	3.202-004	4.227-003	3.955-004	5.062-003	4.828-004	6.009-003	5.798-004	7.084-003	6.984-004
3.1+001	2.147-003	1.967-004	2.607-003	2.440-004	3.136-003	2.993-004	3.739-003	3.610-004	4.428-003	4.368-004
3.5+001	1.141-003	1.047-004	1.395-003	1.308-004	1.690-003	1.616-004	2.028-003	1.962-004	2.417-003	2.389-004
4.0+001	5.123-004	4.729-005	6.345-004	5.984-005	7.778-004	7.480-005	9.442-004	9.189-005	1.138-003	1.132-004
4.5+001	2.087-004	1.954-005	2.653-004	2.538-005	3.331-004	3.248-005	4.131-004	4.076-005	5.077-004	5.118-005
5.0+001	5.684-005	5.644-006	7.966-005	8.019-006	1.082-004	1.104-005	1.431-004	1.471-005	1.858-004	1.945-005
6.0+001	-5.797-005	-4.922-006	-6.231-005	-5.332-006	-6.568-005	-5.631-006	-6.771-005	-5.745-006	-6.811-005	-5.730-006
7.0+001	-8.181-005	-7.177-006	-9.318-005	-8.312-006	-1.051-004	-9.506-006	-1.173-004	-1.068-005	-1.299-004	-1.201-005
8.0+001	-7.944-005	-7.023-006	-9.168-005	-8.253-006	-1.048-004	-9.588-006	-1.189-004	-1.096-005	-1.339-004	-1.256-005
9.0+001	-7.009-005	-6.219-006	-8.130-005	-7.349-006	-9.349-005	-8.591-006	-1.066-004	-9.886-006	-1.208-004	-1.141-005
1.0+002	-5.981-005	-5.317-006	-6.954-005	-6.301-006	-8.017-005	-7.386-006	-9.168-005	-8.527-006	-1.042-004	-9.876-006

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	26 Fe total	26 Fe without K-shell	27 Co total	27 Co without K-shell	28 Ni total	28 Ni without K-shell	29 Cu total	29 Cu without K-shell	30 Zn total	30 Zn [illegible]
.0	2.593+001	2.397+001	2.693+001	2.496+001	2.792+001	2.596+001	2.892+001	2.696+001	2.991+001	2.[illegible]
1.0-002	2.590+001	2.394+001	2.690+001	2.494+001	2.790+001	2.593+001	2.889+001	2.693+001	2.988+001	2.[illegible]
2.0-002	2.582+001	2.385+001	2.682+001	2.485+001	2.782+001	2.585+001	2.882+001	2.686+001	2.981+001	2.[illegible]
3.0-002	2.568+001	2.371+001	2.668+001	2.472+001	2.768+001	2.572+001	2.870+001	2.675+001	2.969+001	2.[illegible]
4.0-002	2.548+001	2.352+001	2.650+001	2.453+001	2.751+001	2.555+001	2.855+001	2.659+001	2.952+001	2.[illegible]
5.0-002	2.525+001	2.328+001	2.627+001	2.430+001	2.729+001	2.532+001	2.835+001	2.639+001	2.932+001	2.[illegible]
6.0-002	2.497+001	2.301+001	2.600+001	2.404+001	2.703+001	2.507+001	2.812+001	2.616+001	2.907+001	2.[illegible]
7.0-002	2.466+001	2.270+001	2.570+001	2.374+001	2.674+001	2.478+001	2.786+001	2.590+001	2.880+001	2.[illegible]
8.0-002	2.433+001	2.236+001	2.538+001	2.341+001	2.642+001	2.446+001	2.757+001	2.561+001	2.850+001	2.[illegible]
9.0-002	2.398+001	2.201+001	2.503+001	2.307+001	2.608+001	2.412+001	2.726+001	2.530+001	2.818+001	2.[illegible]
1.0-001	2.361+001	2.165+001	2.467+001	2.271+001	2.573+001	2.377+001	2.693+001	2.497+001	2.784+001	2.[illegible]
1.1-001	2.324+001	2.127+001	2.430+001	2.234+001	2.536+001	2.340+001	2.659+001	2.463+001	2.748+001	2.[illegible]
1.2-001	2.286+001	2.089+001	2.392+001	2.196+001	2.499+001	2.303+001	2.624+001	2.428+001	2.712+001	2.[illegible]
1.3-001	2.247+001	2.051+001	2.354+001	2.158+001	2.461+001	2.265+001	2.588+001	2.392+001	2.674+001	2.[illegible]
1.4-001	2.209+001	2.013+001	2.316+001	2.120+001	2.423+001	2.227+001	2.552+001	2.356+001	2.637+001	2.[illegible]
1.5-001	2.171+001	1.975+001	2.278+001	2.082+001	2.385+001	2.189+001	2.515+001	2.319+001	2.599+001	2.[illegible]
1.6-001	2.134+001	1.937+001	2.240+001	2.044+001	2.347+001	2.151+001	2.477+001	2.282+001	2.560+001	2.[illegible]
1.7-001	2.096+001	1.900+001	2.202+001	2.006+001	2.309+001	2.113+001	2.440+001	2.244+001	2.522+001	2.[illegible]
1.8-001	2.060+001	1.863+001	2.165+001	1.969+001	2.271+001	2.075+001	2.402+001	2.206+001	2.484+001	2.[illegible]
1.9-001	2.024+001	1.827+001	2.128+001	1.932+001	2.234+001	2.038+001	2.365+001	2.169+001	2.446+001	2.[illegible]
2.0-001	1.988+001	1.791+001	2.092+001	1.895+001	2.197+001	2.001+001	2.327+001	2.131+001	2.409+001	2.[illegible]
2.2-001	1.918+001	1.721+001	2.020+001	1.824+001	2.124+001	1.928+001	2.252+001	2.057+001	2.334+001	2.[illegible]
2.4-001	1.850+001	1.653+001	1.950+001	1.754+001	2.053+001	1.857+001	2.178+001	1.982+001	2.260+001	2.[illegible]
2.5-001	1.816+001	1.620+001	1.916+001	1.720+001	2.017+001	1.822+001	2.141+001	1.946+001	2.224+001	2.[illegible]
2.6-001	1.784+001	1.587+001	1.882+001	1.686+001	1.983+001	1.787+001	2.105+001	1.909+001	2.188+001	1.[illegible]
2.8-001	1.719+001	1.523+001	1.816+001	1.620+001	1.915+001	1.719+001	2.033+001	1.827+001	2.117+001	1.[illegible]
3.0-001	1.657+001	1.461+001	1.751+001	1.555+001	1.848+001	1.652+001	1.962+001	1.767+001	2.047+001	1.[illegible]
3.2-001	1.596+001	1.400+001	1.688+001	1.493+001	1.783+001	1.588+001	1.893+001	1.696+001	1.979+001	1.[illegible]
3.4-001	1.537+001	1.341+001	1.627+001	1.432+001	1.720+001	1.525+001	1.826+001	1.630+001	1.912+001	1.[illegible]
3.5-001	1.509+001	1.313+001	1.598+001	1.402+001	1.689+001	1.494+001	1.793+001	1.597+001	1.880+001	1.[illegible]
3.6-001	1.481+001	1.285+001	1.568+001	1.373+001	1.659+001	1.464+001	1.760+001	1.565+001	1.847+001	1.[illegible]
3.8-001	1.426+001	1.230+001	1.511+001	1.316+001	1.600+001	1.404+001	1.697+001	1.501+001	1.784+001	1.[illegible]
4.0-001	1.373+001	1.178+001	1.456+001	1.261+001	1.542+001	1.347+001	1.635+001	1.440+001	1.722+001	1.[illegible]
4.2-001	1.323+001	1.128+001	1.403+001	1.208+001	1.487+001	1.292+001	1.576+001	1.381+001	1.662+001	1.[illegible]
4.4-001	1.275+001	1.080+001	1.353+001	1.157+001	1.434+001	1.239+001	1.519+001	1.324+001	1.605+001	1.[illegible]
4.5-001	1.252+001	1.057+001	1.328+001	1.133+001	1.408+001	1.213+001	1.491+001	1.296+001	1.576+001	1.[illegible]
4.6-001	1.229+001	1.034+001	1.304+001	1.109+001	1.383+001	1.188+001	1.464+001	1.269+001	1.549+001	1.[illegible]
4.8-001	1.186+001	9.908+000	1.258+001	1.063+001	1.334+001	1.139+001	1.412+001	1.217+001	1.495+001	1.[illegible]
5.0-001	1.145+001	9.498+000	1.214+001	1.019+001	1.287+001	1.092+001	1.362+001	1.167+001	1.443+001	1.[illegible]
5.5-001	1.052+001	8.571+000	1.114+001	9.191+000	1.180+001	9.853+000	1.247+001	1.053+001	1.323+001	1.[illegible]
6.0-001	9.722+000	7.780+000	1.027+001	8.328+000	1.086+001	8.919+000	1.146+001	9.521+000	1.216+001	1.[illegible]
6.5-001	9.049+000	7.111+000	9.529+000	7.590+000	1.005+001	8.113+000	1.058+001	8.648+000	1.122+001	9.[illegible]
7.0-001	8.484+000	6.549+000	8.900+000	6.965+000	9.357+000	7.423+000	9.830+000	7.896+000	1.039+001	8.[illegible]
8.0-001	7.609+000	5.685+000	7.920+000	5.995+000	8.265+000	6.340+000	8.631+000	6.706+000	9.067+000	7.[illegible]
9.0-001	6.976+000	5.063+000	7.213+000	5.299+000	7.476+000	5.560+000	7.759+000	5.842+000	8.088+000	6.[illegible]
1.0+000	6.489+000	4.588+000	6.683+000	4.780+000	6.890+000	4.985+000	7.114+000	5.208+000	7.365+000	5.[illegible]
1.1+000	6.079+000	4.192+000	6.255+000	4.364+000	6.432+000	4.539+000	6.619+000	4.723+000	6.817+000	4.[illegible]
1.2+000	5.707+000	3.834+000	5.881+000	4.004+000	6.048+000	4.167+000	6.215+000	4.331+000	6.383+000	4.[illegible]
1.3+000	5.351+000	3.494+000	5.533+000	3.671+000	5.702+000	3.835+000	5.862+000	3.991+000	6.018+000	4.[illegible]
1.4+000	5.001+000	3.161+000	5.197+000	3.350+000	5.374+000	3.522+000	5.537+000	3.680+000	5.693+000	3.[illegible]

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	26 Fe total	26 Fe without K-shell	27 Co total	27 Co without K-shell	28 Ni total	28 Ni without K-shell	29 Cu total	29 Cu without K-shell	30 Zn total	30 Zn without K-shell
1.5+000	4.658+000	2.835+000	4.866+000	3.036+000	5.056+000	3.218+000	5.226+000	3.383+000	5.388+000	3.540+000
1.6+000	4.322+000	2.518+000	4.542+000	2.729+000	4.743+000	2.922+000	4.923+000	3.095+000	5.094+000	3.261+000
1.7+000	4.000+000	2.215+000	4.226+000	2.431+000	4.436+000	2.632+000	4.625+000	2.813+000	4.807+000	2.988+000
1.8+000	3.693+000	1.929+000	3.923+000	2.147+000	4.138+000	2.352+000	4.334+000	2.539+000	4.525+000	2.722+000
1.9+000	3.406+000	1.663+000	3.634+000	1.878+000	3.852+000	2.084+000	4.053+000	2.275+000	4.250+000	2.463+000
2.0+000	3.141+000	1.420+000	3.364+000	1.628+000	3.580+000	1.831+000	3.782+000	2.022+000	3.983+000	2.214+000
2.2+000	2.680+000	1.004+000	2.884+000	1.191+000	3.087+000	1.379+000	3.283+000	1.561+000	3.484+000	1.749+000
2.4+000	2.309+000	6.808-001	2.486+000	8.384-001	2.669+000	1.003+000	2.850+000	1.169+000	3.039+000	1.343+000
2.5+000	2.154+000	5.505-001	2.317+000	6.928-001	2.488+000	8.444-001	2.660+000	9.990-001	2.841+000	1.164+000
2.6+000	2.017+000	4.389-001	2.167+000	5.661-001	2.325+000	7.039-001	2.487+000	8.469-001	2.658+000	1.001+000
2.8+000	1.792+000	2.648-001	1.915+000	3.632-001	2.049+000	4.735-001	2.188+000	5.922-001	2.338+000	7.233-001
3.0+000	1.619+000	1.443-001	1.720+000	2.171-001	1.830+000	3.021-001	1.948+000	3.969-001	2.076+000	5.043-001
3.3+000	1.431+000	3.600-002	1.505+000	7.833-002	1.587+000	1.315-001	1.677+000	1.947-001	1.775+000	2.692-001
3.5+000	1.339+000	-2.748-003	1.400+000	2.436-002	1.467+000	6.084-002	1.542+000	1.067-001	1.624+000	1.626-001
3.6+000	1.300+000	-1.511-002	1.356+000	5.775-003	1.417+000	3.526-002	1.485+000	7.360-002	1.560+000	1.213-001
3.9+000	1.203+000	-3.296-002	1.247+000	-2.605-002	1.295+000	-1.285-002	1.348+000	7.345-003	1.405+000	3.484-002
4.0+000	1.176+000	-3.439-002	1.217+000	-3.079-002	1.262+000	-2.165-002	1.310+000	-6.151-003	1.363+000	1.593-002
4.2+000	1.125+000	-3.297-002	1.164+000	-3.443-002	1.203+000	-3.168-002	1.245+000	-2.385-002	1.291+000	-1.064-002
4.6+000	1.038+000	-2.081-002	1.072+000	-2.762-002	1.107+000	-3.235-002	1.142+000	-3.422-002	1.178+000	-3.281-002
5.0+000	9.584-001	-5.040-003	9.932-001	-1.325-002	1.026+000	-2.081-002	1.059+000	-2.718-002	1.091+000	-3.173-002
5.4+000	8.835-001	9.248-003	9.196-001	1.635-003	9.535-001	-6.190-003	9.855-001	-1.393-002	1.016+000	-2.083-002
5.5+000	8.653-001	1.235-002	9.017-001	5.048-003	9.359-001	-2.609-003	9.681-001	-1.039-002	9.991-001	-1.750-002
5.8+000	8.119-001	2.035-002	8.493-001	1.420-002	8.844-001	7.363-003	9.173-001	-6.221-005	9.488-001	-7.233-003
6.0+000	7.772-001	2.463-002	8.152-001	1.931-002	8.510-001	1.319-002	8.844-001	6.264-003	9.164-001	-5.943-004
6.2+000	7.434-001	2.811-002	7.819-001	2.364-002	8.182-001	1.829-002	8.522-001	1.198-002	8.847-001	5.613-003
6.6+000	6.784-001	3.298-002	7.174-001	3.010-002	7.546-001	2.630-002	7.896-001	2.140-002	8.231-001	1.629-002
7.0+000	6.175-001	3.556-002	6.565-001	3.406-002	6.939-001	3.168-002	7.295-001	2.818-002	7.639-001	2.444-002
7.4+000	5.608-001	3.645-002	5.992-001	3.606-002	6.365-001	3.490-002	6.722-001	3.266-002	7.070-001	3.021-002
8.0+000	4.839-001	3.567-002	5.208-001	3.649-002	5.571-001	3.671-002	5.922-001	3.600-002	6.269-001	3.518-002
9.0+000	3.770-001	3.150-002	4.101-001	3.338-002	4.432-001	3.493-002	4.759-001	3.583-002	5.088-001	3.679-002
1.0+001	2.936-001	2.631-002	3.223-001	2.852-002	3.514-001	3.058-002	3.806-001	3.223-002	4.104-001	3.405-002
1.1+001	2.294-001	2.142-002	2.537-001	2.359-002	2.787-001	2.572-002	3.041-001	2.761-002	3.304-001	2.973-002
1.2+001	1.801-001	1.725-002	2.004-001	1.922-002	2.216-001	2.122-002	2.434-001	2.308-002	2.661-001	2.520-002
1.4+001	1.131-001	1.112-002	1.272-001	1.259-002	1.421-001	1.414-002	1.577-001	1.567-002	1.743-001	1.742-002
1.6+001	7.300-002	7.253-003	8.274-002	8.303-003	9.318-002	9.429-003	1.042-001	1.057-002	1.161-001	1.190-002
1.8+001	4.835-002	4.825-003	5.514-002	5.566-003	6.248-002	6.372-003	7.034-002	7.203-003	7.883-002	8.177-003
2.0+001	3.278-002	3.277-003	3.757-002	3.803-003	4.279-002	4.380-003	4.842-002	4.982-003	5.454-002	5.692-003
2.2+001	2.270-002	2.270-003	2.612-002	2.646-003	2.987-002	3.062-003	3.394-002	3.501-003	3.840-002	4.020-003
2.5+001	1.350-002	1.351-003	1.562-002	1.584-003	1.796-002	1.843-003	2.052-002	2.120-003	2.333-002	2.449-003
2.8+001	8.288-003	8.291-004	9.632-003	9.767-004	1.112-002	1.142-003	1.277-002	1.320-003	1.459-002	1.533-003
3.1+001	5.203-003	5.209-004	6.073-003	6.164-004	7.044-003	7.242-004	8.118-003	8.408-004	9.315-003	9.805-004
3.5+001	2.858-003	2.868-004	3.356-003	3.415-004	3.916-003	4.037-004	4.540-003	4.716-004	5.240-003	5.532-004
4.0+001	1.359-003	1.372-004	1.612-003	1.651-004	1.899-003	1.970-004	2.223-003	2.323-004	2.588-003	2.751-004
4.5+001	6.178-004	6.320-005	7.452-004	7.730-005	8.919-004	9.371-005	1.059-003	1.121-004	1.250-003	1.346-004
5.0+001	2.369-004	2.510-005	2.976-004	3.189-005	3.691-004	3.998-005	4.522-004	4.928-005	5.491-004	6.074-005
6.0+001	-6.640-005	-5.433-006	-6.215-005	-4.830-006	-5.486-005	-3.856-006	-4.402-005	-2.436-006	-2.906-005	-5.136-007
7.0+001	-1.425-004	-1.328-005	-1.551-004	-1.454-005	-1.673-004	-1.575-005	-1.788-004	-1.681-005	-1.898-004	-1.792-005
8.0+001	-1.496-004	-1.419-005	-1.660-004	-1.590-005	-1.831-004	-1.768-005	-2.006-004	-1.942-005	-2.187-004	-2.140-005
9.0+001	-1.360-004	-1.299-005	-1.520-004	-1.468-005	-1.690-004	-1.647-005	-1.867-004	-1.828-005	-2.055-004	-2.036-005
1.0+002	-1.176-004	-1.128-005	-1.320-004	-1.280-005	-1.473-004	-1.443-005	-1.634-004	-1.608-005	-1.806-004	-1.800-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	31 Ga total	31 Ga without K-shell	32 Ge total	32 Ge without K-shell	33 As total	33 As without K-shell	34 Se total	34 Se without K-shell	35 Br total	35 Br without K-shell
.0	3.090+001	2.895+001	3.189+001	2.994+001	3.289+001	3.094+001	3.388+001	3.193+001	3.487+001	3.293+001
1.0-002	3.087+001	2.892+001	3.186+001	2.991+001	3.286+001	3.091+001	3.385+001	3.190+001	3.484+001	3.290+001
2.0-002	3.078+001	2.883+001	3.177+001	2.982+001	3.276+001	3.081+001	3.375+001	3.181+001	3.475+001	3.281+001
3.0-002	3.063+001	2.868+001	3.162+001	2.967+001	3.261+001	3.066+001	3.360+001	3.165+001	3.460+001	3.266+001
4.0-002	3.044+001	2.848+001	3.141+001	2.946+001	3.240+001	3.045+001	3.340+001	3.145+001	3.440+001	3.245+001
5.0-002	3.020+001	2.824+001	3.116+001	2.921+001	3.214+001	3.019+001	3.314+001	3.119+001	3.414+001	3.220+001
6.0-002	2.992+001	2.796+001	3.086+001	2.891+001	3.184+001	2.989+001	3.283+001	3.089+001	3.384+001	3.190+001
7.0-002	2.961+001	2.766+001	3.053+001	2.858+001	3.150+001	2.955+001	3.249+001	3.055+001	3.350+001	3.156+001
8.0-002	2.928+001	2.732+001	3.018+001	2.823+001	3.113+001	2.918+001	3.212+001	3.017+001	3.312+001	3.118+001
9.0-002	2.893+001	2.697+001	2.980+001	2.785+001	3.074+001	2.879+001	3.171+001	2.977+001	3.271+001	3.077+001
1.0-001	2.856-001	2.661+001	2.941+001	2.746+001	3.033+001	2.838+001	3.129+001	2.935+001	3.228+001	3.034+001
1.1-001	2.819-001	2.624+001	2.901+001	2.706+001	2.991+001	2.796+001	3.085+001	2.891+001	3.183+001	2.989+001
1.2-001	2.781-001	2.586+001	2.861+001	2.666+001	2.948+001	2.753+001	3.040+001	2.845+001	3.136+001	2.942+001
1.3-001	2.743+001	2.548+001	2.820+001	2.625+001	2.904+001	2.710+001	2.995+001	2.800+001	3.089+001	2.895+001
1.4-001	2.705+001	2.510+001	2.780+001	2.585+001	2.861+001	2.666+001	2.949+001	2.754+001	3.041+001	2.847+001
1.5-001	2.667+001	2.472+001	2.739+001	2.544+001	2.818+001	2.623+001	2.903+001	2.709+001	2.993+001	2.799+001
1.6-001	2.629+001	2.434+001	2.699+001	2.504+001	2.775+001	2.581+001	2.858+001	2.663+001	2.946+001	2.752+001
1.7-001	2.591-001	2.396+001	2.660+001	2.465+001	2.733+001	2.539+001	2.813+001	2.619+001	2.898+001	2.704+001
1.8-001	2.553+001	2.358+001	2.621+001	2.426+001	2.692+001	2.497+001	2.769+001	2.575+001	2.852+001	2.658+001
1.9-001	2.516+001	2.321+001	2.582+001	2.387+001	2.651+001	2.457+001	2.726+001	2.532+001	2.806+001	2.612+001
2.0-001	2.479+001	2.284+001	2.544+001	2.349+001	2.612+001	2.417+001	2.684+001	2.489+001	2.761+001	2.567+001
2.2-001	2.406+001	2.210+001	2.470+001	2.275+001	2.535+001	2.340+001	2.602+001	2.408+001	2.674+001	2.480+001
2.4-001	2.334+001	2.139+001	2.399+001	2.204+001	2.461+001	2.266+001	2.525+001	2.330+001	2.592+001	2.398+001
2.5-001	2.298+001	2.103+001	2.363+001	2.169+001	2.425+001	2.231+001	2.487+001	2.293+001	2.553+001	2.359+001
2.6-001	2.263+001	2.068+001	2.329+001	2.134+001	2.390+001	2.195+001	2.451+001	2.257+001	2.515+001	2.321+001
2.8-001	2.194+001	1.999+001	2.261+001	2.066+001	2.322+001	2.127+001	2.381+001	2.187+001	2.441+001	2.247+001
3.0-001	2.126+001	1.931+001	2.195+001	2.000+001	2.256+001	2.062+001	2.314+001	2.120+001	2.372+001	2.178+001
3.2-001	2.060+001	1.865+001	2.130+001	1.935+001	2.192+001	1.998+001	2.250+001	2.056+001	2.306+001	2.112+001
3.4-001	1.994+001	1.800+001	2.067+001	1.872+001	2.130+001	1.936+001	2.188+001	1.994+001	2.243+001	2.050+001
3.5-001	1.962+001	1.768+001	2.035+001	1.841+001	2.100+001	1.906+001	2.158+001	1.964+001	2.213+001	2.019+001
3.6-001	1.931+001	1.736+001	2.005+001	1.810+001	2.070+001	1.876+001	2.129+001	1.935+001	2.183+001	1.990+001
3.8-001	1.868+001	1.673+001	1.944+001	1.749+001	2.011+001	1.816+001	2.071+001	1.877+001	2.126+001	1.932+001
4.0-001	1.807+001	1.612+001	1.884+001	1.690+001	1.953+001	1.759+001	2.014+001	1.820+001	2.070+001	1.876+001
4.2-001	1.747+001	1.553+001	1.826+001	1.631+001	1.896+001	1.702+001	1.959+001	1.765+001	2.016+001	1.822+001
4.4-001	1.689+001	1.495+001	1.769+001	1.574+001	1.840+001	1.647+001	1.905+001	1.711+001	1.963+001	1.770+001
4.5-001	1.661+001	1.467+001	1.740+001	1.546+001	1.813+001	1.619+001	1.878+001	1.685+001	1.937+001	1.744+001
4.6-001	1.633+001	1.439+001	1.713+001	1.519+001	1.786+001	1.592+001	1.852+001	1.658+001	1.912+001	1.718+001
4.8-001	1.578+001	1.384+001	1.658+001	1.464+001	1.733+001	1.539+001	1.800+001	1.607+001	1.861+001	1.668+001
5.0-001	1.525+001	1.331+001	1.605+001	1.411+001	1.680+001	1.487+001	1.749+001	1.556+001	1.812+001	1.618+001
5.5-001	1.401+001	1.207+001	1.480+001	1.286+001	1.555+001	1.362+001	1.626+001	1.433+001	1.692+001	1.499+001
6.0-001	1.289+001	1.095+001	1.364+001	1.170+001	1.438+001	1.245+001	1.510+001	1.317+001	1.578+001	1.385+001
6.5-001	1.189+001	9.955+000	1.259+001	1.066+001	1.331+001	1.138+001	1.401+001	1.208+001	1.470+001	1.277+001
7.0-001	1.100+001	9.071+000	1.165+001	9.721+000	1.232+001	1.040+001	1.301+001	1.108+001	1.368+001	1.176+001
8.0-001	9.549+000	7.625+000	1.008+001	8.156+000	1.065+001	8.728+000	1.125+001	9.331+000	1.187+001	9.953+000
9.0-001	8.458+000	6.542+000	8.874+000	6.958+000	9.334+000	7.419+000	9.835+000	7.921+000	1.037+001	8.457+000
1.0+000	7.646+000	5.739+000	7.966+000	6.058+000	8.325+000	6.418+000	8.726+000	6.819+000	9.165+000	7.260+000
1.1+000	7.036+000	5.138+000	7.282+000	5.383+000	7.559+000	5.660+000	7.872+000	5.973+000	8.222+000	6.324+000
1.2+000	6.562+000	4.674+000	6.757+000	4.868+000	6.973+000	5.034+000	7.217+000	5.327+000	7.492+000	5.601+000
1.3+000	6.176+000	4.299+000	6.340+000	4.461+000	6.515+000	4.635+000	6.709+000	4.828+000	6.925+000	5.044+000
1.4+000	5.842+000	3.978+000	5.991+000	4.123+000	6.143+000	4.274+000	6.304+000	4.433+000	6.479+000	4.607+000

