

X-Ray Standards

Quantity	Symbol	Value	Units	Rel.Uncertainty (ppm)
Cu x-unit :	xu(CuK α_1)	1.00207789(70)	10 ⁻¹³ m	0.70
$\lambda(\text{CuK}\alpha_1) \equiv 1537.400$ xu				
Mo x-unit :	xu(MoK α)	1.00209938(45)	10 ⁻¹³ m	0.45
$\lambda(\text{MoK}\alpha_1) \equiv 707.831$				
Å :	Å	1.00001481(92)	10 ⁻¹⁰ m	0.92
$\lambda(\text{WK}\alpha_1) \equiv 0.209100$ Å				
lattice spacing of Si (in vacuum, 22.5° C),	a	0.54310196(11)	nm	0.21
$d_{220} = a/\sqrt{8}$	d_{220}	0.192015540(40)	nm	0.21
molar volume of Si, $M(\text{Si})/\rho(\text{Si}) = N_A a^3/8$	$V_m(\text{Si})$	12.0588179(89)	cm ³ /mol	0.74