Fundamental Physical Constants — X-ray values

Quantity	Symbol	Value	Unit	Relative std. uncert. $u_{\rm r}$
Cu x unit: $\lambda(\mathrm{CuK}\alpha_1)/1\,537.400$	$\mathrm{xu}(\mathrm{CuK}\alpha_1)$	$1.002\,077\,03(28) \times 10^{-13}$	m	2.8×10^{-7}
Mo x unit: $\lambda(\mathrm{MoK}\alpha_1)/707.831$	$\mathrm{xu}(\mathrm{MoK}\alpha_1)$	$1.002\,099\,59(53) \times 10^{-13}$	m	5.3×10^{-7}
ångstrom star: $\lambda(\mathrm{WK}\alpha_1)/0.209\,010\,0$	Å*	$1.000\,015\,01(90) \times 10^{-10}$	m	9.0×10^{-7}
lattice parameter[a] of Si (in vacuum, 22.5 °C)	a	$543.102\,088(16) \times 10^{-12}$	m	2.9×10^{-8}
{220} lattice spacing of Si $a/\sqrt{8}$ (in vacuum, 22.5 °C)	d_{220}	$192.015\,5845(56) \times 10^{-12}$	m	2.9×10^{-8}
molar volume of Si $M(\mathrm{Si})/\rho(\mathrm{Si}) = N_{\rm A}a^3/8$ (in vacuum, 22.5 °C)	$V_{\rm m}$(Si)	$12.058\,8369(14) \times 10^{-6}$	$\mathrm{m}^3\ \mathrm{mol}^{-1}$	1.2×10^{-7}

[a] This is the lattice parameter (unit cell edge length) of an ideal single crystal of naturally occurring Si free of impurities and imperfections, and is deduced from lattice spacing measurements on extremely pure and nearly perfect single crystals of Si by correcting for the effects of impurities.

Source: Peter J. Mohr and Barry N. Taylor, CODATA Recommended Values of the Fundamental Physical Constants: 1998, Reviews of Modern Physics 72, 351 (2000).