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$—Continued

x sin(theta/2) /lambda	31 Ga total	31 Ga without K-shell	32 Ge total	32 Ge without K-shell	33 As total	33 As without K-shell	34 Se total	34 Se without K-shell	35 Br total	35 Br without K-shell
1.5+000	5.539+000	3.687+000	5.684+000	3.828+000	5.825+000	3.967+000	5.968+000	4.107+000	6.117+000	4.254+000
1.6+000	5.252+000	3.414+000	5.400+000	3.557+000	5.540+000	3.693+000	5.675+000	3.826+000	5.810+000	3.958+000
1.7+000	4.974+000	3.150+000	5.129+000	3.299+000	5.273+000	3.439+000	5.409+000	3.571+000	5.539+000	3.698+000
1.8+000	4.702+000	2.892+000	4.865+000	3.050+000	5.017+000	3.196+000	5.157+000	3.332+000	5.289+000	3.460+000
1.9+000	4.435+000	2.640+000	4.607+000	2.806+000	4.767+000	2.959+000	4.914+000	3.102+000	5.052+000	3.235+000
2.0+000	4.174+000	2.395+000	4.353+000	2.567+000	4.521+000	2.728+000	4.677+000	2.878+000	4.821+000	3.017+000
2.2+000	3.678+000	1.933+000	3.865+000	2.111+000	4.044+000	2.281+000	4.214+000	2.443+000	4.372+000	2.595+000
2.4+000	3.227+000	1.518+000	3.413+000	1.693+000	3.595+000	1.865+000	3.771+000	2.031+000	3.940+000	2.192+000
2.5+000	3.023+000	1.332+000	3.205+000	1.502+000	3.385+000	1.671+000	3.561+000	1.837+000	3.731+000	1.998+000
2.6+000	2.832+000	1.161+000	3.009+000	1.324+000	3.185+000	1.488+000	3.360+000	1.652+000	3.530+000	1.813+000
2.8+000	2.495+000	8.626-001	2.656+000	1.009+000	2.821+000	1.160+000	2.987+000	1.314+000	3.154+000	1.468+000
3.0+000	2.213+000	6.215-001	2.356+000	7.477-001	2.506+000	8.813-001	2.659+000	1.021+000	2.816+000	1.164+000
3.3+000	1.883+000	3.544-001	1.998+000	4.498-001	2.121+000	5.546-001	2.251+000	6.677-001	2.387+000	7.879-001
3.5+000	1.714+000	2.288-001	1.812+000	3.050-001	1.918+000	3.909-001	2.032+000	4.859-001	2.152+000	5.891-001
3.6+000	1.642+000	1.789-001	1.732+000	2.463-001	1.830+000	3.232-001	1.936+000	4.094-001	2.049+000	5.041-001
3.9+000	1.468+000	7.057-002	1.538+000	1.149-001	1.614+000	1.679-001	1.698+000	2.297-001	1.788+000	3.001-001
4.0+000	1.421+000	4.572-002	1.485+000	8.351-002	1.555+000	1.296-001	1.632+000	1.842-001	1.716+000	2.472-001
4.2+000	1.340+000	8.955-003	1.394+000	3.547-002	1.454+000	6.933-002	1.519+000	1.109-001	1.591+000	1.603-001
4.6+000	1.216+000	-2.731-002	1.256+000	-1.707-002	1.300+000	-1.545-003	1.348+000	1.983-002	1.401+000	4.750-002
5.0+000	1.123+000	-3.405-002	1.156+000	-3.348-002	1.191+000	-2.946-002	1.227+000	-2.142-002	1.267+000	-8.825-003
5.4+000	1.046+000	-2.682-002	1.076+000	-3.132-002	1.106+000	-3.385-002	1.136+000	-3.388-002	1.168+000	-3.090-002
5.5+000	1.029+000	-2.396-002	1.058+000	-2.922-002	1.087+000	-3.280-002	1.117+000	-3.422-002	1.147+000	-3.296-002
5.8+000	9.786-001	-1.437-002	1.007+000	-2.099-002	1.035+000	-2.672-002	1.063+000	-3.111-002	1.090+000	-3.373-002
6.0+000	9.465-001	-7.718-003	9.752-001	-1.468-002	1.003+000	-2.115-002	1.030+000	-2.675-002	1.056+000	-3.106-002
6.2+000	9.153-001	-1.252-003	9.442-001	-8.235-003	9.718-001	-1.505-002	9.984-001	-2.136-002	1.024+000	-2.682-002
6.6+000	8.547-001	1.040-002	8.845-001	4.022-003	9.127-001	-2.647-003	9.395-001	-9.369-003	9.652-001	-1.588-002
7.0+000	7.964-001	1.980-002	8.271-001	1.448-002	8.562-001	8.609-003	8.837-001	2.341-003	9.098-001	-4.133-003
7.4+000	7.402-001	2.685-002	7.717-001	2.274-002	8.016-001	1.795-002	8.300-001	1.257-002	8.568-001	6.738-003
8.0+000	6.603-001	3.353-002	6.925-001	3.115-002	7.233-001	2.807-002	7.527-001	2.430-002	7.807-001	1.991-002
9.0+000	5.410-001	3.716-002	5.726-001	3.699-002	6.034-001	3.625-002	6.333-001	3.491-002	6.622-001	3.297-002
1.0+001	4.401-001	3.550-002	4.697-001	3.662-002	4.990-001	3.736-002	5.279-001	3.768-002	5.562-001	3.754-002
1.1+001	3.569-001	3.165-002	3.837-001	3.339-002	4.106-001	3.491-002	4.374-001	3.617-002	4.641-001	3.713-002
1.2+001	2.894-001	2.722-002	3.131-001	2.917-002	3.371-001	3.102-002	3.614-001	3.273-002	3.858-001	3.427-002
1.4+001	1.915-001	1.920-002	2.093-001	2.100-002	2.277-001	2.283-002	2.467-001	2.466-002	2.661-001	2.646-002
1.6+001	1.286-001	1.328-002	1.417-001	1.472-002	1.554-001	1.622-002	1.697-001	1.778-002	1.845-001	1.937-002
1.8+001	8.786-002	9.205-003	9.744-002	1.030-002	1.076-001	1.146-002	1.182-001	1.269-002	1.294-001	1.397-002
2.0+001	6.110-002	6.450-003	6.812-002	7.268-003	7.560-002	8.145-003	8.353-002	9.081-003	9.192-002	1.007-002
2.2+001	4.320-002	4.579-003	4.838-002	5.187-003	5.392-002	5.846-003	5.985-002	6.555-003	6.615-002	7.314-003
2.5+001	2.640-002	2.807-003	2.972-002	3.200-003	3.331-002	3.629-003	3.717-002	4.097-003	4.132-002	4.603-003
2.8+001	1.658-002	1.766-003	1.875-002	2.023-003	2.111-002	2.307-003	2.367-002	2.618-003	2.644-002	2.958-003
3.1+001	1.063-002	1.135-003	1.208-002	1.306-003	1.366-002	1.496-003	1.538-002	1.706-003	1.725-002	1.936-003
3.5+001	6.016-003	6.441-004	6.873-003	7.458-004	7.816-003	8.594-004	8.851-003	9.856-004	9.981-003	1.125-003
4.0+001	2.997-003	3.230-004	3.453-003	3.772-004	3.958-003	4.383-004	4.518-003	5.068-004	5.134-003	5.832-004
4.5+001	1.467-003	1.601-004	1.710-003	1.892-004	1.984-003	2.224-004	2.289-003	2.599-004	2.629-003	3.022-004
5.0+001	6.607-004	7.402-005	7.883-004	8.943-005	9.336-004	1.072-004	1.098-003	1.276-004	1.283-003	1.510-004
6.0+001	-9.339-006	2.024-006	1.580-005	5.273-006	4.707-005	9.343-006	8.522-005	1.435-005	1.311-004	2.041-005
7.0+001	-1.995-004	-1.887-005	-2.079-004	-1.964-005	-2.146-004	-2.018-005	-2.191-004	-2.043-005	-2.210-004	-2.034-005
8.0+001	-2.370-004	-2.339-005	-2.555-004	-2.540-005	-2.739-004	-2.740-005	-2.920-004	-2.938-005	-3.098-004	-3.131-005
9.0+001	-2.249-004	-2.251-005	-2.450-004	-2.475-005	-2.658-004	-2.708-005	-2.870-004	-2.949-005	-3.086-004	-3.195-005
1.0+002	-1.986-004	-2.001-005	-2.174-004	-2.214-005	-2.371-004	-2.438-005	-2.575-004	-2.672-005	-2.785-004	-2.917-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	36 Kr total	36 Kr without K-shell	37 Rb total	37 Rb without K-shell	38 Sr total	38 Sr without K-shell	39 Y total	39 Y without K-shell	40 Zr total	40 Zr without K-shell
.0	3.586+001	3.392+001	3.685+001	3.491+001	3.784+001	3.591+001	3.883+001	3.690+001	3.982+001	3.789+001
1.0-002	3.583+001	3.389+001	3.680+001	3.487+001	3.778+001	3.586+001	3.878+001	3.685+001	3.977+001	3.784+001
2.0-002	3.574+001	3.380+001	3.666+001	3.473+001	3.763+001	3.570+001	3.862+001	3.670+001	3.962+001	3.770+001
3.0-002	3.560+001	3.366+001	3.644+001	3.451+001	3.739+001	3.545+001	3.838+001	3.645+001	3.938+001	3.746+001
4.0-002	3.540+001	3.346+001	3.616+001	3.422+001	3.706+001	3.513+001	3.805+001	3.612+001	3.906+001	3.714+001
5.0-002	3.515+001	3.321+001	3.582+001	3.388+001	3.667+001	3.474+001	3.766+001	3.573+001	3.868+001	3.675+001
6.0-002	3.485+001	3.291+001	3.544+001	3.351+001	3.624+001	3.431+001	3.721+001	3.529+001	3.823+001	3.631+001
7.0-002	3.451+001	3.257+001	3.504+001	3.311+001	3.578+001	3.385+001	3.674+001	3.481+001	3.775+001	3.583+001
8.0-002	3.413+001	3.219+001	3.463+001	3.269+001	3.531+001	3.337+001	3.623+001	3.431+001	3.724+001	3.532+001
9.0-002	3.372+001	3.178+001	3.420+001	3.226+001	3.482+001	3.289+001	3.572+001	3.379+001	3.671+001	3.479+001
1.0-001	3.329+001	3.135+001	3.376+001	3.183+001	3.434+001	3.241+001	3.521+001	3.328+001	3.618+001	3.425+001
1.1-001	3.283+001	3.089+001	3.332+001	3.139+001	3.386+001	3.193+001	3.470+001	3.277+001	3.564+001	3.372+001
1.2-001	3.235+001	3.042+001	3.288+001	3.094+001	3.339+001	3.146+001	3.419+001	3.226+001	3.511+001	3.318+001
1.3-001	3.187+001	2.993+001	3.243+001	3.049+001	3.293+001	3.100+001	3.369+001	3.176+001	3.458+001	3.266+001
1.4-001	3.138+001	2.944+001	3.197+001	3.004+001	3.247+001	3.054+001	3.320+001	3.128+001	3.406+001	3.214+001
1.5-001	3.088+001	2.894+001	3.151+001	2.958+001	3.202+001	3.008+001	3.272+001	3.080+001	3.356+001	3.163+001
1.6-001	3.038+001	2.844+001	3.105+001	2.912+001	3.157+001	2.964+001	3.225+001	3.032+001	3.306+001	3.113+001
1.7-001	2.988+001	2.795+001	3.059+001	2.865+001	3.112+001	2.919+001	3.179+001	2.986+001	3.257+001	3.064+001
1.8-001	2.939+001	2.746+001	3.012+001	2.819+001	3.068+001	2.875+001	3.133+001	2.940+001	3.209+001	3.016+001
1.9-001	2.891+001	2.697+001	2.966+001	2.772+001	3.024+001	2.831+001	3.088+001	2.895+001	3.161+001	2.969+001
2.0-001	2.844+001	2.650+001	2.920+001	2.726+001	2.980+001	2.787+001	3.044+001	2.851+001	3.115+001	2.923+001
2.2-001	2.752+001	2.558+001	2.829+001	2.636+001	2.894+001	2.701+001	2.957+001	2.764+001	3.024+001	2.832+001
2.4-001	2.664+001	2.471+001	2.741+001	2.548+001	2.809+001	2.616+001	2.872+001	2.679+001	2.937+001	2.744+001
2.5-001	2.623+001	2.429+001	2.699+001	2.505+001	2.768+001	2.575+001	2.830+001	2.637+001	2.894+001	2.702+001
2.6-001	2.582+001	2.388+001	2.657+001	2.464+001	2.727+001	2.534+001	2.789+001	2.596+001	2.852+001	2.660+001
2.8-001	2.504+001	2.311+001	2.576+001	2.383+001	2.647+001	2.454+001	2.709+001	2.516+001	2.770+001	2.578+001
3.0-001	2.431+001	2.238+001	2.500+001	2.307+001	2.570+001	2.377+001	2.631+001	2.439+001	2.691+001	2.499+001
3.2-001	2.363+001	2.169+001	2.428+001	2.235+001	2.497+001	2.304+001	2.557+001	2.365+001	2.616+001	2.423+001
3.4-001	2.298+001	2.105+001	2.360+001	2.167+001	2.426+001	2.233+001	2.486+001	2.293+001	2.543+001	2.351+001
3.5-001	2.267+001	2.073+001	2.327+001	2.134+001	2.392+001	2.200+001	2.451+001	2.259+001	2.508+001	2.316+001
3.6-001	2.237+001	2.043+001	2.296+001	2.103+001	2.359+001	2.167+001	2.418+001	2.225+001	2.474+001	2.282+001
3.8-001	2.178+001	1.985+001	2.235+001	2.042+001	2.296+001	2.103+001	2.353+001	2.160+001	2.407+001	2.215+001
4.0-001	2.122+001	1.929+001	2.177+001	1.984+001	2.235+001	2.043+001	2.291+001	2.099+001	2.344+001	2.152+001
4.2-001	2.068+001	1.875+001	2.122+001	1.929+001	2.178+001	1.985+001	2.232+001	2.040+001	2.284+001	2.092+001
4.4-001	2.016+001	1.823+001	2.069+001	1.876+001	2.123+001	1.930+001	2.176+001	1.984+001	2.227+001	2.035+001
4.5-001	1.991+001	1.797+001	2.043+001	1.850+001	2.097+001	1.904+001	2.149+001	1.957+001	2.200+001	2.008+001
4.6-001	1.966+001	1.772+001	2.018+001	1.825+001	2.071+001	1.878+001	2.123+001	1.930+001	2.173+001	1.981+001
4.8-001	1.916+001	1.723+001	1.968+001	1.776+001	2.020+001	1.828+001	2.072+001	1.879+001	2.121+001	1.929+001
5.0-001	1.868+001	1.675+001	1.921+001	1.728+001	1.972+001	1.779+001	2.022+001	1.830+001	2.071+001	1.879+001
5.5-001	1.752+001	1.559+001	1.806+001	1.614+001	1.857+001	1.665+001	1.908+001	1.716+001	1.956+001	1.764+001
6.0-001	1.641+001	1.448+001	1.698+001	1.505+001	1.750+001	1.558+001	1.801+001	1.609+001	1.850+001	1.658+001
6.5-001	1.534+001	1.342+001	1.594+001	1.402+001	1.648+001	1.456+001	1.701+001	1.509+001	1.750+001	1.559+001
7.0-001	1.433+001	1.241+001	1.494+001	1.302+001	1.551+001	1.359+001	1.605+001	1.414+001	1.656+001	1.465+001
8.0-001	1.250+001	1.058+001	1.311+001	1.119+001	1.369+001	1.178+001	1.426+001	1.235+001	1.480+001	1.289+001
9.0-001	1.093+001	9.019+000	1.150+001	9.591+000	1.207+001	1.016+001	1.263+001	1.073+001	1.318+001	1.128+001
1.0+000	9.640+000	7.736+000	1.014+001	8.239+000	1.066+001	8.760+000	1.119+001	9.289+000	1.172+001	9.819+000
1.1+000	8.609+000	6.712+000	9.031+000	7.134+000	9.481+000	7.586+000	9.952+000	8.058+000	1.044+001	8.545+000
1.2+000	7.799+000	5.910+000	8.142+000	6.253+000	8.518+000	6.629+000	8.921+000	7.033+000	9.347+000	7.461+000
1.3+000	7.168+000	5.286+000	7.441+000	5.560+000	7.746+000	5.865+000	8.080+000	6.200+000	8.443+000	6.563+000
1.4+000	6.673+000	4.800+000	6.890+000	5.017+000	7.134+000	5.261+000	7.406+000	5.533+000	7.706+000	5.833+000

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFP}(x,Z)$--Continued

x sin(theta/2) /lambda	36 Kr total	36 Kr without K-shell	37 Rb total	37 Rb without K-shell	38 Sr total	38 Sr without K-shell	39 Y total	39 Y without K-shell	40 Zr total	40 Zr without K-shell
1.5+000	6.277+000	4.413+000	6.452+000	4.588+000	6.648+000	4.784+000	6.868+000	5.003+000	7.112+000	5.247+000
1.6+000	5.949+000	4.096+000	6.097+000	4.242+000	6.258+000	4.402+000	6.436+000	4.580+000	6.635+000	4.778+000
1.7+000	5.668+000	3.825+000	5.799+000	3.954+000	5.936+000	4.090+000	6.085+000	4.237+000	6.248+000	4.400+000
1.8+000	5.415+000	3.583+000	5.538+000	3.704+000	5.662+000	3.826+000	5.791+000	3.953+000	5.930+000	4.091+000
1.9+000	5.180+000	3.360+000	5.301+000	3.478+000	5.420+000	3.594+000	5.538+000	3.710+000	5.660+000	3.830+000
2.0+000	4.955+000	3.147+000	5.079+000	3.267+000	5.197+000	3.382+000	5.311+000	3.493+000	5.424+000	3.604+000
2.2+000	4.520+000	2.738+000	4.657+000	2.869+000	4.783+000	2.991+000	4.900+000	3.105+000	5.011+000	3.212+000
2.4+000	4.099+000	2.344+000	4.248+000	2.487+000	4.388+000	2.621+000	4.516+000	2.744+000	4.634+000	2.858+000
2.5+000	3.895+000	2.154+000	4.049+000	2.301+000	4.194+000	2.440+000	4.328+000	2.568+000	4.452+000	2.687+000
2.6+000	3.696+000	1.969+000	3.853+000	2.119+000	4.003+000	2.262+000	4.142+000	2.395+000	4.271+000	2.519+000
2.8+000	3.318+000	1.622+000	3.478+000	1.773+000	3.633+000	1.920+000	3.779+000	2.059+000	3.917+000	2.190+000
3.0+000	2.973+000	1.310+000	3.130+000	1.456+000	3.284+000	1.600+000	3.433+000	1.740+000	3.576+000	1.875+000
3.3+000	2.527+000	9.141-001	2.670+000	1.044+000	2.815+000	1.177+000	2.958+000	1.310+000	3.099+000	1.441+000
3.5+000	2.278+000	6.996-001	2.409+000	8.159-001	2.543+000	9.369-001	2.678+000	1.060+000	2.813+000	1.184+000
3.6+000	2.167+000	6.066-001	2.291+000	7.154-001	2.419+000	8.297-001	2.549+000	9.473-001	2.681+000	1.067+000
3.9+000	1.886+000	3.789-001	1.989+000	4.651-001	2.098+000	5.582-001	2.211+000	6.567-001	2.327+000	7.598-001
4.0+000	1.807+000	3.185-001	1.903+000	3.974-001	2.006+000	4.834-001	2.113+000	5.752-001	2.224+000	6.722-001
4.2+000	1.669+000	2.177-001	1.753+000	2.826-001	1.843+000	3.549-001	1.938+000	4.335-001	2.038+000	5.180-001
4.6+000	1.458+000	8.180-002	1.521+000	1.228-001	1.589+000	1.705-001	1.662+000	2.247-001	1.740+000	2.852-001
5.0+000	1.310+000	8.803-003	1.357+000	3.174-002	1.408+000	6.029-002	1.463+000	9.457-002	1.523+000	1.346-001
5.4+000	1.202+000	-2.441-002	1.238+000	-1.402-002	1.277+000	6.407-004	1.319+000	1.990-002	1.365+000	4.397-002
5.5+000	1.179+000	-2.854-002	1.214+000	-2.055-002	1.250+000	-8.618-003	1.290+000	7.617-003	1.333+000	2.839-002
5.8+000	1.119+000	-3.412-002	1.148+000	-3.186-002	1.180+000	-2.657-002	1.213+000	-1.788-002	1.248+000	-5.468-003
6.0+000	1.083+000	-3.369-002	1.111+000	-3.419-002	1.139+000	-3.222-002	1.169+000	-2.740-002	1.201+000	-1.940-002
6.2+000	1.050+000	-3.105-002	1.076+000	-3.362-002	1.103+000	-3.423-002	1.131+000	-3.249-002	1.160+000	-2.808-002
6.6+000	9.901-001	-2.188-002	1.015+000	-2.699-002	1.039+000	-3.096-002	1.063+000	-3.346-002	1.089+000	-3.419-002
7.0+000	9.348-001	-1.060-002	9.589-001	-1.672-002	9.824-001	-2.230-002	1.005+000	-2.711-002	1.028+000	-3.085-002
7.4+000	8.824-001	5.939-004	9.068-001	-5.577-003	9.303-001	-1.164-002	9.530-001	-1.743-002	9.751-001	-2.270-002
8.0+000	8.073-001	1.497-002	8.327-001	9.681-003	8.569-001	4.122-003	8.801-001	-1.655-003	9.023-001	-7.454-003
9.0+000	6.900-001	3.042-002	7.169-001	2.739-002	7.426-001	2.388-002	7.672-001	1.983-002	7.907-001	1.535-002
1.0+001	5.839-001	3.691-002	6.110-001	3.588-002	6.373-001	3.440-002	6.627-001	3.237-002	6.872-001	2.984-002
1.1+001	4.905-001	3.775-002	5.167-001	3.810-002	5.425-001	3.811-002	5.677-001	3.767-002	5.923-001	3.680-002
1.2+001	4.103-001	3.559-002	4.348-001	3.676-002	4.592-001	3.770-002	4.834-001	3.832-002	5.072-001	3.862-002
1.4+001	2.859-001	2.822-002	3.060-001	2.997-002	3.265-001	3.167-002	3.471-001	3.322-002	3.679-001	3.465-002
1.6+001	1.999-001	2.099-002	2.157-001	2.266-002	2.320-001	2.436-002	2.487-001	2.603-002	2.657-001	2.767-002
1.8+001	1.411-001	1.530-002	1.533-001	1.670-002	1.659-001	1.816-002	1.790-001	1.964-002	1.925-001	2.115-002
2.0+001	1.007-001	1.112-002	1.100-001	1.224-002	1.198-001	1.342-002	1.299-001	1.464-002	1.405-001	1.590-002
2.2+001	7.283-002	8.124-003	7.990-002	8.997-003	8.737-002	9.930-003	9.520-002	1.090-002	1.034-001	1.192-002
2.5+001	4.575-002	5.148-003	5.047-002	5.742-003	5.550-002	6.384-003	6.082-002	7.063-003	6.644-002	7.784-003
2.8+001	2.941-002	3.327-003	3.260-002	3.731-003	3.602-002	4.172-003	3.967-002	4.643-003	4.354-002	5.147-003
3.1+001	1.927-002	2.188-003	2.145-002	2.466-003	2.381-002	2.771-003	2.633-002	3.098-003	2.902-002	3.452-003
3.5+001	1.121-002	1.279-003	1.255-002	1.450-003	1.400-002	1.639-003	1.557-002	1.844-003	1.725-002	2.066-003
4.0+001	5.811-003	6.681-004	6.553-003	7.632-004	7.363-003	8.691-004	8.245-003	9.849-004	9.201-003	1.112-003
4.5+001	3.005-003	3.498-004	3.421-003	4.034-004	3.880-003	4.636-004	4.382-003	5.301-004	4.933-003	6.035-004
5.0+001	1.491-003	1.775-004	1.724-003	2.077-004	1.983-003	2.420-004	2.270-003	2.802-004	2.587-003	3.229-004
6.0+001	1.854-004	2.766-005	2.492-004	3.630-005	3.235-004	4.650-005	4.090-004	5.833-005	5.070-004	7.201-005
7.0+001	-2.201-004	-1.983-005	-2.157-004	-1.887-005	-2.074-004	-1.735-005	-1.946-004	-1.516-005	-1.769-004	-1.222-005
8.0+001	-3.268-004	-3.314-005	-3.430-004	-3.489-005	-3.581-004	-3.649-005	-3.716-004	-3.786-005	-3.834-004	-3.895-005
9.0+001	-3.305-004	-3.445-005	-3.526-004	-3.703-005	-3.747-004	-3.963-005	-3.966-004	-4.218-005	-4.181-004	-4.468-005
1.0+002	-3.003-004	-3.170-005	-3.226-004	-3.436-005	-3.454-004	-3.713-005	-3.686-004	-3.992-005	-3.921-004	-4.275-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	41 Nb total	41 Nb without K-shell	42 Mo total	42 Mo without K-shell	43 Tc total	43 Tc without K-shell	44 Ru total	44 Ru without K-shell	45 Rh total	45 Rh without K-shell
.0	4.081+001	3.889+001	4.180+001	3.988+001	4.279+001	4.087+001	4.377+001	4.186+001	4.476+001	4.286+001
1.0-002	4.076+001	3.884+001	4.175+001	3.984+001	4.274+001	4.083+001	4.373+001	4.182+001	4.472+001	4.282+001
2.0-002	4.063+001	3.871+001	4.162+001	3.971+001	4.261+001	4.070+001	4.361+001	4.170+001	4.461+001	4.270+001
3.0-002	4.041+001	3.849+001	4.141+001	3.950+001	4.239+001	4.048+001	4.342+001	4.151+001	4.442+001	4.251+001
4.0-002	4.011+001	3.819+001	4.113+001	3.921+001	4.210+001	4.019+001	4.315+001	4.124+001	4.416+001	4.225+001
5.0-002	3.975+001	3.783+001	4.078+001	3.886+001	4.174+001	3.983+001	4.282+001	4.091+001	4.384+001	4.193+001
6.0-002	3.933+001	3.741+001	4.037+001	3.845+001	4.132+001	3.941+001	4.243+001	4.052+001	4.346+001	4.155+001
7.0-002	3.888+001	3.696+001	3.992+001	3.800+001	4.086+001	3.894+001	4.200+001	4.009+001	4.303+001	4.113+001
8.0-002	3.839+001	3.646+001	3.943+001	3.751+001	4.035+001	3.844+001	4.152+001	3.961+001	4.257+001	4.066+001
9.0-002	3.787+001	3.595+001	3.892+001	3.700+001	3.982+001	3.790+001	4.102+001	3.911+001	4.207+001	4.016+001
1.0-001	3.734+001	3.542+001	3.838+001	3.647+001	3.927+001	3.735+001	4.048+001	3.857+001	4.154+001	3.963+001
1.1-001	3.681+001	3.489+001	3.784+001	3.592+001	3.870+001	3.679+001	3.993+001	3.802+001	4.099+001	3.908+001
1.2-001	3.626+001	3.434+001	3.728+001	3.537+001	3.813+001	3.621+001	3.937+001	3.746+001	4.043+001	3.852+001
1.3-001	3.572+001	3.380+001	3.673+001	3.481+001	3.755+001	3.564+001	3.880+001	3.689+001	3.985+001	3.794+001
1.4-001	3.518+001	3.326+001	3.617+001	3.425+001	3.698+001	3.506+001	3.822+001	3.631+001	3.927+001	3.736+001
1.5-001	3.465+001	3.273+001	3.561+001	3.370+001	3.641+001	3.449+001	3.764+001	3.573+001	3.868+001	3.677+001
1.6-001	3.412+001	3.220+001	3.506+001	3.314+001	3.584+001	3.393+001	3.706+001	3.515+001	3.809+001	3.618+001
1.7-001	3.359+001	3.167+001	3.452+001	3.260+001	3.528+001	3.337+001	3.648+001	3.457+001	3.750+001	3.559+001
1.8-001	3.307+001	3.115+001	3.398+001	3.206+001	3.473+001	3.282+001	3.590+001	3.400+001	3.691+001	3.501+001
1.9-001	3.256+001	3.064+001	3.344+001	3.153+001	3.419+001	3.228+001	3.533+001	3.343+001	3.633+001	3.442+001
2.0-001	3.206+001	3.014+001	3.292+001	3.100+001	3.366+001	3.175+001	3.477+001	3.286+001	3.575+001	3.384+001
2.2-001	3.108+001	2.916+001	3.190+001	2.998+001	3.263+001	3.071+001	3.367+001	3.176+001	3.461+001	3.270+001
2.4-001	3.013+001	2.822+001	3.091+001	2.899+001	3.163+001	2.972+001	3.260+001	3.069+001	3.350+001	3.159+001
2.5-001	2.968+001	2.776+001	3.043+001	2.851+001	3.114+001	2.923+001	3.207+001	3.017+001	3.296+001	3.105+001
2.6-001	2.922+001	2.731+001	2.996+001	2.804+001	3.067+001	2.876+001	3.156+001	2.966+001	3.243+001	3.052+001
2.8-001	2.835+001	2.643+001	2.905+001	2.713+001	2.975+001	2.784+001	3.057+001	2.867+001	3.140+001	2.949+001
3.0-001	2.752+001	2.560+001	2.818+001	2.627+001	2.887+001	2.696+001	2.963+001	2.772+001	3.041+001	2.851+001
3.2-001	2.672+001	2.480+001	2.735+001	2.544+001	2.803+001	2.612+001	2.873+001	2.682+001	2.947+001	2.757+001
3.4-001	2.596+001	2.405+001	2.657+001	2.465+001	2.723+001	2.532+001	2.787+001	2.596+001	2.858+001	2.667+001
3.5-001	2.560+001	2.368+001	2.619+001	2.428+001	2.684+001	2.493+001	2.746+001	2.555+001	2.815+001	2.624+001
3.6-001	2.525+001	2.333+001	2.582+001	2.391+001	2.646+001	2.455+001	2.706+001	2.515+001	2.773+001	2.582+001
3.8-001	2.457+001	2.265+001	2.512+001	2.320+001	2.574+001	2.383+001	2.629+001	2.439+001	2.692+001	2.502+001
4.0-001	2.392+001	2.200+001	2.445+001	2.254+001	2.505+001	2.314+001	2.557+001	2.366+001	2.617+001	2.426+001
4.2-001	2.331+001	2.139+001	2.382+001	2.191+001	2.439+001	2.248+001	2.488+001	2.298+001	2.545+001	2.355+001
4.4-001	2.273+001	2.081+001	2.322+001	2.131+001	2.377+001	2.186+001	2.424+001	2.233+001	2.478+001	2.288+001
4.5-001	2.245+001	2.053+001	2.294+001	2.102+001	2.348+001	2.157+001	2.393+001	2.203+001	2.446+001	2.255+001
4.6-001	2.218+001	2.026+001	2.266+001	2.074+001	2.319+001	2.128+001	2.363+001	2.173+001	2.414+001	2.224+001
4.8-001	2.166+001	1.974+001	2.212+001	2.021+001	2.263+001	2.072+001	2.306+001	2.115+001	2.355+001	2.165+001
5.0-001	2.116+001	1.924+001	2.161+001	1.970+001	2.210+001	2.019+001	2.252+001	2.061+001	2.298+001	2.108+001
5.5-001	2.000+001	1.809+001	2.044+001	1.853+001	2.089+001	1.898+001	2.129+001	1.938+001	2.171+001	1.981+001
6.0-001	1.895+001	1.704+001	1.939+001	1.748+001	1.981+001	1.790+001	2.020+001	1.830+001	2.059+001	1.869+001
6.5-001	1.798+001	1.607+001	1.842+001	1.651+001	1.883+001	1.693+001	1.922+001	1.732+001	1.960+001	1.770+001
7.0-001	1.706+001	1.515+001	1.751+001	1.560+001	1.792+001	1.602+001	1.832+001	1.643+001	1.870+001	1.681+001
8.0-001	1.532+001	1.342+001	1.581+001	1.391+001	1.625+001	1.435+001	1.668+001	1.479+001	1.708+001	1.519+001
9.0-001	1.372+001	1.182+001	1.423+001	1.233+001	1.470+001	1.281+001	1.517+001	1.328+001	1.560+001	1.371+001
1.0+000	1.225+001	1.035+001	1.276+001	1.087+001	1.325+001	1.136+001	1.374+001	1.185+001	1.420+001	1.231+001
1.1+000	1.093+001	9.041+000	1.143+001	9.540+000	1.192+001	1.003+001	1.241+001	1.052+001	1.288+001	1.100+001
1.2+000	9.792+000	7.907+000	1.025+001	8.368+000	1.072+001	8.836+000	1.119+001	9.307+000	1.165+001	9.775+000
1.3+000	8.828+000	6.950+000	9.236+000	7.360+000	9.661+000	7.786+000	1.010+001	8.223+000	1.054+001	8.667+000
1.4+000	8.032+000	6.160+000	8.383+000	6.513+000	8.757+000	6.888+000	9.147+000	7.280+000	9.553+000	7.687+000

