

Fundamental Physical Constants — Adopted values

Quantity	Symbol	Value	Unit	Relative std. uncert. u_r
molar mass of ^{12}C	$M(^{12}\text{C})$	12×10^{-3}	kg mol^{-1}	(exact)
molar mass constant ^a $M(^{12}\text{C})/12$	M_u	1×10^{-3}	kg mol^{-1}	(exact)
conventional value of Josephson constant ^b	$K_{\text{J-90}}$	483 597.9	GHz V^{-1}	(exact)
conventional value of von Klitzing constant ^c	$R_{\text{K-90}}$	25 812.807	Ω	(exact)
standard atmosphere		101 325	Pa	(exact)
standard acceleration of gravity	g_n	9.806 65	m s^{-2}	(exact)

^a The relative atomic mass $A_r(\text{X})$ of particle X with mass $m(\text{X})$ is defined by $A_r(\text{X}) = m(\text{X})/m_u$, where $m_u = m(^{12}\text{C})/12 = M_u/N_A = 1 \text{ u}$ is the atomic mass constant, N_A is the Avogadro constant, and u is the atomic mass unit. Thus the mass of particle X in u is $m(\text{X}) = A_r(\text{X}) \text{ u}$ and the molar mass of X is $M(\text{X}) = A_r(\text{X})M_u$.

^b This is the value adopted internationally for realizing representations of the volt using the Josephson effect.

^c This is the value adopted internationally for realizing representations of the ohm using the quantum Hall effect.