

CONSTANTS

Atomic mass unit	u	$1.66 \times 10^{-27} \text{ kg} = 932 \text{ MeV}/c^2$
Avogadro's number	N_A	$6.02 \times 10^{23} (\text{g mol})^{-1}$
Bohr magneton	$\mu_B = \frac{e \hbar}{2 m_e}$	$9.27 \times 10^{-24} \text{ A} \cdot \text{m}^2$
Bohr radius	$a_0 = \frac{\hbar^2}{m_e e^2 k}$	$0.529 \times 10^{-10} \text{ m}$
Boltzmann's constant	$k_B = \frac{R}{N_A}$	$1.38 \times 10^{-23} \text{ J/K} = 8.62 \times 10^{-5} \text{ eV/K}$
Coulomb's constant	k	$8.99 \times 10^9 \text{ N m}^2 / \text{C}^2$
Curie	Ci	$3.70 \times 10^{10} \text{ decays/s}$
Electron charge	e	$1.60 \times 10^{-19} \text{ C}$
Electron mass	m_e	$9.1095 \times 10^{-31} \text{ kg} = 5.486 \times 10^{-4} u = 0.5110 \text{ MeV}/c^2$
Hydrogen ground state	$E_0 = \frac{m_e e^4 k^2}{2 \hbar^2}$	13.6 eV
Neutron mass	m_n	$1.6750 \times 10^{-27} \text{ kg} = 1.0087 u = 939.57 \text{ MeV}/c^2$
Nuclear magneton	$\mu_n = \frac{e \hbar}{2 m_p}$	$5.05 \times 10^{-27} \text{ A} \cdot \text{m}^2$
Permeability of free space	μ_0	$4\pi \times 10^{-7} \text{ N/A}^2$
Permittivity of free space	ϵ_0	$8.85 \times 10^{-12} \text{ C}^2/\text{N} \cdot \text{m}^2$
Planck's constant	h	$6.63 \times 10^{-34} \text{ J} \cdot \text{s} = 4.14 \times 10^{-15} \text{ eV} \cdot \text{s}$
	$\hbar = \frac{h}{2\pi}$	$1.06 \times 10^{-34} \text{ J} \cdot \text{s} = 6.58 \times 10^{-16} \text{ eV} \cdot \text{s}$
Proton mass	m_p	$1.6726 \times 10^{-27} \text{ kg} = 1.0073 (11) u = 938.28 \text{ MeV}/c^2$
Rydberg constant	R	$1.10 \times 10^7 \text{ m}^{-1}$
Speed of light in vacuum	c	$3.00 \times 10^8 \text{ m/s}$

CONVERSIONS

$$1 \text{ eV} = 1.60 \times 10^{-19} \text{ J}$$

$$1 u = 932 \text{ MeV}/c^2$$

$$hc = 1.24 \times 10^3 \text{ eV} \cdot \text{nm}$$

$$kT = 0.02 \text{ eV at } T = 300 \text{ K}$$