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	41 Nb total	41 Nb without K-shell	42 Mo total	42 Mo without K-shell	43 Tc total	43 Tc without K-shell	44 Ru total	44 Ru without K-shell	45 Rh total	45 Rh without K-shell
1.5+000	7.382+000	5.518+000	7.677+000	5.814+000	7.997+000	6.135+000	8.338+000	6.477+000	8.699+000	6.840+000
1.6+000	6.856+000	5.000+000	7.100+000	5.244+000	7.369+000	5.514+000	7.660+000	5.806+000	7.973+000	6.120+000
1.7+000	6.430+000	4.582+000	6.631+000	4.783+000	6.854+000	5.006+000	7.098+000	5.251+000	7.365+000	5.518+000
1.8+000	6.081+000	4.241+000	6.248+000	4.408+000	6.432+000	4.592+000	6.635+000	4.796+000	6.859+000	5.020+000
1.9+000	5.790+000	3.959+000	5.930+000	4.099+000	6.084+000	4.252+000	6.254+000	4.422+000	6.441+000	4.609+000
2.0+000	5.540+000	3.719+000	5.662+000	3.840+000	5.793+000	3.970+000	5.937+000	4.113+000	6.094+000	4.270+000
2.2+000	5.117+000	3.315+000	5.222+000	3.418+000	5.328+000	3.523+000	5.438+000	3.632+000	5.555+000	3.747+000
2.4+000	4.744+000	2.964+000	4.849+000	3.065+000	4.949+000	3.163+000	5.047+000	3.259+000	5.145+000	3.356+000
2.5+000	4.566+000	2.797+000	4.674+000	2.901+000	4.776+000	3.000+000	4.873+000	3.095+000	4.968+000	3.188+000
2.6+000	4.390+000	2.633+000	4.502+000	2.741+000	4.608+000	2.843+000	4.706+000	2.938+000	4.801+000	3.031+000
2.8+000	4.046+000	2.313+000	4.167+000	2.429+000	4.282+000	2.539+000	4.386+000	2.640+000	4.486+000	2.736+000
3.0+000	3.710+000	2.003+000	3.839+000	2.126+000	3.962+000	2.243+000	4.075+000	2.351+000	4.182+000	2.454+000
3.3+000	3.236+000	1.569+000	3.370+000	1.695+000	3.500+000	1.818+000	3.622+000	1.934+000	3.739+000	2.045+000
3.5+000	2.947+000	1.308+000	3.079+000	1.431+000	3.210+000	1.553+000	3.334+000	1.670+000	3.455+000	1.784+000
3.6+000	2.811+000	1.187+000	2.941+000	1.307+000	3.071+000	1.428+000	3.195+000	1.544+000	3.317+000	1.659+000
3.9+000	2.445+000	8.656-001	2.566+000	9.747-001	2.688+000	1.086+000	2.808+000	1.196+000	2.927+000	1.307+000
4.0+000	2.337+000	7.726-001	2.453+000	8.769-001	2.572+000	9.844-001	2.689+000	1.091-000	2.807+000	1.200+000
4.2+000	2.141+000	6.070-001	2.248+000	7.009-001	2.358+000	7.991-001	2.468+000	8.983-001	2.580+000	1.000+000
4.6+000	1.822+000	3.514-001	1.909+000	4.233-001	2.001+000	5.007-001	2.095+000	5.815-001	2.192+000	6.666-001
5.0+000	1.587+000	1.803-001	1.655+000	2.316-001	1.728+000	2.886-001	1.805+000	3.502-001	1.885+000	4.167-001
5.4+000	1.414+000	7.296-002	1.467+000	1.070-001	1.524+000	1.462-001	1.585+000	1.902-001	1.650+000	2.392-001
5.5+000	1.379+000	5.385-002	1.428+000	8.418-002	1.482+000	1.195-001	1.539+000	1.595-001	1.600+000	2.044-001
5.8+000	1.287+000	1.092-002	1.328+000	3.148-002	1.373+000	5.640-002	1.420+000	8.570-002	1.471+000	1.195-001
6.0+000	1.235+000	-7.909-003	1.272+000	7.268-003	1.312+000	2.637-002	1.354+000	4.953-002	1.399+000	7.687-002
6.2+000	1.190+000	-2.067-002	1.223+000	-1.004-002	1.258+000	4.062-003	1.296+000	2.187-002	1.337+000	4.348-002
6.6+000	1.114+000	-3.281-002	1.142+000	-2.908-002	1.170+000	-2.274-002	1.201+000	-1.348-002	1.233+000	-1.157-003
7.0+000	1.052+000	-3.324-002	1.075+000	-3.403-002	1.100+000	-3.297-002	1.125+000	-2.973-002	1.152+000	-2.417-002
7.4+000	9.969-001	-2.722-002	1.019+000	-3.073-002	1.041+000	-3.302-002	1.063+000	-3.381-002	1.086+000	-3.291-002
8.0+000	9.236-001	-1.314-002	9.444-001	-1.845-002	9.648-001	-2.324-002	9.850-001	-2.734-002	1.005+000	-3.052-002
9.0+000	8.131-001	1.045-002	8.346-001	5.367-003	8.553-001	1.850-004	8.751-001	-5.137-003	8.943-001	-1.032-002
1.0+001	7.108-001	2.677-002	7.335-001	2.333-002	7.554-001	1.958-002	7.762-001	1.534-002	7.963-001	1.089-002
1.1+001	6.162-001	3.542-002	6.395-001	3.368-002	6.621-001	3.162-002	6.838-001	2.898-002	7.048-001	2.603-002
1.2+001	5.306-001	3.850-002	5.537-001	3.810-002	5.763-001	3.743-002	5.982-001	3.623-002	6.196-001	3.473-002
1.4+001	3.886-001	3.585-002	4.094-001	3.694-002	4.302-001	3.791-002	4.508-001	3.852-002	4.712-001	3.898-002
1.6+001	2.829-001	2.922-002	3.004-001	3.076-002	3.182-001	3.229-002	3.360-001	3.361-002	3.540-001	3.489-002
1.8+001	2.063-001	2.263-002	2.205-001	2.415-002	2.351-001	2.570-002	2.499-001	2.716-002	2.650-001	2.863-002
2.0+001	1.514-001	1.718-002	1.627-001	1.851-002	1.744-001	1.990-002	1.864-001	2.124-002	1.987-001	2.264-002
2.2+001	1.119-001	1.297-002	1.209-001	1.407-002	1.302-001	1.524-002	1.397-001	1.640-002	1.497-001	1.761-002
2.5+001	7.235-002	8.533-003	7.857-002	9.335-003	8.511-002	1.019-002	9.191-002	1.106-002	9.902-002	1.199-002
2.8+001	4.764-002	5.677-003	5.199-002	6.249-003	5.659-002	6.868-003	6.141-002	7.500-003	6.648-002	8.180-003
3.1+001	3.189-002	3.827-003	3.495-002	4.234-003	3.820-002	4.677-003	4.164-002	5.135-003	4.527-002	5.630-003
3.5+001	1.906-002	2.304-003	2.100-002	2.564-003	2.308-002	2.850-003	2.528-002	3.148-003	2.763-002	3.472-003
4.0+001	1.023-002	1.249-003	1.135-002	1.400-003	1.256-002	1.567-003	1.385-002	1.743-003	1.523-002	1.936-003
4.5+001	5.532-003	6.836-004	6.185-003	7.725-004	6.894-003	8.714-004	7.660-003	9.769-004	8.488-003	1.093-003
5.0+001	2.936-003	3.700-004	3.319-003	4.227-004	3.739-003	4.817-004	4.197-003	5.454-004	4.695-003	6.162-004
6.0+001	6.182-004	8.759-005	7.442-004	1.055-004	8.861-004	1.260-004	1.045-003	1.488-004	1.222-003	1.747-004
7.0+001	-1.536-004	-8.434-006	-1.240-004	-3.713-006	-8.762-005	2.082-006	-4.367-005	9.033-006	8.576-006	1.731-005
8.0+001	-3.930-004	-3.967-005	-4.002-004	-4.007-005	-4.046-004	-4.008-005	-4.056-004	-3.948-005	-4.031-004	-3.836-005
9.0+001	-4.391-004	-4.703-005	-4.594-004	-4.933-005	-4.787-004	-5.155-005	-4.968-004	-5.344-005	-5.134-004	-5.517-005
1.0+002	-4.156-004	-4.555-005	-4.393-004	-4.841-005	-4.630-004	-5.133-005	-4.863-004	-5.407-005	-5.092-004	-5.683-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	46 Pd total	46 Pd without K-shell	47 Ag total	47 Ag without K-shell	48 Cd total	48 Cd without K-shell	49 In total	49 In without K-shell	50 Sn total	50 Sn without K-shell
.0	4.575+001	4.385+001	4.674+001	4.484+001	4.772+001	4.583+001	4.871+001	4.682+001	4.969+001	4.781+001
1.0-002	4.571+001	4.381+001	4.670+001	4.480+001	4.768+001	4.579+001	4.866+001	4.677+001	4.965+001	4.776+001
2.0-002	4.561+001	4.371+001	4.659+001	4.469+001	4.757+001	4.568+001	4.853+001	4.664+001	4.951+001	4.763+001
3.0-002	4.544+001	4.354+001	4.641+001	4.451+001	4.739+001	4.549+001	4.832+001	4.643+001	4.929+001	4.741+001
4.0-002	4.521+001	4.331+001	4.617+001	4.427+001	4.713+001	4.524+001	4.803+001	4.614+001	4.899+001	4.710+001
5.0-002	4.492+001	4.302+001	4.586+001	4.397+001	4.681+001	4.492+001	4.768+001	4.579+001	4.862+001	4.673+001
6.0-002	4.458+001	4.268+001	4.550+001	4.361+001	4.644+001	4.455+001	4.727+001	4.538+001	4.819+001	4.630+001
7.0-002	4.419+001	4.228+001	4.510+001	4.320+001	4.602+001	4.412+001	4.681+001	4.492+001	4.771+001	4.582+001
8.0-002	4.375+001	4.185+001	4.465+001	4.275+001	4.555+001	4.366+001	4.631+001	4.442+001	4.719+001	4.530+001
9.0-002	4.328+001	4.138+001	4.416+001	4.226+001	4.505+001	4.316+001	4.579+001	4.390+001	4.663+001	4.475+001
1.0-001	4.277+001	4.087+001	4.365+001	4.175+001	4.452+001	4.262+001	4.524+001	4.335+001	4.605+001	4.417+001
1.1-001	4.224+001	4.034+001	4.311+001	4.121+001	4.396+001	4.207+001	4.467+001	4.278+001	4.546+001	4.357+001
1.2-001	4.169+001	3.978+001	4.255+001	4.065+001	4.339+001	4.150+001	4.409+001	4.220+001	4.485+001	4.297+001
1.3-001	4.111+001	3.921+001	4.197+001	4.007+001	4.280+001	4.091+001	4.350+001	4.161+001	4.424+001	4.236+001
1.4-001	4.053+001	3.863+001	4.139+001	3.949+001	4.221+001	4.031+001	4.290+001	4.101+001	4.363+001	4.174+001
1.5-001	3.993+001	3.803+001	4.079+001	3.889+001	4.160+001	3.971+001	4.230+001	4.041+001	4.301+001	4.113+001
1.6-001	3.933+001	3.743+001	4.019+001	3.829+001	4.100+001	3.910+001	4.170+001	3.981+001	4.240+001	4.051+001
1.7-001	3.872+001	3.682+001	3.958+001	3.769+001	4.039+001	3.849+001	4.110+001	3.921+001	4.179+001	3.990+001
1.8-001	3.811+001	3.621+001	3.898+001	3.708+001	3.978+001	3.789+001	4.050+001	3.861+001	4.118+001	3.929+001
1.9-001	3.750+001	3.560+001	3.837+001	3.647+001	3.917+001	3.728+001	3.990+001	3.801+001	4.058+001	3.869+001
2.0-001	3.690+001	3.500+001	3.777+001	3.587+001	3.857+001	3.668+001	3.931+001	3.742+001	3.998+001	3.810+001
2.2-001	3.570+001	3.380+001	3.657+001	3.468+001	3.738+001	3.548+001	3.813+001	3.624+001	3.881+001	3.693+001
2.4-001	3.453+001	3.263+001	3.540+001	3.350+001	3.621+001	3.431+001	3.698+001	3.509+001	3.767+001	3.579+001
2.5-001	3.396+001	3.206+001	3.483+001	3.293+001	3.563+001	3.374+001	3.641+001	3.452+001	3.711+001	3.523+001
2.6-001	3.340+001	3.149+001	3.426+001	3.236+001	3.507+001	3.317+001	3.585+001	3.397+001	3.656+001	3.468+001
2.8-001	3.230+001	3.040+001	3.316+001	3.126+001	3.396+001	3.207+001	3.476+001	3.287+001	3.548+001	3.360+001
3.0-001	3.126+001	2.935+001	3.209+001	3.019+001	3.290+001	3.100+001	3.370+001	3.181+001	3.443+001	3.255+001
3.2-001	3.026+001	2.836+001	3.107+001	2.918+001	3.187+001	2.998+001	3.267+001	3.078+001	3.341+001	3.153+001
3.4-001	2.931+001	2.741+001	3.010+001	2.820+001	3.088+001	2.899+001	3.168+001	2.979+001	3.243+001	3.054+001
3.5-001	2.885+001	2.695+001	2.963+001	2.773+001	3.041+001	2.851+001	3.120+001	2.931+001	3.195+001	3.006+001
3.6-001	2.841+001	2.651+001	2.917+001	2.728+001	2.994+001	2.805+001	3.072+001	2.884+001	3.148+001	2.959+001
3.8-001	2.756+001	2.566+001	2.829+001	2.640+001	2.904+001	2.715+001	2.981+001	2.792+001	3.056+001	2.867+001
4.0-001	2.676+001	2.486+001	2.746+001	2.557+001	2.819+001	2.630+001	2.894+001	2.705+001	2.968+001	2.779+001
4.2-001	2.601+001	2.411+001	2.668+001	2.478+001	2.738+001	2.549+001	2.810+001	2.621+001	2.883+001	2.695+001
4.4-001	2.530+001	2.341+001	2.594+001	2.404+001	2.661+001	2.472+001	2.731+001	2.542+001	2.802+001	2.614+001
4.5-001	2.497+001	2.307+001	2.558+001	2.369+001	2.624+001	2.435+001	2.693+001	2.504+001	2.763+001	2.575+001
4.6-001	2.464+001	2.274+001	2.524+001	2.335+001	2.588+001	2.399+001	2.655+001	2.467+001	2.725+001	2.536+001
4.8-001	2.402+001	2.212+001	2.459+001	2.269+001	2.520+001	2.331+001	2.584+001	2.395+001	2.651+001	2.463+001
5.0-001	2.343+001	2.153+001	2.397+001	2.208+001	2.455+001	2.266+001	2.516+001	2.328+001	2.581+001	2.393+001
5.5-001	2.211+001	2.022+001	2.258+001	2.069+001	2.309+001	2.120+001	2.363+001	2.175+001	2.421+001	2.233+001
6.0-001	2.097+001	1.908+001	2.139+001	1.950+001	2.183+001	1.995+001	2.231+001	2.042+001	2.282+001	2.094+001
6.5-001	1.996+001	1.807+001	2.034+001	1.845+001	2.074+001	1.885+001	2.116+001	1.927+001	2.161+001	1.973+001
7.0-001	1.906+001	1.717+001	1.942+001	1.753+001	1.978+001	1.789+001	2.015+001	1.827+001	2.055+001	1.867+001
8.0-001	1.746+001	1.557+001	1.780+001	1.592+001	1.814+001	1.625+001	1.846+001	1.658+001	1.879+001	1.692+001
9.0-001	1.601+001	1.412+001	1.637+001	1.449+001	1.672+001	1.484+001	1.704+001	1.517+001	1.735+001	1.548+001
1.0+000	1.464+001	1.276+001	1.504+001	1.316+001	1.541+001	1.353+001	1.576+001	1.388+001	1.608+001	1.421+001
1.1+000	1.334+001	1.146+001	1.376+001	1.189+001	1.417+001	1.229+001	1.454+001	1.268+001	1.490+001	1.303+001
1.2+000	1.211+001	1.024+001	1.255+001	1.068+001	1.298+001	1.111+001	1.338+001	1.152+001	1.376+001	1.190+001
1.3+000	1.098+001	9.114+000	1.142+001	9.557+000	1.185+001	9.989+000	1.227+001	1.041+001	1.267+001	1.081+001
1.4+000	9.968+000	8.105+000	1.039+001	8.528+000	1.081+001	8.951+000	1.122+001	9.369+000	1.163+001	9.777+000

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	46 Pd total	46 Pd without K-shell	47 Ag total	47 Ag without K-shell	48 Cd total	48 Cd without K-shell	49 In total	49 In without K-shell	50 Sn total	50 Sn without K-shell
1.5+000	9.075+000	7.217+000	9.465+000	7.609+000	9.862+000	8.008+000	1.026+001	8.411+000	1.066+001	8.812+000
1.6+000	8.305+000	6.454+000	8.656+000	6.806+000	9.020+000	7.172+000	9.394+000	7.548+000	9.773+000	7.929+000
1.7+000	7.652+000	5.806+000	7.959+000	6.116+000	8.285+000	6.443+000	8.625+000	6.784+000	8.976+000	7.137+000
1.8+000	7.104+000	5.265+000	7.369+000	5.531+000	7.653+000	5.817+000	7.955+000	6.121+000	8.273+000	6.440+000
1.9+000	6.647+000	4.816+000	6.872+000	5.042+000	7.117+000	5.288+000	7.381+000	5.553+000	7.662+000	5.835+000
2.0+000	6.267+000	4.443+000	6.457+000	4.634+000	6.666+000	4.843+000	6.892+000	5.071+000	7.137+000	5.317+000
2.2+000	5.681+000	3.873+000	5.818+000	4.009+000	5.967+000	4.159+000	6.132+000	4.324+000	6.312+000	4.505+000
2.4+000	5.246+000	3.455+000	5.352+000	3.560+000	5.464+000	3.672+000	5.586+000	3.793+000	5.718+000	3.925+000
2.5+000	5.063+000	3.281+000	5.160+000	3.377+000	5.261+000	3.477+000	5.368+000	3.583+000	5.483+000	3.698+000
2.6+000	4.893+000	3.121+000	4.985+000	3.211+000	5.079+000	3.304+000	5.176+000	3.400+000	5.278+000	3.501+000
2.8+000	4.579+000	2.826+000	4.670+000	2.914+000	4.758+000	3.000+000	4.845+000	3.086+000	4.933+000	3.172+000
3.0+000	4.282+000	2.550+000	4.377+000	2.642+000	4.468+000	2.729+000	4.554+000	2.813+000	4.638+000	2.895+000
3.3+000	3.849+000	2.150+000	3.955+000	2.251+000	4.055+000	2.347+000	4.149+000	2.437+000	4.238+000	2.523+000
3.5+000	3.570+000	1.893+000	3.681+000	1.999+000	3.787+000	2.100+000	3.887+000	2.196+000	3.982+000	2.287+000
3.6+000	3.433+000	1.768+000	3.547+000	1.876+000	3.655+000	1.979+000	3.758+000	2.078+000	3.856+000	2.172+000
3.9+000	3.044+000	1.416+000	3.159+000	1.524+000	3.272+000	1.630+000	3.381+000	1.733+000	3.486+000	1.833+000
4.0+000	2.922+000	1.307+000	3.037+000	1.414+000	3.150+000	1.520+000	3.259+000	1.623+000	3.366+000	1.723+000
4.2+000	2.692+000	1.102+000	2.804+000	1.206+000	2.916+000	1.309+000	3.025+000	1.412+000	3.133+000	1.513+000
4.6+000	2.291+000	7.542-001	2.392+000	8.454-001	2.495+000	9.387-001	2.599+000	1.033+000	2.703+000	1.129+000
5.0+000	1.969+000	4.872-001	2.056+000	5.622-001	2.146+000	6.408-001	2.238+000	7.225-001	2.332+000	8.069-001
5.4+000	1.718+000	2.926-001	1.790+000	3.508-001	1.866+000	4.133-001	1.944+000	4.799-001	2.026+000	5.502-001
5.5+000	1.665+000	2.538-001	1.733+000	3.080-001	1.805+000	3.665-001	1.881+000	4.292-001	1.959+000	4.959-001
5.8+000	1.526+000	1.577-001	1.584+000	2.004-001	1.646+000	2.476-001	1.711+000	2.991-001	1.779+000	3.547-001
6.0+000	1.448+000	1.084-001	1.500+000	1.442-001	1.555+000	1.843-001	1.614+000	2.288-001	1.676+000	2.774-001
6.2+000	1.380+000	6.901-002	1.426+000	9.857-002	1.476+000	1.322-001	1.529+000	1.701-001	1.585+000	2.121-001
6.6+000	1.268+000	1.443-002	1.305+000	3.341-002	1.345+000	5.595-002	1.387+000	8.223-002	1.433+000	1.123-001
7.0+000	1.181+000	-1.602-002	1.211+000	-5.148-003	1.243+000	8.650-003	1.277+000	2.562-002	1.314+000	4.588-002
7.4+000	1.110+000	-3.008-002	1.136+000	-2.516-002	1.162+000	-1.793-002	1.190+000	-8.143-003	1.221+000	4.366-003
8.0+000	1.026+000	-3.258-002	1.046+000	-3.335-002	1.068+000	-3.265-002	1.090+000	-3.025-002	1.113+000	-2.596-002
9.0+000	9.130-001	-1.530-002	9.313-001	-1.988-002	9.493-001	-2.396-002	9.672-001	-2.742-002	9.851-001	-3.007-002
1.0+001	8.155-001	6.197-003	8.341-001	1.463-003	8.521-001	-3.304-003	8.694-001	-8.067-003	8.863-001	-1.268-002
1.1+001	7.250-001	2.268-002	7.446-001	1.911-002	7.635-001	1.529-002	7.815-001	1.118-002	7.989-001	6.880-003
1.2+001	6.404-001	3.282-002	6.606-001	3.066-002	6.803-001	2.819-002	6.992-001	2.534-002	7.174-001	2.217-002
1.4+001	4.913-001	3.913-002	5.113-001	3.914-002	5.310-001	3.891-002	5.503-001	3.836-002	5.691-001	3.750-002
1.6+001	3.719-001	3.600-002	3.900-001	3.707-002	4.081-001	3.802-002	4.261-001	3.877-002	4.439-001	3.933-002
1.8+001	2.802-001	3.003-002	2.958-001	3.146-002	3.115-001	3.284-002	3.272-001	3.413-002	3.431-001	3.533-002
2.0+001	2.113-001	2.401-002	2.242-001	2.544-002	2.374-001	2.687-002	2.508-001	2.828-002	2.644-001	2.965-002
2.2+001	1.599-001	1.883-002	1.705-001	2.012-002	1.814-001	2.144-002	1.925-001	2.276-002	2.039-001	2.409-002
2.5+001	1.064-001	1.293-002	1.141-001	1.394-002	1.221-001	1.500-002	1.304-001	1.608-002	1.389-001	1.719-002
2.8+001	7.180-002	8.886-003	7.738-002	9.647-003	8.321-002	1.045-002	8.928-002	1.128-002	9.559-002	1.215-002
3.1+001	4.910-002	6.149-003	5.315-002	6.713-003	5.740-002	7.312-003	6.185-002	7.940-003	6.651-002	8.600-003
3.5+001	3.013-002	3.816-003	3.278-002	4.191-003	3.558-002	4.594-003	3.854-002	5.020-003	4.166-002	5.472-003
4.0+001	1.671-002	2.143-003	1.830-002	2.370-003	1.999-002	2.616-003	2.179-002	2.878-003	2.370-002	3.159-003
4.5+001	9.380-003	1.219-003	1.034-002	1.358-003	1.137-002	1.510-003	1.248-002	1.673-003	1.366-002	1.849-003
5.0+001	5.237-003	6.932-004	5.824-003	7.790-004	6.460-003	8.733-004	7.146-003	9.755-004	7.885-003	1.087-003
6.0+001	1.418-003	2.036-004	1.636-003	2.362-004	1.876-003	2.728-004	2.140-003	3.132-004	2.429-003	3.579-004
7.0+001	6.983-005	2.700-005	1.410-004	3.836-005	2.229-004	5.153-005	3.164-004	6.661-005	4.224-004	8.381-005
8.0+001	-3.964-004	-3.654-005	-3.851-004	-3.405-005	-3.688-004	-3.072-005	-3.468-004	-2.644-005	-3.186-004	-2.111-005
9.0+001	-5.283-004	-5.658-005	-5.412-004	-5.777-005	-5.519-004	-5.860-005	-5.598-004	-5.897-005	-5.648-004	-5.883-005
1.0+002	-5.316-004	-5.944-005	-5.533-004	-6.205-005	-5.742-004	-6.455-005	-5.938-004	-6.682-005	-6.122-004	-6.888-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x	51 Sb		52 Te		53 J		54 Xe		55 Cs	
sin(theta/2) /lambda	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell
.0	5.068+001	4.880+001	5.167+001	4.979+001	5.265+001	5.078+001	5.363+001	5.177+001	5.462+001	5.275+001
1.0-002	5.064+001	4.875+001	5.163+001	4.974+001	5.261+001	5.073+001	5.359+001	5.172+001	5.455+001	5.269+001
2.0-002	5.049+001	4.861+001	5.148+001	4.960+001	5.247+001	5.059+001	5.345+001	5.158+001	5.436+001	5.249+001
3.0-002	5.027+001	4.839+001	5.125+001	4.937+001	5.224+001	5.037+001	5.323+001	5.136+001	5.405+001	5.218+001
4.0-002	4.996+001	4.808+001	5.094+001	4.906+001	5.193+001	5.006+001	5.292+001	5.105+001	5.365+001	5.178+001
5.0-002	4.958+001	4.770+001	5.056+001	4.868+001	5.154+001	4.967+001	5.253+001	5.067+001	5.317+001	5.131+001
6.0-002	4.913+001	4.725+001	5.010+001	4.823+001	5.109+001	4.922+001	5.208+001	5.021+001	5.264+001	5.078+001
7.0-002	4.864+001	4.675+001	4.960+001	4.772+001	5.057+001	4.870+001	5.156+001	4.969+001	5.207+001	5.021+001
8.0-002	4.809+001	4.621+001	4.904+001	4.716+001	5.001+001	4.814+001	5.099+001	4.912+001	5.148+001	4.962+001
9.0-002	4.752+001	4.563+001	4.845+001	4.657+001	4.940+001	4.753+001	5.038+001	4.851+001	5.086+001	4.900+001
1.0-001	4.691+001	4.503+001	4.782+001	4.595+001	4.876+001	4.689+001	4.973+001	4.786+001	5.023+001	4.837+001
1.1-001	4.629+001	4.441+001	4.718+001	4.530+001	4.810+001	4.623+001	4.905+001	4.718+001	4.959+001	4.772+001
1.2-001	4.566+001	4.378+001	4.652+001	4.464+001	4.742+001	4.555+001	4.835+001	4.649+001	4.893+001	4.706+001
1.3-001	4.502+001	4.314+001	4.586+001	4.398+001	4.673+001	4.486+001	4.764+001	4.578+001	4.826+001	4.640+001
1.4-001	4.438+001	4.250+001	4.519+001	4.331+001	4.604+001	4.417+001	4.693+001	4.506+001	4.758+001	4.572+001
1.5-001	4.374+001	4.186+001	4.452+001	4.265+001	4.535+001	4.348+001	4.621+001	4.434+001	4.690+001	4.504+001
1.6-001	4.311+001	4.123+001	4.386+001	4.199+001	4.466+001	4.279+001	4.550+001	4.363+001	4.622+001	4.435+001
1.7-001	4.248+001	4.060+001	4.321+001	4.133+001	4.398+001	4.211+001	4.479+001	4.292+001	4.553+001	4.367+001
1.8-001	4.186+001	3.998+001	4.257+001	4.069+001	4.331+001	4.144+001	4.409+001	4.222+001	4.485+001	4.299+001
1.9-001	4.125+001	3.936+001	4.193+001	4.006+001	4.265+001	4.078+001	4.341+001	4.154+001	4.418+001	4.231+001
2.0-001	4.064+001	3.876+001	4.131+001	3.944+001	4.201+001	4.014+001	4.274+001	4.087+001	4.351+001	4.165+001
2.2-001	3.946+001	3.758+001	4.011+001	3.823+001	4.076+001	3.889+001	4.144+001	3.958+001	4.220+001	4.034+001
2.4-001	3.832+001	3.644+001	3.895+001	3.707+001	3.957+001	3.770+001	4.021+001	3.835+001	4.095+001	3.909+001
2.5-001	3.776+001	3.588+001	3.838+001	3.651+001	3.900+001	3.713+001	3.962+001	3.776+001	4.034+001	3.848+001
2.6-001	3.721+001	3.533+001	3.783+001	3.596+001	3.844+001	3.657+001	3.905+001	3.718+001	3.975+001	3.789+001
2.8-001	3.614+001	3.426+001	3.676+001	3.489+001	3.736+001	3.549+001	3.795+001	3.608+001	3.862+001	3.675+001
3.0-001	3.511+001	3.323+001	3.573+001	3.386+001	3.632+001	3.445+001	3.690+001	3.503+001	3.754+001	3.567+001
3.2-001	3.410+001	3.222+001	3.474+001	3.286+001	3.533+001	3.346+001	3.590+001	3.403+001	3.651+001	3.465+001
3.4-001	3.313+001	3.125+001	3.377+001	3.190+001	3.437+001	3.250+001	3.494+001	3.307+001	3.553+001	3.367+001
3.5-001	3.265+001	3.077+001	3.330+001	3.143+001	3.391+001	3.204+001	3.448+001	3.261+001	3.506+001	3.320+001
3.6-001	3.218+001	3.030+001	3.284+001	3.097+001	3.345+001	3.158+001	3.403+001	3.216+001	3.460+001	3.274+001
3.8-001	3.127+001	2.939+001	3.194+001	3.007+001	3.256+001	3.069+001	3.314+001	3.128+001	3.371+001	3.185+001
4.0-001	3.039+001	2.851+001	3.107+001	2.919+001	3.170+001	2.983+001	3.229+001	3.042+001	3.286+001	3.099+001
4.2-001	2.954+001	2.766+001	3.022+001	2.835+001	3.086+001	2.899+001	3.146+001	2.960+001	3.203+001	3.017+001
4.4-001	2.872+001	2.685+001	2.941+001	2.753+001	3.005+001	2.818+001	3.066+001	2.880+001	3.123+001	2.937+001
4.5-001	2.833+001	2.645+001	2.901+001	2.713+001	2.966+001	2.779+001	3.027+001	2.841+001	3.084+001	2.898+001
4.6-001	2.794+001	2.606+001	2.862+001	2.674+001	2.927+001	2.740+001	2.989+001	2.802+001	3.046+001	2.860+001
4.8-001	2.719+001	2.531+001	2.786+001	2.599+001	2.851+001	2.664+001	2.914+001	2.727+001	2.971+001	2.785+001
5.0-001	2.647+001	2.459+001	2.713+001	2.526+001	2.778+001	2.591+001	2.841+001	2.654+001	2.899+001	2.713+001
5.5-001	2.481+001	2.294+001	2.544+001	2.356+001	2.607+001	2.420+001	2.669+001	2.482+001	2.728+001	2.542+001
6.0-001	2.336+001	2.148+001	2.393+001	2.206+001	2.452+001	2.265+001	2.511+001	2.325+001	2.570+001	2.384+001
6.5-001	2.209+001	2.021+001	2.260+001	2.073+001	2.314+001	2.127+001	2.369+001	2.183+001	2.425+001	2.239+001
7.0-001	2.097+001	1.910+001	2.143+001	1.956+001	2.191+001	2.005+001	2.242+001	2.056+001	2.294+001	2.109+001
8.0-001	1.914+001	1.726+001	1.950+001	1.763+001	1.988+001	1.802+001	2.029+001	1.843+001	2.073+001	1.887+001
9.0-001	1.766+001	1.579+001	1.796+001	1.610+001	1.828+001	1.642+001	1.861+001	1.675+001	1.897+001	1.711+001
1.0+000	1.639+001	1.452+001	1.668+001	1.482+001	1.697+001	1.511+001	1.725+001	1.540+001	1.755+001	1.570+001
1.1+000	1.522+001	1.336+001	1.553+001	1.367+001	1.582+001	1.396+001	1.609+001	1.424+001	1.637+001	1.452+001
1.2+000	1.411+001	1.226+001	1.445+001	1.259+001	1.475+001	1.290+001	1.504+001	1.319+001	1.532+001	1.347+001
1.3+000	1.305+001	1.119+001	1.340+001	1.155+001	1.374+001	1.189+001	1.405+001	1.220+001	1.434+001	1.250+001
1.4+000	1.202+001	1.017+001	1.240+001	1.055+001	1.275+001	1.091+001	1.309+001	1.125+001	1.340+001	1.157+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	51 Sb total	51 Sb without K-shell	52 Te total	52 Te without K-shell	53 J total	53 J without K-shell	54 Xe total	54 Xe without K-shell	55 Cs total	55 Cs without K-shell
1.5+000	1.105+001	9.207+000	1.144+001	9.592+000	1.180+001	9.964+000	1.216+001	1.032+001	1.249+001	1.066+001
1.6+000	1.015+001	8.312+000	1.053+001	8.693+000	1.090+001	9.067+000	1.126+001	9.431+000	1.161+001	9.782+000
1.7+000	9.334+000	7.498+000	9.697+000	7.863+000	1.006+001	8.228+000	1.042+001	8.590+000	1.077+001	8.945+000
1.8+000	8.602+000	6.771+000	8.941+000	7.112+000	9.285+000	7.459+000	9.632+000	7.809+000	9.978+000	8.157+000
1.9+000	7.958+000	6.133+000	8.267+000	6.444+000	8.586+000	6.765+000	8.913+000	7.095+000	9.244+000	7.428+000
2.0+000	7.398+000	5.579+000	7.675+000	5.858+000	7.965+000	6.149+000	8.266+000	6.453+000	8.576+000	6.765+000
2.2+000	6.507+000	4.701+000	6.719+000	4.914+000	6.947+000	5.143+000	7.189+000	5.387+000	7.445+000	5.645+000
2.4+000	5.862+000	4.069+000	6.019+000	4.227+000	6.190+000	4.399+000	6.375+000	4.586+000	6.575+000	4.787+000
2.5+000	5.607+000	3.823+000	5.743+000	3.958+000	5.890+000	4.107+000	6.051+000	4.268+000	6.225+000	4.443+000
2.6+000	5.388+000	3.610+000	5.505+000	3.728+000	5.633+000	3.856+000	5.772+000	3.996+000	5.923+000	4.148+000
2.8+000	5.023+000	3.261+000	5.116+000	3.355+000	5.216+000	3.454+000	5.322+000	3.560+000	5.437+000	3.676+000
3.0+000	4.720+000	2.976+000	4.803+000	3.057+000	4.887+000	3.141+000	4.974+000	3.227+000	5.066+000	3.319+000
3.3+000	4.323+000	2.605+000	4.404+000	2.684+000	4.482+000	2.761+000	4.559+000	2.836+000	4.635+000	2.911+000
3.5+000	4.073+000	2.374+000	4.158+000	2.457+000	4.239+000	2.535+000	4.317+000	2.611+000	4.392+000	2.684+000
3.6+000	3.949+000	2.261+000	4.038+000	2.346+000	4.121+000	2.427+000	4.201+000	2.504+000	4.277+000	2.578+000
3.9+000	3.587+000	1.929+000	3.683+000	2.021+000	3.775+000	2.108+000	3.862+000	2.192+000	3.944+000	2.272+000
4.0+000	3.468+000	1.821+000	3.567+000	1.915+000	3.661+000	2.005+000	3.751+000	2.090+000	3.836+000	2.172+000
4.2+000	3.237+000	1.611+000	3.339+000	1.707+000	3.437+000	1.801+000	3.531+000	1.890+000	3.621+000	1.976+000
4.6+000	2.806+000	1.225+000	2.908+000	1.320+000	3.009+000	1.414+000	3.107+000	1.507+000	3.203+000	1.597+000
5.0+000	2.428+000	8.934-001	2.524+000	9.814-001	2.621+000	1.070+000	2.717+000	1.160+000	2.813+000	1.249+000
5.4+000	2.110+000	6.238-001	2.196+000	7.004-001	2.284+000	7.794-001	2.374+000	8.603-001	2.464+000	9.426-001
5.5+000	2.040+000	5.660-001	2.123+000	6.393-001	2.209+000	7.154-001	2.296+000	7.937-001	2.384+000	8.737-001
5.8+000	1.851+000	4.143-001	1.925+000	4.776-001	2.002+000	5.442-001	2.082+000	6.138-001	2.163+000	6.859-001
6.0+000	1.741+000	3.301-001	1.810+000	3.866-001	1.881+000	4.467-001	1.955+000	5.101-001	2.031+000	5.765-001
6.2+000	1.644+000	2.581-001	1.707+000	3.080-001	1.772+000	3.617-001	1.840+000	4.189-001	1.911+000	4.793-001
6.6+000	1.481+000	1.462-001	1.533+000	1.838-001	1.587+000	2.253-001	1.645+000	2.704-001	1.705+000	3.190-001
7.0+000	1.354+000	6.950-002	1.396+000	9.659-002	1.440+000	1.272-001	1.488+000	1.613-001	1.538+000	1.988-001
7.4+000	1.253+000	1.971-002	1.287+000	3.806-002	1.324+000	5.951-002	1.363+000	8.414-002	1.405+000	1.120-001
8.0+000	1.138+000	-1.962-002	1.164+000	-1.105-002	1.191+000	-9.766-005	1.221+000	1.339-002	1.252+000	2.951-002
9.0+000	1.003+000	-3.179-002	1.022+000	-3.238-002	1.041+000	-3.170-002	1.061+000	-2.959-002	1.082+000	-2.588-002
1.0+001	9.028-001	-1.706-002	9.190-001	-2.106-002	9.351-001	-2.457-002	9.512-001	-2.747-002	9.674-001	-2.959-002
1.1+001	8.157-001	2.458-003	8.320-001	-2.013-003	8.477-001	-6.456-003	8.630-001	-1.079-002	8.780-001	-1.488-002
1.2+001	7.350-001	1.873-002	7.519-001	1.503-002	7.683-001	1.114-002	7.840-001	7.095-003	7.993-001	2.992-003
1.4+001	5.876-001	3.636-002	6.055-001	3.492-002	6.230-001	3.318-002	6.400-001	3.116-002	6.566-001	2.889-002
1.6+001	4.616-001	3.971-002	4.791-001	3.988-002	4.964-001	3.983-002	5.134-001	3.956-002	5.302-001	3.909-002
1.8+001	3.591-001	3.643-002	3.750-001	3.742-002	3.909-001	3.829-002	4.068-001	3.902-002	4.226-001	3.963-002
2.0+001	2.782-001	3.099-002	2.921-001	3.229-002	3.061-001	3.353-002	3.203-001	3.471-002	3.345-001	3.584-002
2.2+001	2.155-001	2.543-002	2.274-001	2.676-002	2.394-001	2.808-002	2.516-001	2.938-002	2.640-001	3.067-002
2.5+001	1.477-001	1.833-002	1.567-001	1.950-002	1.660-001	2.068-002	1.755-001	2.189-002	1.853-001	2.312-002
2.8+001	1.021-001	1.305-002	1.089-001	1.399-002	1.160-001	1.496-002	1.232-001	1.596-002	1.307-001	1.699-002
3.1+001	7.138-002	9.294-003	7.646-002	1.002-002	8.175-002	1.078-002	8.725-002	1.157-002	9.297-002	1.240-002
3.5+001	4.495-002	5.951-003	4.839-002	6.458-003	5.201-002	6.994-003	5.579-002	7.558-003	5.975-002	8.155-003
4.0+001	2.572-002	3.460-003	2.786-002	3.781-003	3.012-002	4.124-003	3.251-002	4.488-003	3.502-002	4.876-003
4.5+001	1.492-002	2.039-003	1.627-002	2.243-003	1.769-002	2.462-003	1.921-002	2.698-003	2.082-002	2.951-003
5.0+001	8.678-003	1.207-003	9.529-003	1.338-003	1.044-002	1.480-003	1.142-002	1.633-003	1.246-002	1.799-003
6.0+001	2.746-003	4.073-004	3.091-003	4.617-004	3.466-003	5.215-004	3.873-003	5.870-004	4.314-003	6.590-004
7.0+001	5.419-004	1.033-004	6.758-004	1.254-004	8.253-004	1.502-004	9.914-004	1.780-004	1.175-003	2.091-004
8.0+001	-2.836-004	-1.462-005	-2.412-004	-6.845-006	-1.906-004	2.362-006	-1.314-004	1.312-005	-6.253-005	2.561-005
9.0+001	-5.663-004	-5.812-005	-5.641-004	-5.676-005	-5.576-004	-5.467-005	-5.464-004	-5.176-005	-5.302-004	-4.795-005
1.0+002	-6.288-004	-7.067-005	-6.437-004	-7.216-005	-6.563-004	-7.327-005	-6.666-004	-7.397-005	-6.741-004	-7.422-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	56 Ba total	56 Ba without K-shell	57 La total	57 La without K-shell	58 Ce total	58 Ce without K-shell	59 Pr total	59 Pr without K-shell	60 Nd total	60 Nd without K-shell
.0	5.560+001	5.374+001	5.659+001	5.473+001	5.757+001	5.572+001	5.855+001	5.670+001	5.953+001	5.769+001
1.0-002	5.552+001	5.367+001	5.650+001	5.466+001	5.748+001	5.564+001	5.846+001	5.663+001	5.944+001	5.762+001
2.0-002	5.531+001	5.345+001	5.630+001	5.444+001	5.729+001	5.544+001	5.828+001	5.643+001	5.927+001	5.743+001
3.0-002	5.497+001	5.311+001	5.596+001	5.410+001	5.696+001	5.510+001	5.796+001	5.611+001	5.895+001	5.711+001
4.0-002	5.452+001	5.266+001	5.551+001	5.365+001	5.651+001	5.466+001	5.753+001	5.569+001	5.854+001	5.669+001
5.0-002	5.399+001	5.213+001	5.497+001	5.311+001	5.598+001	5.413+001	5.702+001	5.518+001	5.804+001	5.619+001
6.0-002	5.340+001	5.154+001	5.436+001	5.250+001	5.538+001	5.353+001	5.645+001	5.460+001	5.747+001	5.563+001
7.0-002	5.277+001	5.091+001	5.370+001	5.184+001	5.473+001	5.288+001	5.583+001	5.398+001	5.686+001	5.502+001
8.0-002	5.211+001	5.025+001	5.301+001	5.116+001	5.405+001	5.220+001	5.518+001	5.334+001	5.622+001	5.438+001
9.0-002	5.144+001	4.958+001	5.231+001	5.045+001	5.335+001	5.150+001	5.452+001	5.267+001	5.556+001	5.372+001
1.0-001	5.077+001	4.891+001	5.160+001	4.974+001	5.264+001	5.079+001	5.384+001	5.199+001	5.488+001	5.304+001
1.1-001	5.010+001	4.824+001	5.089+001	4.903+001	5.193+001	5.008+001	5.316+001	5.132+001	5.421+001	5.237+001
1.2-001	4.943+001	4.758+001	5.018+001	4.833+001	5.122+001	4.937+001	5.248+001	5.063+001	5.353+001	5.169+001
1.3-001	4.877+001	4.691+001	4.949+001	4.763+001	5.052+001	4.867+001	5.180+001	4.995+001	5.285+001	5.100+001
1.4-001	4.811+001	4.625+001	4.879+001	4.694+001	4.983+001	4.797+001	5.112+001	4.927-001	5.216+001	5.032+001
1.5-001	4.744+001	4.558+001	4.811+001	4.625+001	4.914+001	4.728+001	5.044+001	4.859-001	5.148+001	4.964+001
1.6-001	4.678+001	4.493+001	4.743+001	4.558+001	4.845+001	4.660+001	4.976+001	4.792-001	5.080+001	4.896+001
1.7-001	4.613+001	4.427+001	4.676+001	4.490+001	4.777+001	4.592+001	4.908+001	4.724-001	5.012+001	4.828+001
1.8-001	4.547+001	4.361+001	4.610+001	4.424+001	4.710+001	4.525+001	4.841+001	4.656-001	4.944+001	4.760+001
1.9-001	4.482+001	4.296+001	4.544+001	4.358+001	4.643+001	4.458+001	4.773+001	4.589-001	4.876+001	4.692+001
2.0-001	4.418+001	4.232+001	4.479+001	4.294+001	4.578+001	4.393+001	4.706+001	4.522-001	4.808+001	4.624+001
2.2-001	4.290+001	4.105+001	4.352+001	4.166+001	4.448+001	4.263+001	4.574+001	4.389-001	4.674+001	4.490+001
2.4-001	4.167+001	3.981+001	4.228+001	4.042+001	4.322+001	4.137+001	4.444+001	4.259+001	4.542+001	4.358+001
2.5-001	4.106+001	3.920+001	4.167+001	3.982+001	4.260+001	4.075+001	4.380+001	4.195+001	4.477+001	4.293+001
2.6-001	4.047+001	3.861+001	4.108+001	3.922+001	4.199+001	4.014+001	4.317+001	4.132+001	4.413+001	4.229+001
2.8-001	3.932+001	3.746+001	3.992+001	3.807+001	4.081+001	3.896+001	4.194+001	4.009+001	4.288+001	4.104+001
3.0-001	3.821+001	3.636+001	3.882+001	3.696+001	3.968+001	3.783+001	4.076+001	3.891+001	4.167+001	3.983+001
3.2-001	3.716+001	3.530+001	3.776+001	3.591+001	3.859+001	3.674+001	3.962+001	3.778+001	4.051+001	3.867+001
3.4-001	3.616+001	3.430+001	3.675+001	3.490+001	3.755+001	3.570+001	3.854+001	3.669+001	3.940+001	3.756+001
3.5-001	3.568+001	3.382+001	3.626+001	3.441+001	3.705+001	3.520+001	3.801+001	3.617+001	3.886+001	3.702+001
3.6-001	3.521+001	3.335+001	3.579+001	3.393+001	3.656+001	3.471+001	3.750+001	3.566+001	3.834+001	3.650+001
3.8-001	3.430+001	3.244+001	3.487+001	3.302+001	3.561+001	3.377+001	3.651+001	3.467+001	3.732+001	3.548+001
4.0-001	3.342+001	3.157+001	3.399+001	3.214+001	3.471+001	3.286+001	3.557+001	3.372+001	3.635+001	3.451+001
4.2-001	3.259+001	3.073+001	3.315+001	3.130+001	3.385+001	3.200+001	3.466+001	3.282+001	3.542+001	3.358+001
4.4-001	3.179+001	2.993+001	3.235+001	3.049+001	3.302+001	3.117+001	3.380+001	3.195+001	3.453+001	3.269+001
4.5-001	3.140+001	2.954+001	3.196+001	3.010+001	3.262+001	3.077+001	3.338+001	3.153+001	3.410+001	3.226+001
4.6-001	3.101+001	2.916+001	3.157+001	2.972+001	3.222+001	3.037+001	3.297+001	3.112+001	3.367+001	3.184+001
4.8-001	3.027+001	2.841+001	3.082+001	2.897+001	3.145+001	2.961+001	3.217+001	3.032+001	3.285+001	3.101+001
5.0-001	2.954+001	2.769+001	3.010+001	2.825+001	3.072+001	2.887+001	3.140+001	2.955+001	3.206+001	3.022+001
5.5-001	2.784+001	2.598+001	2.840+001	2.654+001	2.897+001	2.712+001	2.958+001	2.774+001	3.021+001	2.837+001
6.0-001	2.626+001	2.440+001	2.681+001	2.496+001	2.736+001	2.551+001	2.791+001	2.607+001	2.850+001	2.666+001
6.5-001	2.480+001	2.295+001	2.535+001	2.350+001	2.587+001	2.402+001	2.637+001	2.453+001	2.692+001	2.508+001
7.0-001	2.347+001	2.162+001	2.400+001	2.215+001	2.449+001	2.264+001	2.495+001	2.311+001	2.546+001	2.363+001
8.0-001	2.118+001	1.933+001	2.165+001	1.980+001	2.207+001	2.023+001	2.247+001	2.063+001	2.291+001	2.108+001
9.0-001	1.934+001	1.749+001	1.973+001	1.788+001	2.009+001	1.825+001	2.043+001	1.859+001	2.081+001	1.898+001
1.0+000	1.786+001	1.602+001	1.819+001	1.634+001	1.849+001	1.666+001	1.879+001	1.695+001	1.911+001	1.728+001
1.1+000	1.664+001	1.480+001	1.692+001	1.508+001	1.719+001	1.536+001	1.745+001	1.562+001	1.773+001	1.590+001
1.2+000	1.558+001	1.374+001	1.584+001	1.401+001	1.610+001	1.426+001	1.634+001	1.451+001	1.659+001	1.476+001
1.3+000	1.462+001	1.278+001	1.488+001	1.305+001	1.513+001	1.330+001	1.537+001	1.354+001	1.560+001	1.378+001
1.4+000	1.370+001	1.186+001	1.398+001	1.215+001	1.423+001	1.241+001	1.448+001	1.265+001	1.471+001	1.289+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	56 Ba total	56 Ba without K-shell	57 La total	57 La without K-shell	58 Ce total	58 Ce without K-shell	59 Pr total	59 Pr without K-shell	60 Nd total	60 Nd without K-shell
1.5+000	1.281+001	1.098+001	1.311+001	1.128+001	1.338+001	1.156+001	1.363+001	1.181+001	1.388+001	1.206+001
1.6+000	1.194+001	1.012+001	1.226+001	1.044+001	1.255+001	1.073+001	1.281+001	1.100+001	1.307+001	1.126+001
1.7+000	1.111+001	9.289+000	1.144+001	9.621+000	1.174+001	9.925+000	1.202+001	1.020+001	1.229+001	1.048+001
1.8+000	1.032+001	8.500+000	1.065+001	8.837+000	1.096+001	9.147+000	1.124+001	9.435+000	1.153+001	9.722+000
1.9+000	9.576+000	7.762+000	9.905+000	8.095+000	1.021+001	8.405+000	1.050+001	8.695+000	1.079+001	8.988+000
2.0+000	8.891+000	7.083+000	9.209+000	7.403+000	9.510+000	7.707+000	9.795+000	7.994+000	1.008+001	8.287+000
2.2+000	7.713+000	5.915+000	7.991+000	6.195+000	8.263+000	6.469+000	8.527+000	6.736+000	8.801+000	7.013+000
2.4+000	6.789+000	5.002+000	7.016+000	5.231+000	7.245+000	5.463+000	7.475+000	5.694+000	7.717+000	5.938+000
2.5+000	6.413+000	4.632+000	6.614+000	4.835+000	6.821+000	5.044+000	7.031+000	5.256+000	7.253+000	5.480+000
2.6+000	6.087+000	4.313+000	6.264+000	4.492+000	6.449+000	4.678+000	6.639+000	4.869+000	6.841+000	5.073+000
2.8+000	5.562+000	3.801+000	5.697+000	3.937+000	5.842+000	4.083+000	5.994+000	4.236+000	6.156+000	4.400+000
3.0+000	5.163+000	3.416+000	5.268+000	3.521+000	5.381+000	3.634+000	5.501+000	3.756+000	5.629+000	3.885+000
3.3+000	4.712+000	2.987+000	4.791+000	3.065+000	4.874+000	3.149+000	4.963+000	3.237+000	5.055+000	3.330+000
3.5+000	4.465+000	2.756+000	4.537+000	2.827+000	4.611+000	2.901+000	4.688+000	2.977+000	4.767+000	3.056+000
3.6+000	4.350+000	2.649+000	4.421+000	2.719+000	4.493+000	2.790+000	4.567+000	2.863+000	4.641+000	2.937+000
3.9+000	4.022+000	2.347+000	4.097+000	2.419+000	4.168+000	2.489+000	4.239+000	2.559+000	4.308+000	2.626+000
4.0+000	3.916+000	2.250+000	3.992+000	2.324+000	4.066+000	2.395+000	4.137+000	2.465+000	4.206+000	2.532+000
4.2+000	3.706+000	2.058+000	3.787+000	2.136+000	3.864+000	2.210+000	3.938+000	2.282+000	4.009+000	2.351+000
4.6+000	3.296+000	1.685+000	3.384+000	1.770+000	3.469+000	1.851+000	3.550+000	1.928+000	3.628+000	2.003+000
5.0+000	2.907+000	1.337+000	2.999+000	1.423+000	3.088+000	1.507+000	3.174+000	1.589+000	3.258+000	1.668+000
5.4+000	2.554+000	1.026+000	2.644+000	1.109+000	2.732+000	1.191+000	2.819+000	1.272+000	2.905+000	1.352+000
5.5+000	2.473+000	9.549-001	2.562+000	1.036+000	2.649+000	1.117+000	2.735+000	1.197+000	2.820+000	1.277+000
5.8+000	2.246+000	7.602-001	2.330+000	8.358-001	2.413+000	9.118-001	2.496+000	9.879-001	2.579+000	1.065+000
6.0+000	2.109+000	6.455-001	2.189+000	7.164-001	2.269+000	7.882-001	2.348+000	8.608-001	2.429+000	9.348-001
6.2+000	1.984+000	5.427-001	2.059+000	6.084-001	2.135+000	6.756-001	2.211+000	7.441-001	2.289+000	8.144-001
6.6+000	1.768+000	3.709-001	1.833+000	4.258-001	1.900+000	4.829-001	1.968+000	5.420-001	2.038+000	6.037-001
7.0+000	1.591+000	2.398-001	1.647+000	2.839-001	1.704+000	3.307-001	1.763+000	3.799-001	1.825+000	4.321-001
7.4+000	1.449+000	1.430-001	1.495+000	1.772-001	1.544+000	2.142-001	1.595+000	2.539-001	1.648+000	2.966-001
8.0+000	1.285+000	4.834-002	1.321+000	6.995-002	1.358+000	9.420-002	1.397+000	1.211-001	1.439+000	1.508-001
9.0+000	1.103+000	-2.045-002	1.126+000	-1.316-002	1.151+000	-3.950-003	1.176+000	7.253-003	1.204+000	2.062-002
1.0+001	9.839-001	-3.084-002	1.001+000	-3.107-002	1.018+000	-3.016-002	1.036+000	-2.802-002	1.055+000	-2.452-002
1.1+001	8.928-001	-1.865-002	9.075-001	-2.202-002	9.222-001	-2.487-002	9.370-001	-2.708-002	9.519-001	-2.861-002
1.2+001	8.142-001	-1.125-003	8.286-001	-5.212-003	8.427-001	-9.171-003	8.565-001	-1.293-002	8.702-001	-1.642-002
1.4+001	6.726-001	2.639-002	6.881-001	2.364-002	7.032-001	2.067-002	7.178-001	1.752-002	7.319-001	1.422-002
1.6+001	5.466-001	3.840-002	5.627-001	3.746-002	5.785-001	3.626-002	5.939-001	3.483-002	6.089-001	3.318-002
1.8+001	4.384-001	4.010-002	4.540-001	4.040-002	4.694-001	4.050-002	4.846-001	4.041-002	4.996-001	4.015-002
2.0+001	3.488-001	3.690-002	3.631-001	3.785-002	3.774-001	3.867-002	3.916-001	3.937-002	4.058-001	3.997-002
2.2+001	2.766-001	3.194-002	2.893-001	3.316-002	3.020-001	3.431-002	3.149-001	3.539-002	3.278-001	3.642-002
2.5+001	1.953-001	2.436-002	2.054-001	2.561-002	2.158-001	2.684-002	2.263-001	2.805-002	2.369-001	2.926-002
2.8+001	1.385-001	1.806-002	1.464-001	1.915-002	1.546-001	2.025-002	1.629-001	2.136-002	1.714-001	2.249-002
3.1+001	9.889-002	1.327-002	1.050-001	1.416-002	1.113-001	1.507-002	1.179-001	1.600-002	1.246-001	1.697-002
3.5+001	6.389-002	8.784-003	6.820-002	9.439-003	7.268-002	1.012-002	7.732-002	1.082-002	8.215-002	1.156-002
4.0+001	3.766-002	5.290-003	4.044-002	5.726-003	4.335-002	6.183-003	4.639-002	6.661-003	4.957-002	7.167-003
4.5+001	2.253-002	3.222-003	2.433-002	3.510-003	2.623-002	3.815-003	2.823-002	4.136-003	3.034-002	4.479-003
5.0+001	1.357-002	1.977-003	1.474-002	2.169-003	1.600-002	2.372-003	1.732-002	2.589-003	1.873-002	2.822-003
6.0+001	4.791-003	7.377-004	5.305-003	8.233-004	5.858-003	9.157-004	6.452-003	1.015-003	7.089-003	1.124-003
7.0+001	1.378-003	2.437-004	1.601-003	2.820-004	1.846-003	3.242-004	2.112-003	3.705-004	2.403-003	4.215-004
8.0+001	1.656-005	3.999-005	1.067-004	5.641-005	2.088-004	7.502-005	3.235-004	9.598-005	4.519-004	1.196-004
9.0+001	-5.083-004	-4.313-005	-4.802-004	-3.716-005	-4.454-004	-2.994-005	-4.033-004	-2.134-005	-3.534-004	-1.126-005
1.0+002	-6.786-004	-7.394-005	-6.796-004	-7.301-005	-6.768-004	-7.134-005	-6.697-004	-6.887-005	-6.581-004	-6.557-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{NFF}(x,Z)$--Continued

x sin(theta/2) /lambda	61 Pm total	61 Pm without K-shell	62 Sm total	62 Sm without K-shell	63 Eu total	63 Eu without K-shell	64 Gd total	64 Gd without K-shell	65 Tb total	65 Tb without K-shell
.0	6.051+001	5.868+001	6.149+001	5.966+001	6.247+001	6.065+001	6.346+001	6.163+001	6.443+001	6.262+001
1.0-002	6.043+001	5.861+001	6.142+001	5.960+001	6.241+001	6.059+001	6.340+001	6.157+001	6.438+001	6.256+001
2.0-002	6.026+001	5.842+001	6.124+001	5.941+001	6.223+001	6.040+001	6.321+001	6.139+001	6.420+001	6.238+001
3.0-002	5.995+001	5.811+001	6.094+001	5.911+001	6.193+001	6.011+001	6.291+001	6.109+001	6.391+001	6.210+001
4.0-002	5.954+001	5.770+001	6.054+001	5.871+001	6.154+001	5.971+001	6.251+001	6.069+001	6.353+001	6.171+001
5.0-002	5.905+001	5.721+001	6.006+001	5.822+001	6.106+001	5.923+001	6.203+001	6.021+001	6.307+001	6.125+001
6.0-002	5.849+001	5.665+001	5.951+001	5.768+001	6.052+001	5.869+001	6.148+001	5.966+001	6.255+001	6.073+001
7.0-002	5.789+001	5.605+001	5.891+001	5.708+001	5.993+001	5.811+001	6.087+001	5.905+001	6.197+001	6.016+001
8.0-002	5.725+001	5.541+001	5.828+001	5.645+001	5.931+001	5.748+001	6.023+001	5.841+001	6.136+001	5.955+001
9.0-002	5.660+001	5.476+001	5.763+001	5.580+001	5.867+001	5.684+001	5.957+001	5.775+001	6.073+001	5.891+001
1.0-001	5.593+001	5.409+001	5.697+001	5.514+001	5.801+001	5.618+001	5.889+001	5.706+001	6.008+001	5.826+001
1.1-001	5.525+001	5.342+001	5.630+001	5.446+001	5.734+001	5.551+001	5.819+001	5.637+001	5.942+001	5.760+001
1.2-001	5.457+001	5.274+001	5.562+001	5.379+001	5.666+001	5.484+001	5.750+001	5.568+001	5.875+001	5.694+001
1.3-001	5.389+001	5.206+001	5.494+001	5.311+001	5.599+001	5.416+001	5.680+001	5.498+001	5.808+001	5.626+001
1.4-001	5.321+001	5.137+001	5.426+001	5.243+001	5.531+001	5.348+001	5.610+001	5.428+001	5.740+001	5.558+001
1.5-001	5.253+001	5.069+001	5.357+001	5.174+001	5.462+001	5.280+001	5.541+001	5.359+001	5.672+001	5.490+001
1.6-001	5.184+001	5.001+001	5.289+001	5.106+001	5.394+001	5.211+001	5.471+001	5.289+001	5.604+001	5.422+001
1.7-001	5.116+001	4.932+001	5.220+001	5.037+001	5.325+001	5.143+001	5.402+001	5.220+001	5.535+001	5.353+001
1.8-001	5.048+001	4.864+001	5.152+001	4.969+001	5.256+001	5.074+001	5.333+001	5.151+001	5.466+001	5.284+001
1.9-001	4.979+001	4.796+001	5.083+001	4.900+001	5.188+001	5.005+001	5.264+001	5.082+001	5.397+001	5.215+001
2.0-001	4.911+001	4.728+001	5.015+001	4.832+001	5.119+001	4.936+001	5.195+001	5.013+001	5.328+001	5.146+001
2.2-001	4.776+001	4.592+001	4.879+001	4.695+001	4.982+001	4.799+001	5.059+001	4.877+001	5.189+001	5.008+001
2.4-001	4.642+001	4.459+001	4.744+001	4.561+001	4.846+001	4.663+001	4.924+001	4.742+001	5.052+001	4.870+001
2.5-001	4.577+001	4.393+001	4.677+001	4.494+001	4.779+001	4.596+001	4.858+001	4.675+001	4.984+001	4.802+001
2.6-001	4.512+001	4.328+001	4.611+001	4.428+001	4.712+001	4.529+001	4.791+001	4.609+001	4.916+001	4.734+001
2.8-001	4.384+001	4.201+001	4.482+001	4.299+001	4.581+001	4.399+001	4.661+001	4.479+001	4.782+001	4.600+001
3.0-001	4.261+001	4.078+001	4.357+001	4.174+001	4.454+001	4.271+001	4.535+001	4.353+001	4.652+001	4.470+001
3.2-001	4.143+001	3.959+001	4.236+001	4.053+001	4.331+001	4.148+001	4.412+001	4.230+001	4.525+001	4.343+001
3.4-001	4.029+001	3.845+001	4.120+001	3.937+001	4.212+001	4.030+001	4.293+001	4.110+001	4.402+001	4.220+001
3.5-001	3.974+001	3.790+001	4.063+001	3.880+001	4.155+001	3.972+001	4.235+001	4.053+001	4.342+001	4.160+001
3.6-001	3.920+001	3.736+001	4.008+001	3.825+001	4.098+001	3.916+001	4.178+001	3.996+001	4.283+001	4.102+001
3.8-001	3.815+001	3.632+001	3.901+001	3.718+001	3.989+001	3.806+001	4.067+001	3.885+001	4.169+001	3.987+001
4.0-001	3.716+001	3.532+001	3.799+001	3.616+001	3.884+001	3.701+001	3.961+001	3.779+001	4.059+001	3.878+001
4.2-001	3.620+001	3.437+001	3.701+001	3.518+001	3.783+001	3.601+001	3.859+001	3.677+001	3.954+001	3.772+001
4.4-001	3.529+001	3.345+001	3.607+001	3.424+001	3.687+001	3.504+001	3.761+001	3.579+001	3.852+001	3.671+001
4.5-001	3.484+001	3.301+001	3.561+001	3.378+001	3.640+001	3.457+001	3.713+001	3.531+001	3.803+001	3.622+001
4.6-001	3.441+001	3.257+001	3.516+001	3.333+001	3.594+001	3.411+001	3.667+001	3.485+001	3.755+001	3.573+001
4.8-001	3.356+001	3.173+001	3.430+001	3.247+001	3.505+001	3.323+001	3.576+001	3.394+001	3.661+001	3.480+001
5.0-001	3.275+001	3.092+001	3.346+001	3.163+001	3.419+001	3.237+001	3.489+001	3.307+001	3.571+001	3.390+001
5.5-001	3.085+001	2.901+001	3.151+001	2.968+001	3.219+001	3.036+001	3.285+001	3.103+001	3.360+001	3.179+001
6.0-001	2.909+001	2.726+001	2.971+001	2.788+001	3.034+001	2.852+001	3.098+001	2.916+001	3.166+001	2.985+001
6.5-001	2.748+001	2.565+001	2.806+001	2.623+001	2.865+001	2.682+001	2.926+001	2.744+001	2.988+001	2.807+001
7.0-001	2.599+001	2.416+001	2.653+001	2.470+001	2.708+001	2.526+001	2.766+001	2.585+001	2.823+001	2.642+001
8.0-001	2.337+001	2.154+001	2.383+001	2.201+001	2.431+001	2.249+001	2.484+001	2.302+001	2.532+001	2.350+001
9.0-001	2.120+001	1.937+001	2.160+001	1.977+001	2.201+001	2.019+001	2.246+001	2.065+001	2.287+001	2.106+001
1.0+000	1.943+001	1.761+001	1.977+001	1.795+001	2.012+001	1.830+001	2.050+001	1.869+001	2.085+001	1.904+001
1.1+000	1.801+001	1.618+001	1.829+001	1.647+001	1.859+001	1.677+001	1.891+001	1.710+001	1.920+001	1.739+001
1.2+000	1.683+001	1.501+001	1.708+001	1.526+001	1.733+001	1.552+001	1.760+001	1.580+001	1.786+001	1.605+001
1.3+000	1.583+001	1.401+001	1.606+001	1.425+001	1.629+001	1.448+001	1.652+001	1.472+001	1.675+001	1.495+001
1.4+000	1.494+001	1.312+001	1.516+001	1.335+001	1.538+001	1.357+001	1.559+001	1.379+001	1.580+001	1.400+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	61 Pm total	61 Pm without K-shell	62 Sm total	62 Sm without K-shell	63 Eu total	63 Eu without K-shell	64 Gd total	64 Gd without K-shell	65 Tb total	65 Tb without K-shell
1.5+000	1.411+001	1.230+001	1.434+001	1.253+001	1.455+001	1.275+001	1.476+001	1.296+001	1.497+001	1.317+001
1.6+000	1.332+001	1.151+001	1.356+001	1.175+001	1.378+001	1.198+001	1.400+001	1.220+001	1.420+001	1.241+001
1.7+000	1.255+001	1.075+001	1.280+001	1.100+001	1.303+001	1.124-001	1.326+001	1.147+001	1.347+001	1.168+001
1.8+000	1.180+001	9.997+000	1.206+001	1.026+001	1.231+001	1.051-001	1.255+001	1.076+001	1.277+001	1.098+001
1.9+000	1.107+001	9.271+000	1.134+001	9.544+000	1.160+001	9.806-000	1.185+001	1.006+001	1.208+001	1.030+001
2.0+000	1.037+001	8.573+000	1.064+001	8.851+000	1.091+001	9.120-000	1.117+001	9.387+000	1.141+001	9.629+000
2.2+000	9.074+000	7.288+000	9.343+000	7.561+000	9.610+000	7.830-000	9.879+000	8.103+000	1.013+001	8.353+000
2.4+000	7.962+000	6.186+000	8.210+000	6.437+000	8.460+000	6.690-000	8.717+000	6.950+000	8.957+000	7.193+000
2.5+000	7.481+000	5.711+000	7.714+000	5.946+000	7.950+000	6.185-000	8.196+000	6.433+000	8.427+000	6.668+000
2.6+000	7.050+000	5.285+000	7.266+000	5.502+000	7.486+000	5.725+000	7.717+000	5.959+000	7.938+000	6.183+000
2.8+000	6.327+000	4.573+000	6.506+000	4.753+000	6.692+000	4.942-000	6.889+000	5.141+000	7.084+000	5.338+000
3.0+000	5.766+000	4.023+000	5.910+000	4.169+000	6.063+000	4.323-000	6.225+000	4.487+000	6.389+000	4.654+000
3.3+000	5.153+000	3.429+000	5.256+000	3.533+000	5.366+000	3.644-000	5.484+000	3.763+000	5.606+000	3.887+000
3.5+000	4.848+000	3.137+000	4.934+000	3.223+000	5.024+000	3.314-000	5.119+000	3.410+000	5.219+000	3.512+000
3.6+000	4.717+000	3.013+000	4.796+000	3.092+000	4.878+000	3.175+000	4.965+000	3.262+000	5.056+000	3.355+000
3.9+000	4.376+000	2.694+000	4.444+000	2.761+000	4.513+000	2.830-000	4.582+000	2.899+000	4.655+000	2.973+000
4.0+000	4.273+000	2.599+000	4.340+000	2.665+000	4.407+000	2.731-000	4.473+000	2.797+000	4.543+000	2.867+000
4.2+000	4.077+000	2.418+000	4.144+000	2.483+000	4.209+000	2.548+000	4.273+000	2.611+000	4.338+000	2.675+000
4.6+000	3.703+000	2.076+000	3.774+000	2.145+000	3.843+000	2.212+000	3.909+000	2.277+000	3.974+000	2.340+000
5.0+000	3.339+000	1.746+000	3.417+000	1.820+000	3.492+000	1.893+000	3.564+000	1.963+000	3.634+000	2.030+000
5.4+000	2.988+000	1.431+000	3.070+000	1.509+000	3.150+000	1.585-000	3.228+000	1.659+000	3.302+000	1.730+000
5.5+000	2.904+000	1.356+000	2.986+000	1.434+000	3.067+000	1.510-000	3.145+000	1.585+000	3.221+000	1.657+000
5.8+000	2.662+000	1.142+000	2.744+000	1.218+000	2.824+000	1.294+000	2.904+000	1.370+000	2.982+000	1.443+000
6.0+000	2.510+000	1.009+000	2.591+000	1.084+000	2.671+000	1.159+000	2.750+000	1.233+000	2.828+000	1.306+000
6.2+000	2.367+000	8.858-001	2.446+000	9.579-001	2.524+000	1.030-000	2.603+000	1.104+000	2.680+000	1.176+000
6.6+000	2.109+000	6.673-001	2.182+000	7.325-001	2.255+000	7.991-001	2.330+000	8.671-001	2.404+000	9.349-001
7.0+000	1.889+000	4.868-001	1.954+000	5.437-001	2.021+000	6.026-001	2.089+000	6.636-001	2.158+000	7.253-001
7.4+000	1.703+000	3.421-001	1.761+000	3.901-001	1.820+000	4.405-001	1.881+000	4.936-001	1.943+000	5.479-001
8.0+000	1.483+000	1.834-001	1.529+000	2.186-001	1.577+000	2.564-001	1.627+000	2.970-001	1.678+000	3.396-001
9.0+000	1.232+000	3.620-002	1.263+000	5.403-002	1.295+000	7.418-002	1.329+000	9.678-002	1.365+000	1.215-001
1.0+001	1.075+000	-1.957-002	1.096+000	-1.305-002	1.118+000	-4.877-003	1.141+000	5.077-003	1.165+000	1.677-002
1.1+001	9.672-001	-2.931-002	9.828-001	-2.910-002	9.989-001	-2.788-002	1.016+000	-2.554-002	1.033+000	-2.200-002
1.2+001	8.837-001	-1.957-002	8.972-001	-2.229-002	9.108-001	-2.449-002	9.245-001	-2.610-002	9.384-001	-2.700-002
1.4+001	7.456-001	1.081-002	7.589-001	7.324-003	7.719-001	3.808-003	7.845-001	3.009-004	7.969-001	-3.128-003
1.6+001	6.235-001	3.132-002	6.377-001	2.925-002	6.516-001	2.699-002	6.651-001	2.455-002	6.782-001	2.195-002
1.8+001	5.144-001	3.970-002	5.289-001	3.907-002	5.432-001	3.824-002	5.572-001	3.723-002	5.709-001	3.602-002
2.0+001	4.199-001	4.044-002	4.340-001	4.078-002	4.479-001	4.097-002	4.616-001	4.103-002	4.752-001	4.092-002
2.2+001	3.407-001	3.738-002	3.537-001	3.826-002	3.666-001	3.905-002	3.796-001	3.977-002	3.925-001	4.035-002
2.5+001	2.477-001	3.046-002	2.587-001	3.163-002	2.697-001	3.278-002	2.809-001	3.391-002	2.921-001	3.497-002
2.8+001	1.801-001	2.363-002	1.890-001	2.479-002	1.981-001	2.595-002	2.074-001	2.712-002	2.167-001	2.827-002
3.1+001	1.315-001	1.796-002	1.386-001	1.898-002	1.459-001	2.001-002	1.533-001	2.108-002	1.610-001	2.214-002
3.5+001	8.716-002	1.233-002	9.233-002	1.312-002	9.769-002	1.394-002	1.032-001	1.480-002	1.089-001	1.567-002
4.0+001	5.290-002	7.698-003	5.636-002	8.255-003	5.997-002	8.839-003	6.374-002	9.453-003	6.764-002	1.009-002
4.5+001	3.255-002	4.843-003	3.488-002	5.227-003	3.732-002	5.633-003	3.987-002	6.063-003	4.254-002	6.512-003
5.0+001	2.021-002	3.070-003	2.178-002	3.334-003	2.344-002	3.615-003	2.519-002	3.915-003	2.702-002	4.230-003
6.0+001	7.771-003	1.241-003	8.500-003	1.367-003	9.279-003	1.503-003	1.011-002	1.650-003	1.099-002	1.807-003
7.0+001	2.719-003	4.775-004	3.062-003	5.386-004	3.434-003	6.054-004	3.835-003	6.785-004	4.268-003	7.574-004
8.0+001	5.950-004	1.460-004	7.535-004	1.754-004	9.286-004	2.081-004	1.121-003	2.444-004	1.333-003	2.844-004
9.0+001	-2.949-004	4.510-007	-2.272-004	1.393-005	-1.496-004	2.936-005	-6.139-005	4.691-005	3.829-005	6.673-005
1.0+002	-6.413-004	-6.132-005	-6.192-004	-5.601-005	-5.910-004	-4.953-005	-5.563-004	-4.180-005	-5.144-004	-3.263-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	66 Dy total	66 Dy without K-shell	67 Ho total	67 Ho without K-shell	68 Er total	68 Er without K-shell	69 Tm total	69 Tm without K-shell	70 Yb total	70 Yb without K-shell
.0	6.541+001	6.360+001	6.639+001	6.459+001	6.737+001	6.557+001	6.835+001	6.655+001	6.933+001	6.753+001
1.0-002	6.536+001	6.354+001	6.634+001	6.453+001	6.731+001	6.551+001	6.828+001	6.650+001	6.926+001	6.748+001
2.0-002	6.518+001	6.337+001	6.616+001	6.436+001	6.715+001	6.535+001	6.813+001	6.633+001	6.911+001	6.732+001
3.0-002	6.490+001	6.309+001	6.589+001	6.408+001	6.688+001	6.508+001	6.786+001	6.607+001	6.885+001	6.706+001
4.0-002	6.453+001	6.272+001	6.552+001	6.372+001	6.652+001	6.471+001	6.751+001	6.571+001	6.850+001	6.671+001
5.0-002	6.407+001	6.226+001	6.508+001	6.327+001	6.608+001	6.427+001	6.708+001	6.528+001	6.807+001	6.628+001
6.0-002	6.356+001	6.175+001	6.457+001	6.276+001	6.557+001	6.377+001	6.658+001	6.478+001	6.758+001	6.579+001
7.0-002	6.299+001	6.118+001	6.401+001	6.220+001	6.502+001	6.322+001	6.603+001	6.424+001	6.705+001	6.525+001
8.0-002	6.239+001	6.058+001	6.341+001	6.160+001	6.443+001	6.263+001	6.545+001	6.365+001	6.647+001	6.468+001
9.0-002	6.176+001	5.995+001	6.279+001	6.098+001	6.381+001	6.201+001	6.484+001	6.304+001	6.586+001	6.407+001
1.0-001	6.112+001	5.930+001	6.215+001	6.034+001	6.318+001	6.138+001	6.421+001	6.241+001	6.524+001	6.345+001
1.1-001	6.046+001	5.865+001	6.150+001	5.969+001	6.253+001	6.073+001	6.356+001	6.177+001	6.460+001	6.281+001
1.2-001	5.979+001	5.798+001	6.083+001	5.903+001	6.187+001	6.007+001	6.291+001	6.111+001	6.395+001	6.216+001
1.3-001	5.912+001	5.731+001	6.017+001	5.836+001	6.121+001	5.941+001	6.225+001	6.045+001	6.329+001	6.150+001
1.4-001	5.845+001	5.664+001	5.949+001	5.769+001	6.054+001	5.874+001	6.158+001	5.978+001	6.262+001	6.083+001
1.5-001	5.777+001	5.596+001	5.881+001	5.701+001	5.986+001	5.806+001	6.091+001	5.911+001	6.195+001	6.016+001
1.6-001	5.709+001	5.527+001	5.813+001	5.633+001	5.918+001	5.738+001	6.023+001	5.843+001	6.127+001	5.948+001
1.7-001	5.640+001	5.459+001	5.745+001	5.564+001	5.850+001	5.670+001	5.955+001	5.775+001	6.059+001	5.880+001
1.8-001	5.571+001	5.390+001	5.676+001	5.495+001	5.781+001	5.601+001	5.886+001	5.706+001	5.991+001	5.812+001
1.9-001	5.502+001	5.321+001	5.607+001	5.426+001	5.712+001	5.532+001	5.817+001	5.637+001	5.922+001	5.743+001
2.0-001	5.433+001	5.251+001	5.537+001	5.357+001	5.642+001	5.462+001	5.747+001	5.568+001	5.852+001	5.673+001
2.2-001	5.294+001	5.113+001	5.398+001	5.218+001	5.503+001	5.323+001	5.608+001	5.428+001	5.713+001	5.534+001
2.4-001	5.156+001	4.974+001	5.260+001	5.079+001	5.364+001	5.184+001	5.468+001	5.289+001	5.573+001	5.394+001
2.5-001	5.087+001	4.906+001	5.191+001	5.010+001	5.295+001	5.114+001	5.399+001	5.219+001	5.503+001	5.324+001
2.6-001	5.019+001	4.837+001	5.122+001	4.941+001	5.225+001	5.045+001	5.329+001	5.150+001	5.434+001	5.255+001
2.8-001	4.884+001	4.703+001	4.986+001	4.805+001	5.089+001	4.909+001	5.192+001	5.012+001	5.295+001	5.116+001
3.0-001	4.752+001	4.571+001	4.853+001	4.672+001	4.954+001	4.774+001	5.056+001	4.877+001	5.159+001	4.980+001
3.2-001	4.623+001	4.442+001	4.722+001	4.542+001	4.823+001	4.642+001	4.923+001	4.744+001	5.025+001	4.846+001
3.4-001	4.498+001	4.317+001	4.596+001	4.415+001	4.694+001	4.514+001	4.794+001	4.614+001	4.894+001	4.715+001
3.5-001	4.437+001	4.256+001	4.534+001	4.354+001	4.632+001	4.452+001	4.730+001	4.551+001	4.830+001	4.651+001
3.6-001	4.378+001	4.197+001	4.473+001	4.293+001	4.570+001	4.393+001	4.668+001	4.488+001	4.766+001	4.587+001
3.8-001	4.261+001	4.080+001	4.355+001	4.174+001	4.450+001	4.270+001	4.546+001	4.366+001	4.642+001	4.463+001
4.0-001	4.149+001	3.968+001	4.241+001	4.060+001	4.333+001	4.153+001	4.427+001	4.248+001	4.522+001	4.343+001
4.2-001	4.041+001	3.860+001	4.131+001	3.950+001	4.221+001	4.041+001	4.313+001	4.134+001	4.406+001	4.227+001
4.4-001	3.938+001	3.757+001	4.025+001	3.844+001	4.113+001	3.933+001	4.203+001	4.023+001	4.294+001	4.115+001
4.5-001	3.887+001	3.706+001	3.973+001	3.793+001	4.061+001	3.881+001	4.149+001	3.970+001	4.239+001	4.060+001
4.6-001	3.838+001	3.657+001	3.923+001	3.742+001	4.009+001	3.829+001	4.097+001	3.917+001	4.186+001	4.007+001
4.8-001	3.742+001	3.561+001	3.825+001	3.644+001	3.909+001	3.729+001	3.994+001	3.815+001	4.081+001	3.902+001
5.0-001	3.650+001	3.469+001	3.730+001	3.550+001	3.812+001	3.632+001	3.895+001	3.716+001	3.980+001	3.801+001
5.5-001	3.433+001	3.252+001	3.508+001	3.328+001	3.585+001	3.405+001	3.663+001	3.484+001	3.743+001	3.564+001
6.0-001	3.235+001	3.054+001	3.305+001	3.124+001	3.377+001	3.197+001	3.450+001	3.270+001	3.525+001	3.346+001
6.5-001	3.052+001	2.871+001	3.117+001	2.937+001	3.185+001	3.005+001	3.253+001	3.074+001	3.323+001	3.145+001
7.0-001	2.883+001	2.702+001	2.944+001	2.764+001	3.007+001	2.828+001	3.072+001	2.893+001	3.138+001	2.959+001
8.0-001	2.584+001	2.403+001	2.637+001	2.457+001	2.692+001	2.513+001	2.749+001	2.570+001	2.807+001	2.628+001
9.0-001	2.332+001	2.151+001	2.378+001	2.198+001	2.426+001	2.246+001	2.475+001	2.296+001	2.525+001	2.346+001
1.0+000	2.123+001	1.943+001	2.162+001	1.982+001	2.203+001	2.024+001	2.245+001	2.066+001	2.288+001	2.110+001
1.1+000	1.952+001	1.772+001	1.985+001	1.806+001	2.020+001	1.840+001	2.055+001	1.876+001	2.092+001	1.914+001
1.2+000	1.813+001	1.633+001	1.841+001	1.661+001	1.870+001	1.691+001	1.900+001	1.721+001	1.930+001	1.753+001
1.3+000	1.698+001	1.519+001	1.722+001	1.543+001	1.747+001	1.568+001	1.772+001	1.594+001	1.798+001	1.620+001
1.4+000	1.601+001	1.422+001	1.623+001	1.444+001	1.644+001	1.466+001	1.666+001	1.488+001	1.689+001	1.511+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	66 Dy total	66 Dy without K-shell	67 Ho total	67 Ho without K-shell	68 Er total	68 Er without K-shell	69 Tm total	69 Tm without K-shell	70 Yb total	70 Yb without K-shell
1.5+000	1.517+001	1.338+001	1.537+001	1.358+001	1.557+001	1.378+001	1.576+001	1.399+001	1.596+001	1.419+001
1.6+000	1.440+001	1.261+001	1.459+001	1.281+001	1.479+001	1.301+001	1.497+001	1.320+001	1.516+001	1.339+001
1.7+000	1.368+001	1.189+001	1.388+001	1.209+001	1.407+001	1.229+001	1.425+001	1.248+001	1.444+001	1.267+001
1.8+000	1.298+001	1.120+001	1.319+001	1.141+001	1.339+001	1.161+001	1.358+001	1.181+001	1.376+001	1.200+001
1.9+000	1.231+001	1.053+001	1.252+001	1.075+001	1.273+001	1.096+001	1.293+001	1.116+001	1.312+001	1.136+001
2.0+000	1.165+001	9.869+000	1.187+001	1.010+001	1.209+001	1.032+001	1.230+001	1.053+001	1.250+001	1.074+001
2.2+000	1.037+001	8.605+000	1.061+001	8.849+000	1.085+001	9.086+000	1.107+001	9.314+000	1.129+001	9.535+000
2.4+000	9.202+000	7.441+000	9.444+000	7.686+000	9.681+000	7.927+000	9.913+000	8.163+000	1.014+001	8.393+000
2.5+000	8.666+000	6.909+000	8.903+000	7.149+000	9.137+000	7.387+000	9.368+000	7.622+000	9.595+000	7.852+000
2.6+000	8.167+000	6.414+000	8.396+000	6.647+000	8.624+000	6.878+000	8.851+000	7.109+000	9.076+000	7.336+000
2.8+000	7.286+000	5.543+000	7.493+000	5.753+000	7.702+000	5.965+000	7.913+000	6.179+000	8.125+000	6.394+000
3.0+000	6.562+000	4.829+000	6.741+000	5.010+000	6.925+000	5.196+000	7.112+000	5.387+000	7.303+000	5.581+000
3.3+000	5.736+000	4.019+000	5.872+000	4.157+000	6.015+000	4.301+000	6.163+000	4.452+000	6.317+000	4.608+000
3.5+000	5.325+000	3.619+000	5.437+000	3.733+000	5.555+000	3.852+000	5.678+000	3.978+000	5.808+000	4.109+000
3.6+000	5.152+000	3.452+000	5.254+000	3.555+000	5.361+000	3.663+000	5.473+000	3.778+000	5.591+000	3.898+000
3.9+000	4.730+000	3.048+000	4.808+000	3.127+000	4.890+000	3.210+000	4.975+000	3.296+000	5.065+000	3.387+000
4.0+000	4.613+000	2.937+000	4.686+000	3.011+000	4.761+000	3.087+000	4.840+000	3.167+000	4.922+000	3.251+000
4.2+000	4.402+000	2.740+000	4.468+000	2.805+000	4.535+000	2.873+000	4.603+000	2.942+000	4.575+000	3.015+000
4.6+000	4.036+000	2.402+000	4.098+000	2.462+000	4.158+000	2.522+000	4.218+000	2.582+000	4.277+000	2.642+000
5.0+000	3.700+000	2.095+000	3.765+000	2.158+000	3.827+000	2.219+000	3.888+000	2.279+000	3.946+000	2.337+000
5.4+000	3.374+000	1.800+000	3.444+000	1.867+000	3.512+000	1.933+000	3.576+000	1.996+000	3.639+000	2.057+000
5.5+000	3.294+000	1.727+000	3.365+000	1.796+000	3.434+000	1.862+000	3.500+000	1.927+000	3.564+000	1.989+000
5.8+000	3.057+000	1.515+000	3.131+000	1.585+000	3.203+000	1.655+000	3.273+000	1.722+000	3.340+000	1.787+000
6.0+000	2.904+000	1.379+000	2.979+000	1.450+000	3.053+000	1.520+000	3.124+000	1.588+000	3.193+000	1.655+000
6.2+000	2.756+000	1.247+000	2.832+000	1.319+000	2.906+000	1.389+000	2.978+000	1.458+000	3.049+000	1.526+000
6.6+000	2.478+000	1.004+000	2.552+000	1.073+000	2.625+000	1.141+000	2.698+000	1.210+000	2.770+000	1.278+000
7.0+000	2.227+000	7.886-001	2.298+000	8.529-001	2.368+000	9.179-001	2.439+000	9.834-001	2.509+000	1.049+000
7.4+000	2.007+000	6.044-001	2.072+000	6.625-001	2.138+000	7.219-001	2.204+000	7.825-001	2.271+000	8.440-001
8.0+000	1.732+000	3.847-001	1.787+000	4.319-001	1.844+000	4.812-001	1.902+000	5.324-001	1.962+000	5.852-001
9.0+000	1.403+000	1.487-001	1.442+000	1.782-001	1.483+000	2.100-001	1.526+000	2.441-001	1.571+000	2.803-001
1.0+001	1.191+000	3.038-002	1.218+000	4.593-002	1.247+000	6.347-002	1.277+000	8.303-002	1.308+000	1.046-001
1.1+001	1.051+000	-1.717-002	1.071+000	-1.095-002	1.091+000	-3.281-003	1.112+000	5.925-003	1.134+000	1.673-002
1.2+001	9.527-001	-2.714-002	9.674-001	-2.642-002	9.826-001	-2.475-002	9.983-001	-2.206-002	1.015+000	-1.826-002
1.4+001	8.090-001	-6.447-003	8.210-001	-9.593-003	8.328-001	-1.251-002	8.446-001	-1.514-002	8.563-001	-1.741-002
1.6+001	6.910-001	1.922-002	7.034-001	1.638-002	7.154-001	1.346-002	7.272-001	1.048-002	7.387-001	7.486-003
1.8+001	5.843-001	3.463-002	5.974-001	3.306-002	6.102-001	3.133-002	6.227-001	2.944-002	6.349-001	2.740-002
2.0+001	4.887-001	4.067-002	5.019-001	4.025-002	5.149-001	3.969-002	5.278-001	3.896-002	5.404-001	3.807-002
2.2+001	4.053-001	4.084-002	4.181-001	4.122-002	4.308-001	4.148-002	4.434-001	4.162-002	4.558-001	4.164-002
2.5+001	3.035-001	3.600-002	3.148-001	3.698-002	3.263-001	3.790-002	3.377-001	3.876-002	3.492-001	3.955-002
2.8+001	2.263-001	2.942-002	2.359-001	3.056-002	2.457-001	3.169-002	2.556-001	3.281-002	2.656-001	3.389-002
3.1+001	1.688-001	2.323-002	1.768-001	2.433-002	1.849-001	2.544-002	1.932-001	2.656-002	2.016-001	2.768-002
3.5+001	1.148-001	1.657-002	1.208-001	1.750-002	1.270-001	1.845-002	1.334-001	1.943-002	1.399-001	2.042-002
4.0+001	7.169-002	1.075-002	7.589-002	1.144-002	8.025-002	1.216-002	8.475-002	1.291-002	8.941-002	1.368-002
4.5+001	4.533-002	6.986-003	4.825-002	7.484-003	5.129-002	8.006-003	5.445-002	8.554-003	5.774-002	9.127-003
5.0+001	2.895-002	4.566-003	3.098-002	4.921-003	3.310-002	5.296-003	3.533-002	5.692-003	3.766-002	6.109-003
6.0+001	1.193-002	1.975-003	1.293-002	2.156-003	1.398-002	2.349-003	1.510-002	2.555-003	1.629-002	2.775-003
7.0+001	4.733-003	8.433-004	5.234-003	9.364-004	5.771-003	1.037-003	6.346-003	1.146-003	6.961-003	1.264-003
8.0+001	1.564-003	3.285-004	1.817-003	3.769-004	2.092-003	4.301-004	2.391-003	4.883-004	2.714-003	5.518-004
9.0+001	1.502-004	8.904-005	2.752-004	1.140-004	4.142-004	1.420-004	5.682-004	1.730-004	7.379-004	2.074-004
1.0+002	-4.650-004	-2.194-005	-4.073-004	-9.565-006	-3.406-004	4.641-006	-2.644-004	2.084-005	-1.780-004	3.920-005

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	71 Lu total	71 Lu without K-shell	72 Hf total	72 Hf without K-shell	73 Ta total	73 Ta without K-shell	74 U total	74 U without K-shell	75 Re total	75 Re without K-shell
.0	7.030+001	6.852+001	7.128+001	6.950+001	7.225+001	7.048+001	7.323+001	7.146+001	7.420+001	7.244+001
1.0-002	7.023+001	6.846+001	7.121+001	6.944+001	7.219+001	7.042+001	7.318+001	7.141+001	7.416+001	7.239+001
2.0-002	7.008+001	6.830+001	7.106+001	6.928+001	7.204+001	7.027+001	7.302+001	7.125+001	7.400+001	7.224+001
3.0-002	6.981+001	6.803+001	7.080+001	6.902+001	7.178+001	7.001+001	7.277+001	7.100+001	7.375+001	7.199+001
4.0-002	6.945+001	6.767+001	7.044+001	6.866+001	7.143+001	6.966+001	7.242+001	7.065+001	7.341+001	7.165+001
5.0-002	6.901+001	6.723+001	7.000+001	6.822+001	7.100+001	6.922+001	7.199+001	7.022+001	7.299+001	7.122+001
6.0-002	6.851+001	6.672+001	6.949+001	6.771+001	7.049+001	6.872+001	7.149+001	6.972+001	7.249+001	7.073+001
7.0-002	6.795+001	6.617+001	6.893+001	6.715+001	6.993+001	6.815+001	7.093+001	6.916+001	7.193+001	7.017+001
8.0-002	6.736+001	6.557+001	6.832+001	6.654+001	6.932+001	6.754+001	7.032+001	6.855+001	7.132+001	6.956+001
9.0-002	6.673+001	6.495+001	6.768+001	6.590+001	6.867+001	6.689+001	6.967+001	6.790+001	7.067+001	6.890+001
1.0-001	6.609+001	6.430+001	6.702+001	6.524+001	6.799+001	6.622+001	6.898+001	6.721+001	6.998+001	6.821+001
1.1-001	6.543+001	6.364+001	6.634+001	6.456+001	6.730+001	6.552+001	6.828+001	6.651+001	6.926+001	6.750+001
1.2-001	6.476+001	6.298+001	6.565+001	6.387+001	6.659+001	6.481+001	6.755+001	6.578+001	6.853+001	6.677+001
1.3-001	6.409+001	6.230+001	6.496+001	6.318+001	6.587+001	6.410+001	6.682+001	6.505+001	6.778+001	6.602+001
1.4-001	6.341+001	6.162+001	6.426+001	6.248+001	6.515+001	6.338+001	6.608+001	6.431+001	6.703+001	6.527+001
1.5-001	6.273+001	6.094+001	6.356+001	6.177+001	6.443+001	6.265+001	6.534+001	6.357+001	6.627+001	6.451+001
1.6-001	6.204+001	6.026+001	6.285+001	6.107+001	6.371+001	6.193+001	6.460+001	6.283+001	6.551+001	6.375+001
1.7-001	6.136+001	5.957+001	6.215+001	6.037+001	6.299+001	6.121+001	6.386+001	6.209+001	6.475+001	6.299+001
1.8-001	6.067+001	5.889+001	6.145+001	5.967+001	6.227+001	6.049+001	6.312+001	6.135+001	6.400+001	6.223+001
1.9-001	5.998+001	5.820+001	6.076+001	5.898+001	6.156+001	5.978+001	6.239+001	6.062+001	6.325+001	6.148+001
2.0-001	5.929+001	5.751+001	6.006+001	5.828+001	6.085+001	5.907+001	6.166+001	5.989+001	6.250+001	6.074+001
2.2-001	5.791+001	5.613+001	5.867+001	5.689+001	5.944+001	5.766+001	6.022+001	5.845+001	6.103+001	5.926+001
2.4-001	5.653+001	5.475+001	5.729+001	5.551+001	5.804+001	5.627+001	5.881+001	5.704+001	5.958+001	5.781+001
2.5-001	5.584+001	5.406+001	5.660+001	5.482+001	5.735+001	5.558+001	5.810+001	5.634+001	5.887+001	5.710+001
2.6-001	5.516+001	5.337+001	5.592+001	5.414+001	5.666+001	5.489+001	5.741+001	5.564+001	5.816+001	5.640+001
2.8-001	5.379+001	5.201+001	5.456+001	5.278+001	5.531+001	5.353+001	5.604+001	5.427+001	5.677+001	5.501+001
3.0-001	5.244+001	5.066+001	5.322+001	5.144+001	5.397+001	5.219+001	5.469+001	5.292+001	5.541+001	5.365+001
3.2-001	5.111+001	4.933+001	5.191+001	5.013+001	5.265+001	5.088+001	5.337+001	5.160+001	5.408+001	5.232+001
3.4-001	4.981+001	4.803+001	5.061+001	4.883+001	5.136+001	4.959+001	5.208+001	5.031+001	5.278+001	5.102+001
3.5-001	4.917+001	4.739+001	4.997+001	4.819+001	5.073+001	4.895+001	5.145+001	4.968+001	5.214+001	5.038+001
3.6-001	4.854+001	4.675+001	4.934+001	4.756+001	5.010+001	4.832+001	5.082+001	4.905+001	5.151+001	4.975+001
3.8-001	4.730+001	4.551+001	4.811+001	4.633+001	4.887+001	4.709+001	4.959+001	4.782+001	5.028+001	4.852+001
4.0-001	4.609+001	4.431+001	4.690+001	4.512+001	4.766+001	4.589+001	4.839+001	4.662+001	4.908+001	4.732+001
4.2-001	4.492+001	4.314+001	4.573+001	4.395+001	4.649+001	4.472+001	4.722+001	4.545+001	4.791+001	4.615+001
4.4-001	4.379+001	4.201+001	4.460+001	4.282+001	4.536+001	4.359+001	4.608+001	4.431+001	4.678+001	4.501+001
4.5-001	4.324+001	4.145+001	4.404+001	4.226+001	4.480+001	4.303+001	4.553+001	4.376+001	4.622+001	4.446+001
4.6-001	4.270+001	4.091+001	4.350+001	4.172+001	4.426+001	4.248+001	4.498+001	4.321+001	4.567+001	4.391+001
4.8-001	4.164+001	3.985+001	4.243+001	4.065+001	4.319+001	4.141+001	4.391+001	4.214+001	4.460+001	4.284+001
5.0-001	4.061+001	3.883+001	4.140+001	3.962+001	4.215+001	4.038+001	4.287+001	4.111+001	4.357+001	4.181+001
5.5-001	3.820+001	3.642+001	3.896+001	3.719+001	3.970+001	3.793+001	4.042+001	3.865+001	4.111+001	3.935+001
6.0-001	3.599+001	3.420+001	3.672+001	3.494+001	3.744+001	3.567+001	3.815+001	3.638+001	3.883+001	3.707+001
6.5-001	3.394+001	3.216+001	3.465+001	3.287+001	3.535+001	3.358+001	3.604+001	3.427+001	3.672+001	3.496+001
7.0-001	3.205+001	3.027+001	3.273+001	3.095+001	3.341+001	3.164+001	3.408+001	3.232+001	3.475+001	3.299+001
8.0-001	2.867+001	2.689+001	2.930+001	2.752+001	2.993+001	2.816+001	3.056+001	2.880+001	3.120+001	2.944+001
9.0-001	2.579+001	2.401+001	2.635+001	2.458+001	2.693+001	2.516+001	2.751+001	2.575+001	2.811+001	2.635+001
1.0+000	2.335+001	2.158+001	2.385+001	2.207+001	2.436+001	2.259+001	2.488+001	2.312+001	2.542+001	2.367+001
1.1+000	2.132+001	1.954+001	2.174+001	1.997+001	2.219+001	2.042+001	2.265+001	2.089+001	2.312+001	2.137+001
1.2+000	1.964+001	1.787+001	2.000+001	1.823+001	2.037+001	1.861+001	2.077+001	1.901+001	2.118+001	1.942+001
1.3+000	1.826+001	1.649+001	1.856+001	1.679+001	1.888+001	1.711+001	1.921+001	1.745+001	1.955+001	1.780+001
1.4+000	1.713+001	1.536+001	1.738+001	1.561+001	1.764+001	1.588+001	1.791+001	1.616+001	1.820+001	1.645+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x	71 Lu		72 Hf		73 Ta		74 W		75 Re	
sin(theta/2) /lambda	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell
1.5+000	1.617+001	1.440+001	1.638+001	1.462+001	1.661+001	1.485+001	1.684+001	1.508+001	1.708+001	1.533+001
1.6+000	1.535+001	1.358+001	1.554+001	1.378+001	1.573+001	1.398+001	1.593+001	1.418+001	1.614+001	1.439+001
1.7+000	1.461+001	1.285+001	1.479+001	1.303+001	1.497+001	1.322+001	1.515+001	1.340+001	1.534+001	1.359+001
1.8+000	1.394+001	1.218+001	1.412+001	1.236+001	1.429+001	1.254+001	1.446+001	1.271+001	1.463+001	1.289+001
1.9+000	1.330+001	1.154+001	1.348+001	1.173+001	1.365+001	1.191+001	1.382+001	1.208+001	1.399+001	1.225+001
2.0+000	1.269+001	1.093+001	1.287+001	1.112+001	1.305+001	1.131+001	1.323+001	1.148+001	1.339+001	1.166+001
2.2+000	1.150+001	9.751+000	1.171+001	9.961+000	1.190+001	1.016+001	1.209+001	1.036+001	1.227+001	1.054+001
2.4+000	1.036+001	8.622+000	1.059+001	8.846+000	1.080+001	9.064+000	1.101+001	9.276+000	1.121+001	9.480+000
2.5+000	9.823+000	8.083+000	1.005+001	8.311+000	1.027+001	8.535+000	1.048+001	8.752+000	1.069+001	8.964+000
2.6+000	9.303+000	7.567+000	9.527+000	7.796+000	9.749+000	8.021+000	9.966+000	8.243+000	1.018+001	8.459+000
2.8+000	8.342+000	6.614+000	8.560+000	6.836+000	8.778+000	7.058+000	8.995+000	7.278+000	9.210+000	7.497+000
3.0+000	7.502+000	5.782+000	7.704+000	5.988+000	7.908+000	6.196+000	8.115+000	6.406+000	8.323+000	6.617+000
3.3+000	6.478+000	4.773+000	6.646+000	4.943+000	6.819+000	5.119+000	6.997+000	5.300+000	7.180+000	5.486+000
3.5+000	5.944+000	4.248+000	6.087+000	4.393+000	6.236+000	4.545+000	6.391+000	4.703+000	6.551+000	4.866+000
3.6+000	5.715+000	4.024+000	5.846+000	4.158+000	5.983+000	4.297+000	6.127+000	4.443+000	6.276+000	4.595+000
3.9+000	5.159+000	3.483+000	5.258+000	3.585+000	5.363+000	3.692+000	5.474+000	3.805+000	5.591+000	3.924+000
4.0+000	5.009+000	3.339+000	5.100+000	3.431+000	5.196+000	3.529+000	5.297+000	3.632+000	5.403+000	3.741+000
4.2+000	4.748+000	3.089+000	4.825+000	3.168+000	4.906+000	3.250+000	4.991+000	3.337+000	5.080+000	3.428+000
4.6+000	4.337+000	2.702+000	4.398+000	2.763+000	4.459+000	2.826+000	4.523+000	2.890+000	4.588+000	2.957+000
5.0+000	4.004+000	2.394+000	4.060+000	2.450+000	4.115+000	2.505+000	4.170+000	2.561+000	4.225+000	2.616+000
5.4+000	3.700+000	2.117+000	3.758+000	2.174+000	3.814+000	2.230+000	3.869+000	2.284+000	3.922+000	2.337+000
5.5+000	3.626+000	2.049+000	3.685+000	2.108+000	3.742+000	2.164+000	3.797+000	2.219+000	3.851+000	2.273+000
5.8+000	3.406+000	1.851+000	3.469+000	1.912+000	3.529+000	1.971+000	3.587+000	2.029+000	3.644+000	2.084+000
6.0+000	3.261+000	1.720+000	3.326+000	1.784+000	3.389+000	1.845+000	3.450+000	1.904+000	3.508+000	1.962+000
6.2+000	3.118+000	1.592+000	3.185+000	1.657+000	3.250+000	1.720+000	3.313+000	1.781+000	3.374+000	1.841+000
6.6+000	2.841+000	1.345+000	2.910+000	1.412+000	2.978+000	1.477+000	3.045+000	1.541+000	3.109+000	1.603+000
7.0+000	2.579+000	1.115+000	2.649+000	1.181+000	2.718+000	1.246+000	2.786+000	1.311+000	2.852+000	1.375+000
7.4+000	2.339+000	9.066-001	2.407+000	9.697-001	2.474+000	1.033+000	2.542+000	1.096+000	2.608+000	1.159+000
8.0+000	2.023+000	6.399-001	2.085+000	6.959-001	2.147+000	7.531-001	2.210+000	8.112-001	2.274+000	8.700-001
9.0+000	1.618+000	3.189-001	1.666+000	3.596-001	1.716+000	4.023-001	1.767+000	4.468-001	1.820+000	4.931-001
1.0+001	1.342+000	1.284-001	1.377+000	1.543-001	1.414+000	1.822-001	1.452+000	2.122-001	1.492+000	2.443-001
1.1+001	1.158+000	2.925-002	1.183+000	4.350-002	1.209+000	5.954-002	1.236+000	7.740-002	1.266+000	9.711-002
1.2+001	1.032+000	-1.327-002	1.050+000	-7.003-003	1.069+000	6.046-004	1.089+000	9.621-003	1.110+000	2.011-002
1.4+001	8.681-001	-1.927-002	8.801-001	-2.066-002	8.922-001	-2.149-002	9.046-001	-2.170-002	9.173-001	-2.122-002
1.6+001	7.500-001	4.502-003	7.610-001	1.571-003	7.719-001	-1.265-003	7.826-001	-3.963-003	7.932-001	-6.474-003
1.8+001	6.468-001	2.523-002	6.584-001	2.295-002	6.697-001	2.057-002	6.808-001	1.811-002	6.916-001	1.560-002
2.0+001	5.527-001	3.704-002	5.649-001	3.585-002	5.768-001	3.452-002	5.884-001	3.305-002	5.998-001	3.145-002
2.2+001	4.682-001	4.153-002	4.803-001	4.129-002	4.924-001	4.092-002	5.042-001	4.042-002	5.159-001	3.978-002
2.5+001	3.606-001	4.029-002	3.721-001	4.094-002	3.835-001	4.151-002	3.949-001	4.199-002	4.062-001	4.239-002
2.8+001	2.757-001	3.497-002	2.858-001	3.601-002	2.960-001	3.701-002	3.063-001	3.797-002	3.166-001	3.889-002
3.1+001	2.102-001	2.882-002	2.189-001	2.995-002	2.277-001	3.107-002	2.366-001	3.219-002	2.457-001	3.330-002
3.5+001	1.466-001	2.145-002	1.535-001	2.249-002	1.605-001	2.355-002	1.677-001	2.463-002	1.750-001	2.572-002
4.0+001	9.422-002	1.449-002	9.918-002	1.532-002	1.043-001	1.618-002	1.096-001	1.706-002	1.150-001	1.798-002
4.5+001	6.117-002	9.728-003	6.473-002	1.036-002	6.842-002	1.101-002	7.224-002	1.170-002	7.620-002	1.241-002
5.0+001	4.010-002	6.551-003	4.265-002	7.016-003	4.530-002	7.505-003	4.808-002	8.018-003	5.096-002	8.556-003
6.0+001	1.754-002	3.011-003	1.886-002	3.262-003	2.026-002	3.529-003	2.173-002	3.813-003	2.327-002	4.115-003
7.0+001	7.618-003	1.391-003	8.320-003	1.527-003	9.067-003	1.675-003	9.863-003	1.833-003	1.071-002	2.002-003
8.0+001	3.065-003	6.212-004	3.443-003	6.969-004	3.850-003	7.791-004	4.289-003	8.683-004	4.760-003	9.651-004
9.0+001	9.248-004	2.456-004	1.130-003	2.877-004	1.353-003	3.341-004	1.598-003	3.850-004	1.863-003	4.409-004
1.0+002	-8.047-005	5.995-005	2.886-005	8.326-005	1.508-004	1.094-004	2.863-004	1.385-004	4.363-004	1.708-004

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	76 Os total	76 Os without K-shell	77 Ir total	77 Ir without K-shell	78 Pt total	78 Pt without K-shell	79 Au total	79 Au without K-shell	80 Hg total	80 Hg without K-shell
.0	7.518+001	7.342+001	7.615+001	7.440+001	7.713+001	7.538+001	7.810+001	7.636+001	7.907+001	7.734+001
1.0-002	7.515+001	7.337+001	7.612+001	7.435+001	7.710+001	7.534+001	7.807+001	7.632+001	7.903+001	7.729+001
2.0-002	7.498+001	7.322+001	7.596+001	7.421+001	7.694+001	7.520+001	7.792+001	7.618+001	7.889+001	7.715+001
3.0-002	7.474+001	7.298+001	7.572+001	7.397+001	7.672+001	7.497+001	7.770+001	7.596+001	7.866+001	7.693+001
4.0-002	7.440+001	7.264+001	7.539+001	7.364+001	7.640+001	7.466+001	7.739+001	7.565+001	7.835+001	7.662+001
5.0-002	7.398+001	7.223+001	7.498+001	7.323+001	7.601+001	7.427+001	7.701+001	7.527+001	7.796+001	7.622+001
6.0-002	7.349+001	7.174+001	7.450+001	7.274+001	7.555+001	7.380+001	7.655+001	7.481+001	7.750+001	7.576+001
7.0-002	7.294+001	7.118+001	7.395+001	7.219+001	7.502+001	7.328+001	7.603+001	7.429+001	7.697+001	7.523+001
8.0-002	7.233+001	7.057+001	7.334+001	7.159+001	7.444+001	7.269+001	7.545+001	7.371+001	7.638+001	7.464+001
9.0-002	7.168+001	6.992+001	7.269+001	7.094+001	7.380+001	7.206+001	7.482+001	7.308+001	7.574+001	7.400+001
1.0-001	7.098+001	6.923+001	7.200+001	7.024+001	7.313+001	7.138+001	7.415+001	7.241+001	7.505+001	7.332+001
1.1-001	7.026+001	6.851+001	7.127+001	6.952+001	7.242+001	7.067+001	7.344+001	7.170+001	7.433+001	7.260+001
1.2-001	6.952+001	6.776+001	7.053+001	6.877+001	7.168+001	6.993+001	7.270+001	7.096+001	7.358+001	7.184+001
1.3-001	6.877+001	6.701+001	6.976+001	6.801+001	7.092+001	6.917+001	7.194+001	7.020+001	7.280+001	7.107+001
1.4-001	6.800+001	6.624+001	6.898+001	6.723+001	7.014+001	6.840+001	7.116+001	6.942+001	7.201+001	7.027+001
1.5-001	6.722+001	6.547+001	6.820+001	6.645+001	6.935+001	6.761+001	7.036+001	6.862+001	7.120+001	6.946+001
1.6-001	6.645+001	6.469+001	6.741+001	6.566+001	6.855+001	6.681+001	6.955+001	6.781+001	7.038+001	6.864+001
1.7-001	6.567+001	6.391+001	6.662+001	6.486+001	6.775+001	6.600+001	6.873+001	6.699+001	6.955+001	6.782+001
1.8-001	6.490+001	6.314+001	6.583+001	6.407+001	6.694+001	6.519+001	6.791+001	6.617+001	6.872+001	6.699+001
1.9-001	6.413+001	6.237+001	6.504+001	6.329+001	6.613+001	6.439+001	6.709+001	6.535+001	6.789+001	6.616+001
2.0-001	6.337+001	6.161+001	6.426+001	6.251+001	6.533+001	6.358+001	6.627+001	6.453+001	6.706+001	6.533+001
2.2-001	6.186+001	6.010+001	6.271+001	6.096+001	6.373+001	6.198+001	6.464+001	6.290+001	6.542+001	6.368+001
2.4-001	6.038+001	5.862+001	6.120+001	5.944+001	6.216+001	6.041+001	6.304+001	6.129+001	6.380+001	6.207+001
2.5-001	5.965+001	5.789+001	6.045+001	5.870+001	6.138+001	5.963+001	6.224+001	6.050+001	6.301+001	6.127+001
2.6-001	5.893+001	5.717+001	5.972+001	5.796+001	6.062+001	5.887+001	6.146+001	5.972+001	6.222+001	6.048+001
2.8-001	5.751+001	5.575+001	5.827+001	5.652+001	5.912+001	5.737+001	5.993+001	5.819+001	6.068+001	5.894+001
3.0-001	5.613+001	5.437+001	5.687+001	5.511+001	5.766+001	5.591+001	5.844+001	5.670+001	5.918+001	5.744+001
3.2-001	5.479+001	5.303+001	5.550+001	5.375+001	5.624+001	5.449+001	5.699+001	5.525+001	5.772+001	5.599+001
3.4-001	5.347+001	5.172+001	5.417+001	5.242+001	5.487+001	5.312+001	5.559+001	5.385+001	5.632+001	5.458+001
3.5-001	5.283+001	5.107+001	5.352+001	5.177+001	5.420+001	5.246+001	5.491+001	5.317+001	5.563+001	5.390+001
3.6-001	5.220+001	5.044+001	5.288+001	5.113+001	5.354+001	5.180+001	5.424+001	5.250+001	5.496+001	5.323+001
3.8-001	5.096+001	4.920+001	5.163+001	4.987+001	5.226+001	5.052+001	5.294+001	5.120+001	5.365+001	5.191+001
4.0-001	4.975+001	4.799+001	5.041+001	4.866+001	5.103+001	4.928+001	5.169+001	4.995+001	5.238+001	5.065+001
4.2-001	4.858+001	4.682+001	4.923+001	4.748+001	4.983+001	4.809+001	5.047+001	4.873+001	5.116+001	4.943+001
4.4-001	4.744+001	4.569+001	4.809+001	4.634+001	4.868+001	4.693+001	4.931+001	4.757+001	4.998+001	4.825+001
4.5-001	4.689+001	4.513+001	4.753+001	4.578+001	4.812+001	4.637+001	4.874+001	4.700+001	4.941+001	4.768+001
4.6-001	4.634+001	4.458+001	4.699+001	4.523+001	4.756+001	4.582+001	4.818+001	4.644+001	4.885+001	4.712+001
4.8-001	4.527+001	4.351+001	4.591+001	4.416+001	4.649+001	4.474+001	4.710+001	4.536+001	4.775+001	4.602+001
5.0-001	4.423+001	4.248+001	4.487+001	4.312+001	4.545+001	4.370+001	4.605+001	4.431+001	4.670+001	4.496+001
5.5-001	4.177+001	4.002+001	4.241+001	4.066+001	4.299+001	4.125+001	4.358+001	4.185+001	4.421+001	4.247+001
6.0-001	3.949+001	3.774+001	4.013+001	3.838+001	4.072+001	3.898+001	4.131+001	3.957+001	4.192+001	4.018+001
6.5-001	3.737+001	3.562+001	3.801+001	3.626+001	3.862+001	3.687+001	3.921+001	3.747+001	3.980+001	3.807+001
7.0-001	3.540+001	3.365+001	3.604+001	3.429+001	3.665+001	3.491+001	3.725+001	3.551+001	3.783+001	3.610+001
8.0-001	3.183+001	3.008+001	3.245+001	3.071+001	3.308+001	3.134+001	3.368+001	3.194+001	3.425+001	3.252+001
9.0-001	2.870+001	2.695+001	2.930+001	2.755+001	2.991+001	2.817+001	3.050+001	2.876+001	3.106+001	2.933+001
1.0+000	2.597+001	2.422+001	2.653+001	2.478+001	2.710+001	2.536+001	2.767+001	2.593+001	2.822+001	2.649+001
1.1+000	2.362+001	2.186+001	2.412+001	2.238+001	2.464+001	2.290+001	2.517+001	2.343+001	2.569+001	2.396+001
1.2+000	2.161+001	1.986+001	2.205+001	2.031+001	2.251+001	2.078+001	2.299+001	2.125+001	2.347+001	2.174+001
1.3+000	1.992+001	1.817+001	2.030+001	1.856+001	2.070+001	1.896+001	2.111+001	1.938+001	2.154+001	1.982+001
1.4+000	1.851+001	1.676+001	1.883+001	1.709+001	1.917+001	1.743+001	1.953+001	1.780+001	1.990+001	1.818+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	76 Os total	76 Os without K-shell	77 Ir total	77 Ir without K-shell	78 Pt total	78 Pt without K-shell	79 Au total	79 Au without K-shell	80 Hg total	80 Hg without K-shell
1.5+000	1.734+001	1.559+001	1.761+001	1.587+001	1.789+001	1.616+001	1.819+001	1.646+001	1.851+001	1.679+001
1.6+000	1.636+001	1.462+001	1.659+001	1.485+001	1.682+001	1.509+001	1.708+001	1.535+001	1.735+001	1.562+001
1.7+000	1.553+001	1.379+001	1.572+001	1.399+001	1.592+001	1.419+001	1.614+001	1.441+001	1.637+001	1.465+001
1.8+000	1.480+001	1.306+001	1.498+001	1.324+001	1.515+001	1.343+001	1.534+001	1.362+001	1.553+001	1.382+001
1.9+000	1.415+001	1.242+001	1.432+001	1.259+001	1.448+001	1.275+001	1.465+001	1.293+001	1.482+001	1.310+001
2.0+000	1.356+001	1.182+001	1.372+001	1.199+001	1.387+001	1.215+001	1.403+001	1.231+001	1.419+001	1.247+001
2.2+000	1.245+001	1.072+001	1.262+001	1.089+001	1.278+001	1.106+001	1.294+001	1.122+001	1.309+001	1.138+001
2.4+000	1.140+001	9.677+000	1.158+001	9.866+000	1.176+001	1.005+001	1.193+001	1.022+001	1.209+001	1.039+001
2.5+000	1.089+001	9.168+000	1.108+001	9.366+000	1.127+001	9.558+000	1.145+001	9.741+000	1.162+001	9.916+000
2.6+000	1.039+001	8.670+000	1.059+001	8.875+000	1.078+001	9.074+000	1.097+001	9.265+000	1.115+001	9.449+000
2.8+000	9.422+000	7.713+000	9.631+000	7.926+000	9.835+000	8.135+000	1.003+001	8.338+000	1.023+001	8.535+000
3.0+000	8.530+000	6.829+000	8.737+000	7.040+000	8.943+000	7.249+000	9.146+000	7.456+000	9.345+000	7.660+000
3.3+000	7.366+000	5.676+000	7.555+000	5.869+000	7.747+000	6.064+000	7.940+000	6.261+000	8.133+000	6.458+000
3.5+000	6.717+000	5.035+000	6.888+000	5.209+000	7.062+000	5.387+000	7.240+000	5.569+000	7.421+000	5.754+000
3.6+000	6.431+000	4.753+000	6.591+000	4.917+000	6.756+000	5.085+000	6.925+000	5.257+000	7.098+000	5.434+000
3.9+000	5.713+000	4.049+000	5.841+000	4.179+000	5.975+000	4.316+000	6.114+000	4.459+000	6.258+000	4.606+000
4.0+000	5.515+000	3.856+000	5.633+000	3.977+000	5.757+000	4.103+000	5.886+000	4.235+000	6.021+000	4.373+000
4.2+000	5.174+000	3.524+000	5.274+000	3.626+000	5.378+000	3.733+000	5.488+000	3.846+000	5.604+000	3.965+000
4.6+000	4.657+000	3.027+000	4.728+000	3.101+000	4.803+000	3.178+000	4.882+000	3.259+000	4.966+000	3.344+000
5.0+000	4.280+000	2.673+000	4.336+000	2.730+000	4.394+000	2.789+000	4.454+000	2.851+000	4.516+000	2.914+000
5.4+000	3.974+000	2.390+000	4.025+000	2.442+000	4.076+000	2.493+000	4.127+000	2.545+000	4.179+000	2.598+000
5.5+000	3.903+000	2.325+000	3.954+000	2.377+000	4.005+000	2.427+000	4.055+000	2.478+000	4.105+000	2.530+000
5.8+000	3.698+000	2.138+000	3.750+000	2.190+000	3.801+000	2.241+000	3.851+000	2.291+000	3.899+000	2.340+000
6.0+000	3.564+000	2.017+000	3.619+000	2.071+000	3.671+000	2.123+000	3.721+000	2.173+000	3.771+000	2.223+000
6.2+000	3.432+000	1.898+000	3.489+000	1.953+000	3.542+000	2.007+000	3.595+000	2.059+000	3.646+000	2.110+000
6.6+000	3.172+000	1.664+000	3.232+000	1.723+000	3.290+000	1.780+000	3.346+000	1.835+000	3.401+000	1.889+000
7.0+000	2.918+000	1.437+000	2.981+000	1.499+000	3.043+000	1.558+000	3.102+000	1.617+000	3.161+000	1.674+000
7.4+000	2.674+000	1.222+000	2.739+000	1.284+000	2.802+000	1.345+000	2.865+000	1.405+000	2.926+000	1.464+000
8.0+000	2.338+000	9.293-001	2.401+000	9.889-001	2.464+000	1.048+000	2.527+000	1.108+000	2.589+000	1.167+000
9.0+000	1.874+000	5.409-001	1.929+000	5.902-001	1.984+000	6.406-001	2.041+000	6.923-001	2.098+000	7.451-001
1.0+001	1.534+000	2.783-001	1.577+000	3.142-001	1.621+000	3.518-001	1.667+000	3.913-001	1.714+000	4.326-001
1.1+001	1.296+000	1.187-001	1.328+000	1.421-001	1.361+000	1.674-001	1.396+000	1.946-001	1.433+000	2.237-001
1.2+001	1.132+000	3.213-002	1.155+000	4.573-002	1.180+000	6.094-002	1.206+000	7.780-002	1.233+000	9.637-002
1.4+001	9.304-001	-1.999-002	9.440-001	-1.793-002	9.582-001	-1.496-002	9.729-001	-1.104-002	9.883-001	-6.113-003
1.6+001	8.038-001	-8.752-003	8.143-001	-1.074-002	8.250-001	-1.240-002	8.357-001	-1.366-002	8.465-001	-1.448-002
1.8+001	7.022-001	1.307-002	7.126-001	1.053-002	7.228-001	8.027-003	7.328-001	5.601-003	7.428-001	3.289-003
2.0+001	6.109-001	2.973-002	6.219-001	2.790-002	6.325-001	2.596-002	6.430-001	2.396-002	6.532-001	2.193-002
2.2+001	5.274-001	3.901-002	5.387-001	3.811-002	5.497-001	3.705-002	5.606-001	3.591-002	5.714-001	3.468-002
2.5+001	4.175-001	4.268-002	4.286-001	4.288-002	4.397-001	4.295-002	4.507-001	4.295-002	4.616-001	4.286-002
2.8+001	3.270-001	3.976-002	3.374-001	4.057-002	3.477-001	4.130-002	3.581-001	4.200-002	3.685-001	4.264-002
3.1+001	2.548-001	3.439-002	2.640-001	3.546-002	2.733-001	3.649-002	2.827-001	3.752-002	2.922-001	3.853-002
3.5+001	1.824-001	2.682-002	1.900-001	2.794-002	1.977-001	2.904-002	2.055-001	3.016-002	2.134-001	3.131-002
4.0+001	1.205-001	1.891-002	1.263-001	1.988-002	1.321-001	2.085-002	1.381-001	2.186-002	1.443-001	2.291-002
4.5+001	8.030-002	1.315-002	8.454-002	1.391-002	8.890-002	1.470-002	9.342-002	1.552-002	9.808-002	1.638-002
5.0+001	5.397-002	9.120-003	5.709-002	9.710-003	6.033-002	1.032-002	6.370-002	1.097-002	6.720-002	1.164-002
6.0+001	2.490-002	4.434-003	2.661-002	4.773-003	2.840-002	5.129-003	3.028-002	5.508-003	3.225-002	5.912-003
7.0+001	1.161-002	2.184-003	1.256-002	2.378-003	1.357-002	2.585-003	1.463-002	2.807-003	1.576-002	3.045-003
8.0+001	5.266-003	1.070-003	5.807-003	1.183-003	6.386-003	1.304-003	7.005-003	1.436-003	7.666-003	1.579-003
9.0+001	2.152-003	5.020-004	2.465-003	5.687-004	2.802-003	6.412-004	3.168-003	7.204-004	3.561-003	8.069-004
1.0+002	6.015-004	2.067-004	7.833-004	2.464-004	9.823-004	2.901-004	1.200-003	3.383-004	1.438-003	3.914-004

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	81 Tl total	81 Tl without K-shell	82 Pb total	82 Pb without K-shell	83 Bi total	83 Bi without K-shell	84 Po total	84 Po without K-shell	85 At total	85 At without K-shell
.0	8.004+001	7.831+001	8.101+001	7.929+001	8.198+001	8.027+001	8.295+001	8.124+001	8.392+001	8.222+001
1.0-002	7.998+001	7.826+001	8.094+001	7.923+001	8.190+001	8.021+001	8.287+001	8.118+001	8.384+001	8.216+001
2.0-002	7.984+001	7.811+001	8.080+001	7.908+001	8.176+001	8.004+001	8.273+001	8.102+001	8.369+001	8.199+001
3.0-002	7.959+001	7.786+001	8.054+001	7.882+001	8.149+001	7.977+001	8.245+001	8.074+001	8.341+001	8.171+001
4.0-002	7.925+001	7.752+001	8.019+001	7.846+001	8.112+001	7.940+001	8.207+001	8.036+001	8.303+001	8.133+001
5.0-002	7.882+001	7.709+001	7.975+001	7.802+001	8.066+001	7.894+001	8.160+001	7.989+001	8.255+001	8.085+001
6.0-002	7.832+001	7.660+001	7.923+001	7.751+001	8.012+001	7.840+001	8.105+001	7.934+001	8.199+001	8.029+001
7.0-002	7.776+001	7.604+001	7.865+001	7.693+001	7.951+001	7.780+001	8.042+001	7.871+001	8.136+001	7.965+001
8.0-002	7.715+001	7.542+001	7.801+001	7.629+001	7.885+001	7.713+001	7.974+001	7.803+001	8.066+001	7.895+001
9.0-002	7.649+001	7.476+001	7.732+001	7.560+001	7.814+001	7.642+001	7.900+001	7.729+001	7.990+001	7.820+001
1.0-001	7.579+001	7.406+001	7.660+001	7.488+001	7.739+001	7.567+001	7.823+001	7.652+001	7.911+001	7.741+001
1.1-001	7.505+001	7.332+001	7.584+001	7.412+001	7.661+001	7.490+001	7.743+001	7.572+001	7.829+001	7.658+001
1.2-001	7.430+001	7.257+001	7.507+001	7.334+001	7.581+001	7.410+001	7.661+001	7.489+001	7.744+001	7.573+001
1.3-001	7.352+001	7.179+001	7.427+001	7.255+001	7.500+001	7.328+001	7.577+001	7.406+001	7.657+001	7.487+001
1.4-001	7.272+001	7.099+001	7.346+001	7.174+001	7.417+001	7.246+001	7.492+001	7.321+001	7.570+001	7.399+001
1.5-001	7.192+001	7.019+001	7.264+001	7.092+001	7.334+001	7.162+001	7.406+001	7.235+001	7.482+001	7.312+001
1.6-001	7.110+001	6.937+001	7.182+001	7.009+001	7.250+001	7.079+001	7.321+001	7.150+001	7.394+001	7.224+001
1.7-001	7.028+001	6.855+001	7.099+001	6.927+001	7.167+001	6.995+001	7.236+001	7.064+001	7.307+001	7.136+001
1.8-001	6.946+001	6.773+001	7.016+001	6.844+001	7.083+001	6.912+001	7.151+001	6.980+001	7.220+001	7.049+001
1.9-001	6.864+001	6.691+001	6.934+001	6.761+001	7.000+001	6.829+001	7.067+001	6.895+001	7.134+001	6.963+001
2.0-001	6.781+001	6.609+001	6.851+001	6.679+001	6.918+001	6.746+001	6.983+001	6.812+001	7.049+001	6.878+001
2.2-001	6.618+001	6.445+001	6.688+001	6.516+001	6.755+001	6.583+001	6.819+001	6.648+001	6.882+001	6.712+001
2.4-001	6.457+001	6.284+001	6.527+001	6.355+001	6.595+001	6.423+001	6.658+001	6.487+001	6.720+001	6.550+001
2.5-001	6.378+001	6.205+001	6.448+001	6.276+001	6.516+001	6.344+001	6.580+001	6.409+001	6.641+001	6.471+001
2.6-001	6.299+001	6.126+001	6.370+001	6.198+001	6.438+001	6.266+001	6.502+001	6.331+001	6.563+001	6.393+001
2.8-001	6.145+001	5.972+001	6.216+001	6.044+001	6.285+001	6.114+001	6.350+001	6.179+001	6.411+001	6.241+001
3.0-001	5.994+001	5.822+001	6.067+001	5.894+001	6.136+001	5.965+001	6.202+001	6.031+001	6.264+001	6.093+001
3.2-001	5.848+001	5.676+001	5.921+001	5.749+001	5.991+001	5.820+001	6.058+001	5.887+001	6.121+001	5.950+001
3.4-001	5.707+001	5.534+001	5.780+001	5.607+001	5.850+001	5.679+001	5.918+001	5.747+001	5.982+001	5.811+001
3.5-001	5.638+001	5.465+001	5.710+001	5.538+001	5.782+001	5.610+001	5.849+001	5.678+001	5.914+001	5.743+001
3.6-001	5.570+001	5.397+001	5.642+001	5.470+001	5.714+001	5.542+001	5.782+001	5.611+001	5.846+001	5.676+001
3.8-001	5.438+001	5.265+001	5.509+001	5.337+001	5.581+001	5.409+001	5.649+001	5.478+001	5.715+001	5.545+001
4.0-001	5.310+001	5.137+001	5.381+001	5.209+001	5.452+001	5.280+001	5.521+001	5.350+001	5.587+001	5.417+001
4.2-001	5.186+001	5.013+001	5.256+001	5.084+001	5.327+001	5.155+001	5.396+001	5.225+001	5.463+001	5.292+001
4.4-001	5.067+001	4.894+001	5.136+001	4.964+001	5.206+001	5.034+001	5.275+001	5.103+001	5.342+001	5.171+001
4.5-001	5.009+001	4.836+001	5.078+001	4.905+001	5.147+001	4.975+001	5.215+001	5.044+001	5.283+001	5.112+001
4.6-001	4.952+001	4.779+001	5.020+001	4.848+001	5.089+001	4.917+001	5.157+001	4.986+001	5.224+001	5.054+001
4.8-001	4.841+001	4.668+001	4.908+001	4.736+001	4.975+001	4.804+001	5.043+001	4.872+001	5.110+001	4.940+001
5.0-001	4.734+001	4.561+001	4.800+001	4.627+001	4.866+001	4.694+001	4.933+001	4.762+001	4.999+001	4.829+001
5.5-001	4.482+001	4.309+001	4.545+001	4.372+001	4.608+001	4.436+001	4.672+001	4.501+001	4.737+001	4.566+001
6.0-001	4.251+001	4.078+001	4.311+001	4.139+001	4.371+001	4.199+001	4.432+001	4.261+001	4.494+001	4.324+001
6.5-001	4.038+001	3.865+001	4.095+001	3.923+001	4.153+001	3.981+001	4.211+001	4.040+001	4.270+001	4.100+001
7.0-001	3.839+001	3.667+001	3.896+001	3.723+001	3.951+001	3.780+001	4.007+001	3.836+001	4.063+001	3.893+001
8.0-001	3.481+001	3.308+001	3.535+001	3.363+001	3.589+001	3.417+001	3.642+001	3.471+001	3.694+001	3.524+001
9.0-001	3.162+001	2.990+001	3.216+001	3.044+001	3.269+001	3.098+001	3.321+001	3.150+001	3.371+001	3.201+001
1.0+000	2.877+001	2.704+001	2.930+001	2.758+001	2.983+001	2.812+001	3.034+001	2.864+001	3.084+001	2.914+001
1.1+000	2.622+001	2.449+001	2.674+001	2.502+001	2.725+001	2.554+001	2.776+001	2.605+001	2.826+001	2.656+001
1.2+000	2.396+001	2.224+001	2.445+001	2.273+001	2.494+001	2.323+001	2.543+001	2.373+001	2.592+001	2.422+001
1.3+000	2.199+001	2.027+001	2.244+001	2.072+001	2.290+001	2.119+001	2.336+001	2.166+001	2.382+001	2.213+001
1.4+000	2.029+001	1.857+001	2.069+001	1.898+001	2.111+001	1.940+001	2.153+001	1.983+001	2.196+001	2.027+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	81 Tl total	81 Tl without K-shell	82 Pb total	82 Pb without K-shell	83 Bi total	83 Bi without K-shell	84 Po total	84 Po without K-shell	85 At total	85 At without K-shell
1.5+000	1.885+001	1.713+001	1.920+001	1.749+001	1.956+001	1.786+001	1.994+001	1.824+001	2.033+001	1.864+001
1.6+000	1.763+001	1.591+001	1.793+001	1.622+001	1.824+001	1.654+001	1.857+001	1.688+001	1.892+001	1.722+001
1.7+000	1.661+001	1.489+001	1.686+001	1.515+001	1.713+001	1.542+001	1.741+001	1.571+001	1.771+001	1.601+001
1.8+000	1.574+001	1.403+001	1.595+001	1.425+001	1.618+001	1.448+001	1.642+001	1.473+001	1.667+001	1.499+001
1.9+000	1.500+001	1.329+001	1.518+001	1.348+001	1.538+001	1.368+001	1.558+001	1.389+001	1.580+001	1.411+001
2.0+000	1.435+001	1.264+001	1.451+001	1.281+001	1.468+001	1.299+001	1.486+001	1.317+001	1.505+001	1.336+001
2.2+000	1.323+001	1.153+001	1.338+001	1.168+001	1.353+001	1.183+001	1.367+001	1.198+001	1.382+001	1.214+001
2.4+000	1.225+001	1.055+001	1.240+001	1.071+001	1.254+001	1.086+001	1.268+001	1.100+001	1.282+001	1.114+001
2.5+000	1.178+001	1.008+001	1.194+001	1.024+001	1.209+001	1.040+001	1.223+001	1.055+001	1.237+001	1.069+001
2.6+000	1.132+001	9.625+000	1.148+001	9.793+000	1.164+001	9.955+000	1.179+001	1.011+001	1.193+001	1.026+001
2.8+000	1.041+001	8.726+000	1.059+001	8.910+000	1.076+001	9.087+000	1.093+001	9.257+000	1.109+001	9.421+000
3.0+000	9.540+000	7.859+000	9.730+000	8.054+000	9.915+000	8.243+000	1.009+001	8.427+000	1.027+001	8.604+000
3.3+000	8.327+000	6.656+000	8.519+000	6.852+000	8.709+000	7.046+000	8.897+000	7.239+000	9.081+000	7.427+000
3.5+000	7.605+000	5.941+000	7.789+000	6.129+000	7.974+000	6.318+000	8.158+000	6.507+000	8.342+000	6.695+000
3.6+000	7.274+000	5.614+000	7.452+000	5.796+000	7.632+000	5.979+000	7.812+000	6.164+000	7.993+000	6.349+000
3.9+000	6.408+000	4.759+000	6.562+000	4.917+000	6.720+000	5.079+000	6.881+000	5.244+000	7.046+000	5.412+000
4.0+000	6.161+000	4.516+000	6.306+000	4.665+000	6.455+000	4.818+000	6.609+000	4.975+000	6.765+000	5.135+000
4.2+000	5.725+000	4.089+000	5.851+000	4.218+000	5.982+000	4.353+000	6.119+000	4.492+000	6.259+000	4.637+000
4.6+000	5.053+000	3.435+000	5.146+000	3.530+000	5.243+000	3.630+000	5.345+000	3.735+000	5.452+000	3.845+000
5.0+000	4.581+000	2.981+000	4.648+000	3.051+000	4.720+000	3.125+000	4.794+000	3.202+000	4.873+000	3.283+000
5.4+000	4.231+000	2.652+000	4.285+000	2.707+000	4.340+000	2.764+000	4.397+000	2.823+000	4.456+000	2.884+000
5.5+000	4.156+000	2.581+000	4.207+000	2.634+000	4.260+000	2.689+000	4.314+000	2.745+000	4.370+000	2.803+000
5.8+000	3.948+000	2.389+000	3.995+000	2.438+000	4.043+000	2.488+000	4.092+000	2.537+000	4.141+000	2.588+000
6.0+000	3.819+000	2.272+000	3.866+000	2.320+000	3.913+000	2.368+000	3.959+000	2.415+000	4.006+000	2.463+000
6.2+000	3.695+000	2.159+000	3.743+000	2.207+000	3.790+000	2.255+000	3.836+000	2.302+000	3.881+000	2.348+000
6.6+000	3.454+000	1.941+000	3.505+000	1.992+000	3.554+000	2.041+000	3.602+000	2.089+000	3.648+000	2.136+000
7.0+000	3.218+000	1.729+000	3.272+000	1.783+000	3.325+000	1.836+000	3.376+000	1.887+000	3.426+000	1.936+000
7.4+000	2.986+000	1.522+000	3.044+000	1.579+000	3.100+000	1.634+000	3.155+000	1.688+000	3.208+000	1.741+000
8.0+000	2.651+000	1.226+000	2.712+000	1.285+000	2.772+000	1.343+000	2.830+000	1.400+000	2.888+000	1.456+000
9.0+000	2.156+000	7.988-001	2.214+000	8.532-001	2.273+000	9.081-001	2.331+000	9.634-001	2.389+000	1.019+000
1.0+001	1.763+000	4.756-001	1.813+000	5.200-001	1.863+000	5.659-001	1.915+000	6.130-001	1.968+000	6.613-001
1.1+001	1.471+000	2.546-001	1.510+000	2.874-001	1.551+000	3.220-001	1.593+000	3.582-001	1.637+000	3.962-001
1.2+001	1.261+000	1.167-001	1.291+000	1.388-001	1.323+000	1.626-001	1.355+000	1.882-001	1.389+000	2.155-001
1.4+001	1.005+000	-6.670-005	1.022+000	7.151-003	1.039+000	1.556-002	1.058+000	2.525-002	1.078+000	3.626-002
1.6+001	8.576-001	-1.478-002	8.690-001	-1.452-002	8.806-001	-1.364-002	8.927-001	-1.209-002	9.052-001	-9.794-003
1.8+001	7.526-001	1.110-003	7.624-001	-8.838-004	7.721-001	-2.664-003	7.819-001	-4.180-003	7.918-001	-5.384-003
2.0+001	6.633-001	1.984-002	6.731-001	1.774-002	6.828-001	1.564-002	6.924-001	1.358-002	7.018-001	1.158-002
2.2+001	5.819-001	3.332-002	5.922-001	3.188-002	6.023-001	3.034-002	6.122-001	2.874-002	6.220-001	2.708-002
2.5+001	4.723-001	4.266-002	4.830-001	4.234-002	4.935-001	4.192-002	5.038-001	4.140-002	5.140-001	4.078-002
2.8+001	3.788-001	4.321-002	3.892-001	4.370-002	3.994-001	4.411-002	4.097-001	4.444-002	4.198-001	4.470-002
3.1+001	3.016-001	3.950-002	3.112-001	4.042-002	3.207-001	4.131-002	3.303-001	4.215-002	3.400-001	4.294-002
3.5+001	2.215-001	3.244-002	2.297-001	3.357-002	2.379-001	3.469-002	2.463-001	3.581-002	2.548-001	3.691-002
4.0+001	1.506-001	2.396-002	1.570-001	2.504-002	1.636-001	2.614-002	1.703-001	2.725-002	1.771-001	2.838-002
4.5+001	1.029-001	1.726-002	1.078-001	1.817-002	1.129-001	1.911-002	1.181-001	2.008-002	1.235-001	2.107-002
5.0+001	7.082-002	1.235-002	7.457-002	1.308-002	7.846-002	1.384-002	8.247-002	1.463-002	8.662-002	1.545-002
6.0+001	3.432-002	6.336-003	3.647-002	6.783-003	3.873-002	7.254-003	4.109-002	7.751-003	4.355-002	8.273-003
7.0+001	1.696-002	3.299-003	1.822-002	3.568-003	1.955-002	3.856-003	2.095-002	4.161-003	2.242-002	4.486-003
8.0+001	8.370-003	1.731-003	9.120-003	1.896-003	9.919-003	2.072-003	1.077-002	2.262-003	1.167-002	2.465-003
9.0+001	3.985-003	9.006-004	4.440-003	1.002-003	4.929-003	1.112-003	5.454-003	1.231-003	6.015-003	1.360-003
1.0+002	1.696-003	4.495-004	1.977-003	5.132-004	2.281-003	5.828-004	2.611-003	6.589-004	2.967-003	7.418-004

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	86 Rn total	86 Rn without K-shell	87 Fr total	87 Fr without K-shell	88 Ra total	88 Ra without K-shell	89 Ac total	89 Ac without K-shell	90 Th total	90 Th without K-shell
.0	8.489+001	8.319+001	8.586+001	8.417+001	8.683+001	8.514+001	8.780+001	8.612+001	8.876+001	8.709+001
1.0-002	8.481+001	8.313+001	8.575+001	8.409+001	8.683+001	8.507+001	8.781+001	8.605+001	8.884+001	8.704+001
2.0-002	8.466+001	8.296+001	8.556+001	8.387+001	8.650+001	8.481+001	8.746+001	8.578+001	8.843+001	8.676+001
3.0-002	8.438+001	8.268+001	8.520+001	8.351+001	8.611+001	8.442+001	8.706+001	8.538+001	8.804+001	8.636+001
4.0-002	8.400+001	8.230+001	8.473+001	8.304+001	8.559+001	8.391+001	8.653+001	8.485+001	8.750+001	8.583+001
5.0-002	8.352+001	8.182+001	8.416+001	8.247+001	8.497+001	8.329+001	8.589+001	8.421+001	8.686+001	8.518+001
6.0-002	8.295+001	8.125+001	8.353+001	8.183+001	8.427+001	8.259+001	8.517+001	8.349+001	8.612+001	8.445+001
7.0-002	8.231+001	8.061+001	8.283+001	8.114+001	8.352+001	8.183+001	8.438+001	8.270+001	8.531+001	8.364+001
8.0-002	8.159+001	7.990+001	8.210+001	8.040+001	8.273+001	8.104+001	8.355+001	8.187+001	8.445+001	8.278+001
9.0-002	8.083+001	7.913+001	8.133+001	7.964+001	8.191+001	8.022+001	8.269+001	8.101+001	8.356+001	8.189+001
1.0-001	8.002+001	7.832+001	8.053+001	7.884+001	8.107+001	7.939+001	8.181+001	8.013+001	8.265+001	8.098+001
1.1-001	7.918+001	7.748+001	7.971+001	7.802+001	8.023+001	7.854+001	8.093+001	7.925+001	8.173+001	8.006+001
1.2-001	7.830+001	7.661+001	7.887+001	7.718+001	7.938+001	7.770+001	8.005+001	7.837+001	8.081+001	7.913+001
1.3-001	7.742+001	7.572+001	7.802+001	7.633+001	7.853+001	7.684+001	7.917+001	7.749+001	7.989+001	7.821+001
1.4-001	7.652+001	7.482+001	7.715+001	7.546+001	7.767+001	7.599+001	7.829+001	7.661+001	7.897+001	7.730+001
1.5-001	7.561+001	7.391+001	7.628+001	7.459+001	7.682+001	7.513+001	7.741+001	7.573+001	7.807+001	7.639+001
1.6-001	7.471+001	7.301+001	7.540+001	7.371+001	7.596+001	7.427+001	7.654+001	7.486+001	7.717+001	7.550+001
1.7-001	7.381+001	7.211+001	7.452+001	7.283+001	7.510+001	7.342+001	7.568+001	7.400+001	7.629+001	7.461+001
1.8-001	7.292+001	7.122+001	7.364+001	7.195+001	7.425+001	7.256+001	7.482+001	7.314+001	7.541+001	7.374+001
1.9-001	7.204+001	7.034+001	7.276+001	7.107+001	7.339+001	7.171+001	7.397+001	7.229+001	7.455+001	7.287+001
2.0-001	7.116+001	6.947+001	7.189+001	7.020+001	7.254+001	7.086+001	7.312+001	7.144+001	7.369+001	7.202+001
2.2-001	6.946+001	6.776+001	7.018+001	6.849+001	7.086+001	6.918+001	7.145+001	6.977+001	7.201+001	7.034+001
2.4-001	6.782+001	6.612+001	6.852+001	6.683+001	6.922+001	6.753+001	6.981+001	6.813+001	7.038+001	6.870+001
2.5-001	6.702+001	6.532+001	6.771+001	6.602+001	6.841+001	6.672+001	6.901+001	6.733+001	6.957+001	6.790+001
2.6-001	6.623+001	6.454+001	6.691+001	6.522+001	6.761+001	6.592+001	6.822+001	6.654+001	6.878+001	6.711+001
2.8-001	6.471+001	6.301+001	6.536+001	6.367+001	6.605+001	6.436+001	6.666+001	6.498+001	6.724+001	6.556+001
3.0-001	6.323+001	6.153+001	6.387+001	6.217+001	6.454+001	6.285+001	6.516+001	6.348+001	6.574+001	6.406+001
3.2-001	6.180+001	6.010+001	6.242+001	6.073+001	6.308+001	6.139+001	6.370+001	6.202+001	6.428+001	6.261+001
3.4-001	6.042+001	5.872+001	6.103+001	5.934+001	6.167+001	5.998+001	6.228+001	6.060+001	6.287+001	6.120+001
3.5-001	5.974+001	5.804+001	6.035+001	5.866+001	6.098+001	5.929+001	6.159+001	5.992+001	6.219+001	6.051+001
3.6-001	5.908+001	5.738+001	5.968+001	5.799+001	6.030+001	5.862+001	6.092+001	5.924+001	6.151+001	5.984+001
3.8-001	5.777+001	5.607+001	5.838+001	5.668+001	5.898+001	5.730+001	5.960+001	5.792+001	6.019+001	5.852+001
4.0-001	5.650+001	5.481+001	5.711+001	5.542+001	5.771+001	5.602+001	5.832+001	5.664+001	5.891+001	5.724+001
4.2-001	5.527+001	5.357+001	5.588+001	5.418+001	5.647+001	5.479+001	5.708+001	5.540+001	5.768+001	5.600+001
4.4-001	5.407+001	5.237+001	5.468+001	5.299+001	5.527+001	5.359+001	5.588+001	5.420+001	5.648+001	5.480+001
4.5-001	5.348+001	5.178+001	5.409+001	5.240+001	5.469+001	5.300+001	5.529+001	5.361+001	5.589+001	5.422+001
4.6-001	5.290+001	5.120+001	5.351+001	5.182+001	5.411+001	5.242+001	5.471+001	5.303+001	5.531+001	5.364+001
4.8-001	5.176+001	5.006+001	5.238+001	5.068+001	5.297+001	5.129+001	5.358+001	5.190+001	5.418+001	5.251+001
5.0-001	5.065+001	4.895+001	5.127+001	4.958+001	5.187+001	5.019+001	5.248+001	5.080+001	5.308+001	5.140+001
5.5-001	4.801+001	4.631+001	4.864+001	4.695+001	4.924+001	4.756+001	4.985+001	4.817+001	5.045+001	4.877+001
6.0-001	4.556+001	4.387+001	4.618+001	4.449+001	4.678+001	4.510+001	4.738+001	4.571+001	4.798+001	4.631+001
6.5-001	4.330+001	4.160+001	4.390+001	4.221+001	4.449+001	4.281+001	4.508+001	4.340+001	4.567+001	4.400+001
7.0-001	4.120+001	3.951+001	4.178+001	4.009+001	4.236+001	4.068+001	4.293+001	4.126+001	4.351+001	4.183+001
8.0-001	3.747+001	3.577+001	3.800+001	3.631+001	3.854+001	3.685+001	3.907+001	3.739+001	3.960+001	3.793+001
9.0-001	3.421+001	3.252+001	3.471+001	3.303+001	3.522+001	3.353+001	3.571+001	3.404+001	3.621+001	3.454+001
1.0+000	3.133+001	2.964+001	3.182+001	3.013+001	3.230+001	3.061+001	3.277+001	3.110+001	3.324+001	3.157+001
1.1+000	2.874+001	2.705+001	2.922+001	2.753+001	2.969+001	2.801+001	3.015+001	2.848+001	3.061+001	2.894+001
1.2+000	2.640+001	2.471+001	2.687+001	2.518+001	2.733+001	2.565+001	2.779+001	2.612+001	2.824+001	2.657+001
1.3+000	2.429+001	2.260+001	2.474+001	2.306+001	2.520+001	2.352+001	2.564+001	2.397+001	2.609+001	2.442+001
1.4+000	2.240+001	2.071+001	2.283+001	2.115+001	2.327+001	2.159+001	2.370+001	2.203+001	2.413+001	2.246+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	86 Rn total	86 Rn without K-shell	87 Fr total	87 Fr without K-shell	88 Ra total	88 Ra without K-shell	89 Ac total	89 Ac without K-shell	90 Th total	90 Th without K-shell
1.5+000	2.073+001	1.904+001	2.113+001	1.945+001	2.154+001	1.986+001	2.195+001	2.028+001	2.236+001	2.070+001
1.6+000	1.927+001	1.758+001	1.964+001	1.796+001	2.001+001	1.833+001	2.039+001	1.872+001	2.077+001	1.911+001
1.7+000	1.802+001	1.633+001	1.834+001	1.666+001	1.867+001	1.700+001	1.902+001	1.735+001	1.937+001	1.771+001
1.8+000	1.694+001	1.526+001	1.722+001	1.554+001	1.751+001	1.584+001	1.782+001	1.615+001	1.813+001	1.647+001
1.9+000	1.603+001	1.434+001	1.627+001	1.459+001	1.652+001	1.485+001	1.678+001	1.512+001	1.706+001	1.540+001
2.0+000	1.524+001	1.356+001	1.545+001	1.377+001	1.567+001	1.400+001	1.590+001	1.423+001	1.614+001	1.448+001
2.2+000	1.397+001	1.230+001	1.413+001	1.246+001	1.430+001	1.263+001	1.447+001	1.281+001	1.465+001	1.299+001
2.4+000	1.296+001	1.129+001	1.309+001	1.143+001	1.323+001	1.157+001	1.337+001	1.172+001	1.351+001	1.186+001
2.5+000	1.250+001	1.083+001	1.264+001	1.097+001	1.277+001	1.111+001	1.290+001	1.125+001	1.304+001	1.139+001
2.6+000	1.207+001	1.040+001	1.221+001	1.054+001	1.234+001	1.068+001	1.247+001	1.082+001	1.260+001	1.095+001
2.8+000	1.124+001	9.578+000	1.139+001	9.728+000	1.152+001	9.872+000	1.166+001	1.001+001	1.179+001	1.015+001
3.0+000	1.043+001	8.775+000	1.059+001	8.940+000	1.074+001	9.097+000	1.089+001	9.249+000	1.103+001	9.395+000
3.3+000	9.261+000	7.612+000	9.437+000	7.793+000	9.607+000	7.968+000	9.772+000	8.138+000	9.931+000	8.302+000
3.5+000	8.524+000	6.881+000	8.703+000	7.065+000	8.879+000	7.245+000	9.051+000	7.423+000	9.219+000	7.596+000
3.6+000	8.173+000	6.534+000	8.352+000	6.717+000	8.528+000	6.898+000	8.702+000	7.076+000	8.872+000	7.252+000
3.9+000	7.212+000	5.583+000	7.381+000	5.755+000	7.550+000	5.929+000	7.719+000	6.103+000	7.888+000	6.277+000
4.0+000	6.925+000	5.299+000	7.088+000	5.466+000	7.252+000	5.635+000	7.418+000	5.804+000	7.584+000	5.975+000
4.2+000	6.404+000	4.785+000	6.553+000	4.938+000	6.704+000	5.094+000	6.859+000	5.252+000	7.016+000	5.414+000
4.6+000	5.564+000	3.961+000	5.681+000	4.081+000	5.802+000	4.206+000	5.928+000	4.336+000	6.058+000	4.470+000
5.0+000	4.956+000	3.369+000	5.043+000	3.459+000	5.135+000	3.554+000	5.231+000	3.654+000	5.332+000	3.758+000
5.4+000	4.518+000	2.949+000	4.583+000	3.017+000	4.652+000	3.088+000	4.724+000	3.162+000	4.799+000	3.241+000
5.5+000	4.428+000	2.863+000	4.489+000	2.927+000	4.553+000	2.993+000	4.620+000	3.063+000	4.690+000	3.136+000
5.8+000	4.191+000	2.640+000	4.242+000	2.693+000	4.295+000	2.749+000	4.350+000	2.806+000	4.408+000	2.867+000
6.0+000	4.053+000	2.512+000	4.100+000	2.561+000	4.149+000	2.611+000	4.199+000	2.663+000	4.250+000	2.717+000
6.2+000	3.926+000	2.395+000	3.971+000	2.442+000	4.017+000	2.489+000	4.063+000	2.537+000	4.110+000	2.586+000
6.6+000	3.693+000	2.182+000	3.737+000	2.228+000	3.781+000	2.272+000	3.823+000	2.316+000	3.866+000	2.361+000
7.0+000	3.474+000	1.984+000	3.520+000	2.031+000	3.565+000	2.076+000	3.608+000	2.121+000	3.651+000	2.164+000
7.4+000	3.259+000	1.792+000	3.309+000	1.842+000	3.357+000	1.890+000	3.403+000	1.936+000	3.448+000	1.982+000
8.0+000	2.944+000	1.511+000	2.998+000	1.564+000	3.051+000	1.616+000	3.102+000	1.667+000	3.152+000	1.717+000
9.0+000	2.447+000	1.074+000	2.505+000	1.130+000	2.562+000	1.185+000	2.618+000	1.239+000	2.673+000	1.293+000
1.0+001	2.021+000	7.106-001	2.075+000	7.608-001	2.129+000	8.116-001	2.183+000	8.630-001	2.237+000	9.146-001
1.1+001	1.681+000	4.356-001	1.727+000	4.766-001	1.774+000	5.190-001	1.822+000	5.625-001	1.871+000	6.072-001
1.2+001	1.425+000	2.446-001	1.462+000	2.753-001	1.500+000	3.078-001	1.539+000	3.418-001	1.580+000	3.773-001
1.4+001	1.099+000	4.864-002	1.121+000	6.245-002	1.144+000	7.771-002	1.168+000	9.445-002	1.193+000	1.127-001
1.6+001	9.182-001	-6.695-003	9.318-001	-2.727-003	9.459-001	2.168-003	9.608-001	8.040-003	9.764-001	1.495-002
1.8+001	8.018-001	-6.228-003	8.119-001	-6.652-003	8.222-001	-6.606-003	8.329-001	-6.045-003	8.438-001	-4.913-003
2.0+001	7.111-001	9.670-003	7.204-001	7.904-003	7.296-001	6.312-003	7.389-001	4.921-003	7.482-001	3.777-003
2.2+001	6.315-001	2.539-002	6.410-001	2.368-002	6.503-001	2.199-002	6.594-001	2.033-002	6.685-001	1.872-002
2.5+001	5.241-001	4.006-002	5.341-001	3.926-002	5.438-001	3.838-002	5.535-001	3.743-002	5.630-001	3.642-002
2.8+001	4.299-001	4.486-002	4.399-001	4.496-002	4.498-001	4.498-002	4.597-001	4.491-002	4.694-001	4.476-002
3.1+001	3.496-001	4.368-002	3.592-001	4.438-002	3.688-001	4.502-002	3.784-001	4.559-002	3.879-001	4.611-002
3.5+001	2.633-001	3.800-002	2.719-001	3.908-002	2.806-001	4.014-002	2.893-001	4.118-002	2.981-001	4.219-002
4.0+001	1.840-001	2.953-002	1.911-001	3.069-002	1.983-001	3.186-002	2.056-001	3.304-002	2.131-001	3.422-002
4.5+001	1.290-001	2.209-002	1.346-001	2.315-002	1.404-001	2.422-002	1.463-001	2.532-002	1.523-001	2.644-002
5.0+001	9.090-002	1.630-002	9.532-002	1.719-002	9.986-002	1.810-002	1.046-001	1.905-002	1.094-001	2.002-002
6.0+001	4.611-002	8.822-003	4.879-002	9.400-003	5.157-002	1.001-002	5.447-002	1.064-002	5.748-002	1.131-002
7.0+001	2.397-002	4.830-003	2.560-002	5.197-003	2.731-002	5.585-003	2.911-002	5.996-003	3.100-002	6.431-003
8.0+001	1.262-002	2.682-003	1.364-002	2.916-003	1.471-002	3.164-003	1.584-002	3.430-003	1.704-002	3.714-003
9.0+001	6.614-003	1.499-003	7.257-003	1.650-003	7.938-003	1.811-003	8.668-003	1.985-003	9.444-003	2.172-003
1.0+002	3.350-003	8.318-004	3.765-003	9.302-004	4.207-003	1.036-003	4.685-003	1.152-003	5.197-003	1.277-003

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x sin(theta/2) /lambda	91 Pa total	91 Pa without K-shell	92 U total	92 U without K-shell	93 Np total	93 Np without K-shell	94 Pu total	94 Pu without K-shell	95 Am total	95 Am without K-shell
.0	8.973+001	8.806+001	9.069+001	8.903+001	9.166+001	9.000+001	9.262+001	9.098+001	9.359+001	9.195+001
1.0-002	8.981+001	8.801+001	9.082+001	8.900+001	9.181+001	8.997+001	9.278+001	9.095+001	9.375+001	9.192+001
2.0-002	8.940+001	8.774+001	9.038+001	8.872+001	9.135+001	8.970+001	9.233+001	9.068+001	9.330+001	9.166+001
3.0-002	8.902+001	8.736+001	9.000+001	8.834+001	9.098+001	8.933+001	9.197+001	9.033+001	9.295+001	9.131+001
4.0-002	8.851+001	8.684+001	8.950+001	8.783+001	9.048+001	8.883+001	9.150+001	8.985+001	9.248+001	9.084+001
5.0-002	8.788+001	8.622+001	8.888+001	8.722+001	8.987+001	8.822+001	9.091+001	8.927+001	9.191+001	9.027+001
6.0-002	8.717+001	8.550+001	8.817+001	8.651+001	8.918+001	8.752+001	9.024+001	8.860+001	9.125+001	8.961+001
7.0-002	8.639+001	8.472+001	8.740+001	8.574+001	8.841+001	8.675+001	8.951+001	8.786+001	9.052+001	8.888+001
8.0-002	8.555+001	8.389+001	8.657+001	8.491+001	8.758+001	8.593+001	8.871+001	8.707+001	8.973+001	8.809+001
9.0-002	8.469+001	8.302+001	8.570+001	8.404+001	8.672+001	8.507+001	8.788+001	8.623+001	8.891+001	8.726+001
1.0-001	8.380+001	8.213+001	8.482+001	8.315+001	8.584+001	8.418+001	8.702+001	8.537+001	8.805+001	8.641+001
1.1-001	8.290+001	8.123+001	8.391+001	8.225+001	8.493+001	8.328+001	8.614+001	8.449+001	8.716+001	8.552+001
1.2-001	8.199+001	8.032+001	8.300+001	8.134+001	8.402+001	8.236+001	8.524+001	8.359+001	8.627+001	8.463+001
1.3-001	8.108+001	7.941+001	8.208+001	8.042+001	8.309+001	8.144+001	8.433+001	8.268+001	8.535+001	8.371+001
1.4-001	8.017+001	7.850+001	8.116+001	7.950+001	8.217+001	8.052+001	8.341+001	8.176+001	8.443+001	8.279+001
1.5-001	7.926+001	7.760+001	8.024+001	7.858+001	8.124+001	7.959+001	8.249+001	8.084+001	8.350+001	8.186+001
1.6-001	7.836+001	7.669+001	7.933+001	7.767+001	8.032+001	7.867+001	8.156+001	7.991+001	8.257+001	8.093+001
1.7-001	7.746+001	7.580+001	7.842+001	7.676+001	7.940+001	7.775+001	8.063+001	7.898+001	8.163+001	7.999+001
1.8-001	7.657+001	7.491+001	7.751+001	7.585+001	7.848+001	7.683+001	7.970+001	7.805+001	8.069+001	7.905+001
1.9-001	7.569+001	7.402+001	7.661+001	7.495+001	7.757+001	7.592+001	7.877+001	7.712+001	7.976+001	7.812+001
2.0-001	7.481+001	7.314+001	7.572+001	7.406+001	7.666+001	7.501+001	7.784+001	7.619+001	7.882+001	7.718+001
2.2-001	7.307+001	7.141+001	7.396+001	7.230+001	7.487+001	7.322+001	7.600+001	7.435+001	7.695+001	7.531+001
2.4-001	7.138+001	6.971+001	7.223+001	7.057+001	7.311+001	7.146+001	7.418+001	7.253+001	7.511+001	7.347+001
2.5-001	7.054+001	6.887+001	7.138+001	6.972+001	7.224+001	7.059+001	7.329+001	7.164+001	7.420+001	7.256+001
2.6-001	6.972+001	6.805+001	7.054+001	6.888+001	7.139+001	6.973+001	7.240+001	7.075+001	7.330+001	7.166+001
2.8-001	6.811+001	6.644+001	6.889+001	6.723+001	6.971+001	6.806+001	7.067+001	6.902+001	7.154+001	6.990+001
3.0-001	6.655+001	6.488+001	6.730+001	6.564+001	6.809+001	6.643+001	6.898+001	6.734+001	6.982+001	6.818+001
3.2-001	6.504+001	6.337+001	6.576+001	6.410+001	6.651+001	6.486+001	6.736+001	6.571+001	6.817+001	6.653+001
3.4-001	6.358+001	6.191+001	6.427+001	6.261+001	6.499+001	6.334+001	6.579+001	6.414+001	6.656+001	6.492+001
3.5-001	6.287+001	6.120+001	6.355+001	6.189+001	6.426+001	6.260+001	6.503+001	6.338+001	6.579+001	6.415+001
3.6-001	6.217+001	6.050+001	6.284+001	6.118+001	6.353+001	6.188+001	6.428+001	6.263+001	6.502+001	6.338+001
3.8-001	6.081+001	5.915+001	6.145+001	5.979+001	6.212+001	6.047+001	6.283+001	6.118+001	6.354+001	6.190+001
4.0-001	5.950+001	5.784+001	6.012+001	5.846+001	6.076+001	5.911+001	6.143+001	5.978+001	6.211+001	6.047+001
4.2-001	5.824+001	5.657+001	5.884+001	5.718+001	5.946+001	5.780+001	6.009+001	5.844+001	6.075+001	5.911+001
4.4-001	5.702+001	5.535+001	5.760+001	5.594+001	5.820+001	5.654+001	5.880+001	5.715+001	5.943+001	5.779+001
4.5-001	5.642+001	5.475+001	5.699+001	5.534+001	5.758+001	5.593+001	5.817+001	5.652+001	5.879+001	5.715+001
4.6-001	5.583+001	5.417+001	5.640+001	5.474+001	5.698+001	5.533+001	5.756+001	5.591+001	5.816+001	5.653+001
4.8-001	5.469+001	5.302+001	5.524+001	5.358+001	5.581+001	5.415+001	5.636+001	5.471+001	5.695+001	5.531+001
5.0-001	5.358+001	5.191+001	5.412+001	5.246+001	5.467+001	5.302+001	5.520+001	5.356+001	5.577+001	5.413+001
5.5-001	5.093+001	4.927+001	5.146+001	4.980+001	5.199+001	5.033+001	5.248+001	5.084+001	5.302+001	5.138+001
6.0-001	4.847+001	4.680+001	4.898+001	4.733+001	4.950+001	4.784+001	4.997+001	4.833+001	5.048+001	4.884+001
6.5-001	4.616+001	4.449+001	4.667+001	4.501+001	4.718+001	4.552+001	4.764+001	4.599+001	4.813+001	4.649+001
7.0-001	4.400+001	4.234+001	4.451+001	4.285+001	4.501+001	4.336+001	4.547+001	4.383+001	4.595+001	4.431+001
8.0-001	4.011+001	3.845+001	4.061+001	3.895+001	4.110+001	3.945+001	4.156+001	3.992+001	4.203+001	4.039+001
9.0-001	3.672+001	3.505+001	3.721+001	3.555+001	3.769+001	3.604+001	3.815+001	3.651+001	3.861+001	3.698+001
1.0+000	3.374+001	3.208+001	3.422+001	3.256+001	3.469+001	3.304+001	3.516+001	3.351+001	3.561+001	3.397+001
1.1+000	3.110+001	2.943+001	3.156+001	2.991+001	3.203+001	3.038+001	3.249+001	3.085+001	3.294+001	3.131+001
1.2+000	2.871+001	2.705+001	2.917+001	2.752+001	2.963+001	2.798+001	3.009+001	2.845+001	3.053+001	2.890+001
1.3+000	2.655+001	2.489+001	2.700+001	2.534+001	2.744+001	2.580+001	2.790+001	2.626+001	2.834+001	2.670+001
1.4+000	2.457+001	2.291+001	2.501+001	2.336+001	2.544+001	2.380+001	2.589+001	2.425+001	2.632+001	2.469+001

Table 1. Modified Dirac-Hartree-Fock-Slater atomic form factor, $F_{MFF}(x,Z)$--Continued

x	91 Pa		92 U		93 Np		94 Pu		95 Am	
sin(theta/2) /lambda	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell	total	without K-shell
1.5+000	2.278+001	2.112+001	2.320+001	2.154+001	2.362+001	2.197+001	2.404+001	2.240+001	2.446+001	2.283+001
1.6+000	2.116+001	1.950+001	2.155+001	1.990+001	2.195+001	2.031+001	2.235+001	2.072+001	2.276+001	2.113+001
1.7+000	1.972+001	1.806+001	2.008+001	1.843+001	2.045+001	1.881+001	2.083+001	1.919+001	2.121+001	1.958+001
1.8+000	1.845+001	1.680+001	1.878+001	1.713+001	1.912+001	1.748+001	1.946+001	1.783+001	1.981+001	1.818+001
1.9+000	1.734+001	1.569+001	1.763+001	1.599+001	1.794+001	1.630+001	1.825+001	1.661+001	1.857+001	1.694+001
2.0+000	1.638+001	1.473+001	1.664+001	1.499+001	1.691+001	1.527+001	1.718+001	1.555+001	1.747+001	1.584+001
2.2+000	1.483+001	1.318+001	1.503+001	1.339+001	1.523+001	1.360+001	1.544+001	1.381+001	1.567+001	1.404+001
2.4+000	1.366+001	1.202+001	1.381+001	1.217+001	1.397+001	1.234+001	1.413+001	1.250+001	1.430+001	1.268+001
2.5+000	1.317+001	1.153+001	1.331+001	1.167+001	1.345+001	1.182+001	1.359+001	1.197+001	1.374+001	1.212+001
2.6+000	1.272+001	1.108+001	1.285+001	1.122+001	1.298+001	1.135+001	1.311+001	1.149+001	1.325+001	1.163+001
2.8+000	1.191+001	1.028+001	1.203+001	1.040+001	1.215+001	1.053+001	1.227+001	1.065+001	1.239+001	1.078+001
3.0+000	1.116+001	9.531+000	1.129+001	9.664+000	1.141+001	9.793+000	1.153+001	9.917+000	1.165+001	1.004+001
3.3+000	1.008+001	8.456+000	1.022+001	8.606+000	1.036+001	8.750+000	1.049+001	8.886+000	1.062+001	9.020+000
3.5+000	9.377+000	7.758+000	9.531+000	7.918+000	9.681+000	8.073+000	9.822+000	8.220+000	9.961+000	8.364+000
3.6+000	9.033+000	7.417+000	9.192+000	7.581+000	9.345+000	7.740+000	9.492+000	7.891+000	9.635+000	8.040+000
3.9+000	8.051+000	6.444+000	8.213+000	6.611+000	8.373+000	6.776+000	8.528+000	6.936+000	8.681+000	7.094+000
4.0+000	7.744+000	6.140+000	7.906+000	6.306+000	8.065+000	6.471+000	8.221+000	6.631+000	8.375+000	6.791+000
4.2+000	7.169+000	5.572+000	7.325+000	5.732+000	7.481+000	5.892+000	7.634+000	6.050+000	7.788+000	6.209+000
4.6+000	6.189+000	4.604+000	6.324+000	4.744+000	6.461+000	4.885+000	6.599+000	5.028+000	6.740+000	5.173+000
5.0+000	5.436+000	3.866+000	5.544+000	3.978+000	5.656+000	4.093+000	5.770+000	4.212+000	5.889+000	4.335+000
5.4+000	4.878+000	3.323+000	4.961+000	3.410+000	5.048+000	3.500+000	5.138+000	3.594+000	5.232+000	3.692+000
5.5+000	4.764+000	3.213+000	4.841+000	3.294+000	4.922+000	3.378+000	5.007+000	3.466+000	5.095+000	3.559+000
5.8+000	4.469+000	2.930+000	4.532+000	2.996+000	4.598+000	3.066+000	4.667+000	3.138+000	4.740+000	3.214+000
6.0+000	4.304+000	2.774+000	4.360+000	2.832+000	4.418+000	2.894+000	4.479+000	2.956+000	4.543+000	3.025+000
6.2+000	4.159+000	2.637+000	4.209+000	2.690+000	4.261+000	2.745+000	4.315+000	2.802+000	4.372+000	2.861+000
6.6+000	3.909+000	2.406+000	3.953+000	2.451+000	3.997+000	2.497+000	4.042+000	2.545+000	4.088+000	2.594+000
7.0+000	3.693+000	2.208+000	3.734+000	2.251+000	3.775+000	2.293+000	3.816+000	2.336+000	3.857+000	2.380+000
7.4+000	3.491+000	2.026+000	3.534+000	2.069+000	3.575+000	2.112+000	3.615+000	2.154+000	3.655+000	2.195+000
8.0+000	3.200+000	1.765+000	3.246+000	1.812+000	3.291+000	1.857+000	3.335+000	1.901+000	3.377+000	1.945+000
9.0+000	2.727+000	1.346+000	2.780+000	1.398+000	2.832+000	1.449+000	2.882+000	1.499+000	2.931+000	1.548+000
1.0+001	2.292+000	9.663-001	2.346+000	1.018+000	2.399+000	1.070+000	2.452+000	1.121+000	2.505+000	1.173+000
1.1+001	1.920+000	6.527-001	1.970+000	6.992-001	2.020+000	7.464-001	2.070+000	7.942-001	2.121+000	8.426-001
1.2+001	1.622+000	4.141-001	1.664+000	4.524-001	1.708+000	4.920-001	1.753+000	5.327-001	1.798+000	5.746-001
1.4+001	1.220+000	1.324-001	1.248+000	1.536-001	1.277+000	1.764-001	1.307+000	2.007-001	1.338+000	2.266-001
1.6+001	9.928-001	2.292-002	1.010+000	3.204-002	1.028+000	4.234-002	1.047+000	5.385-002	1.067+000	6.664-002
1.8+001	8.551-001	-3.157-003	8.668-001	-7.222-004	8.790-001	2.442-003	8.917-001	6.392-003	9.050-001	1.118-002
2.0+001	7.576-001	2.924-003	7.671-001	2.403-003	7.767-001	2.257-003	7.866-001	2.536-003	7.967-001	3.285-003
2.2+001	6.775-001	1.720-002	6.865-001	1.579-002	6.954-001	1.453-002	7.044-001	1.345-002	7.133-001	1.258-002
2.5+001	5.723-001	3.535-002	5.816-001	3.425-002	5.907-001	3.313-002	5.997-001	3.200-002	6.086-001	3.090-002
2.8+001	4.791-001	4.453-002	4.886-001	4.423-002	4.981-001	4.386-002	5.074-001	4.343-002	5.167-001	4.295-002
3.1+001	3.975-001	4.656-002	4.069-001	4.695-002	4.164-001	4.727-002	4.258-001	4.754-002	4.351-001	4.774-002
3.5+001	3.069-001	4.316-002	3.157-001	4.410-002	3.247-001	4.502-002	3.336-001	4.589-002	3.425-001	4.673-002
4.0+001	2.206-001	3.541-002	2.282-001	3.660-002	2.360-001	3.779-002	2.438-001	3.898-002	2.517-001	4.016-002
4.5+001	1.585-001	2.759-002	1.648-001	2.875-002	1.712-001	2.994-002	1.778-001	3.114-002	1.845-001	3.237-002
5.0+001	1.143-001	2.103-002	1.194-001	2.206-002	1.247-001	2.313-002	1.300-001	2.422-002	1.356-001	2.535-002
6.0+001	6.061-002	1.200-002	6.386-002	1.273-002	6.724-002	1.349-002	7.073-002	1.428-002	7.436-002	1.511-002
7.0+001	3.297-002	6.890-003	3.504-002	7.375-003	3.721-002	7.888-003	3.947-002	8.427-003	4.184-002	8.997-003
8.0+001	1.831-002	4.016-003	1.964-002	4.338-003	2.105-002	4.681-003	2.253-002	5.045-003	2.410-002	5.433-003
9.0+001	1.027-002	2.373-003	1.115-002	2.588-003	1.208-002	2.819-003	1.307-002	3.067-003	1.412-002	3.332-003
1.0+002	5.747-003	1.412-003	6.334-003	1.558-003	6.965-003	1.716-003	7.636-003	1.887-003	8.355-003	2.070-003

SCHAUPP ET AL.

Table 3: Angular ranges between 0° and Θ_{max}, where the use of the modified form factor is recommended.

Photon Energy [MeV]	Θ_{max} (x=50 Å^{-1})
0.62 (or less)	180°
1.0	76.6°
2.0	36.1°
5.0	14.2°
10.0	7.1°
20.0	3.6°

Acknowledgments

The calculations were performed on the UNIVAC 1100/80 computer of the Gesellschaft für wissenschaftliche Datenverarbeitung, Göttingen.

[1]L. Kissel, R. H. Pratt, and S. C. Roy, Phys. Rev. A **22**, 1970–2004 (1980).
[2]P. Papatzacos and K. Mork, Phys. Rev. **21C**, 81–118 (1975); Phys. Rev. D **12**, 206–218 (1975).
[3]M. Schumacher, F. Smend, P. Rullhusen, W. Mückenheim, and H. G. Börner, in Neutron-Capture Gamma-Ray and Related Topics, Inst. Phys. Conf. Ser. No. 62, 598–612 (1982).
[4]P. Rullhusen, W. Mückenheim, F. Smend, M. Schumacher, G. P. A. Berg, K. Mork, and L. Kissel, Phys. Rev. C **23**, 1375–1383 (1981).
[5]R. Leicht, M. Hammen, K. P. Schelhaas, and B. Ziegler, Nucl. Phys. A **362**, 111–127 (1981).
[6]P. Rullhusen, U. Zurmühl, W. Mückenheim, F. Smend, M. Schumacher, and H. G. Börner, Nucl. Phys. A **382**, 79–96 (1982).
[7]E. G. Fuller and E. Hayward, in *Nuclear Reactions*, edited by P. M. Endt and P. B. Smith (North Holland, Amsterdam, 1962), Vol. 2, Chap. 3.
[8]W. R. Johnson and K. Cheng, Phys. Rev. A **13**, 692–698 (1976).
[9]M. Schumacher and A. Stoffregen, Z. Phys. A **283**, 15–19 (1977).
[10]M. Schumacher and P. Rullhusen, Nucl. Instrum. Meth. **166**, 85–90 (1979).
[11]M. L. Goldberger and F. E. Low, Phys. Rev. **176**, 1778–1781 (1968).
[12]V. Florescu and M. Gavrila, Phys. Rev. A **14**, 211–235 (1976).
[13]G. E. Brown and D. F. Mayers, Proc. R. Soc. London Ser. A **242**, 89–95 (1957).
[14]W. Franz, Z. Phys. **95**, 652–668 (1935); **98**, 314–320 (1936).
[15]J. S. Levinger and M. L. Rustgi, Phys. Rev. **103**, 439–442 (1956).
[16]G. E. Brown and J. B. Woodward, Proc. Phys. Soc. London Sect. A **65**, 977–980 (1952).
[17]M. Schumacher, F. Smend, and I. Borchert, Phys. Rev. C **13**, 2318–2323 (1976).
[18]H. A. Bethe, as quoted in J. S. Levinger, Phys. Rev. **87**, 656–662 (1952).
[19]F. Smend and M. Schumacher, Nucl. Phys. A **223**, 423–428 (1974).
[20]D. A. Liberman, D. T. Cromer, and J. T. Waber, Comp. Phys. Commun. **2**, 107–113 (1971).
[21]J. H. Hubbell, Wm. J. Veigele, E. A. Briggs, R. T. Brown, D. T. Cromer, and R. J. Howerton, J. Phys. Chem. Ref. Data **4**, 471–538 (1975).
[22]J. H. Hubbell and I. Øverbø, J. Phys. Chem. Ref. Data **8**, 69–105 (1979).
[23]J. Moffat and M. W. Stringfellow, Proc. R. Soc. London Ser. A **254**, 242–258 (1960).
[24]G. Jarlskog, L. Jönsson, S. Prünster, H. D. Schulz, H. J. Willutzki, and G. G. Winter, Phys. Rev. D **8**, 3818–3828 (1973).
[25]S. Kahane, R. Moreh, and O. Shahal, Phys. Rev. C **18**, 1217–1222 (1978).
[26]Kissel and Lynn (private communcation).
[27]Kissel, Lynn, S. C. Roy, and R. H. Pratt, International Conference on X-Ray and Atomic Inner-Shell Physics, August 23–27, 1982, Eugene, Oregon, USA.