

Values of Physical Constants

Name	Symbol	Value
Atomic mass unit	u	1.6605×10^{-27} kg
Avagadro's number	N_0	6.0221×10^{23} /g-mole
Barn	--	10^{-24} cm ²
Bohr radius	a_0	5.2918×10^{-11} m
Bohr magnetron	μ_B	9.2730×10^{-24} J-m ² /weber
Boltzmann's constant	k	1.3807×10^{-23} J/K 8.6173×10^{-5} eV/K
Classical electron radius	r_0	2.8179×10^{-15} m
Electric constant	ϵ_0	8.8542×10^{-12} F/m
Elementary charge	ϵ	1.6022×10^{-19} C 4.8029×10^{-10} esu
Electron Compton wavelength	λ_e	2.4263×10^{-12} m
Electron density/mass ratio	ϵ/m_e	1.7588×10^{11} C/kg
Faraday constant	F	96485.3415 C/mole
Gravitational constant	G	6.6743×10^{-11} Nm/kg ²
Ionization energy of hydrogen atom	I_0	13.6057 eV
Magnetic constant	μ_0	1.2566×10^{-6} NA ⁻²
Planck's constant	h	6.6261×10^{-34} J-s 4.1357×10^{-15} eV-s
Quantum/charge ratio	h/ϵ	4.1357×10^{-15} J-s/C
Rest mass:		
Electron	m_e	9.1094×10^{-31} kg 5.4860×10^{-4} amu
Neutron	m_n	1.6749×10^{-27} kg 1.0089 amu
Proton	m_p	1.6726×10^{-27} kg 1.0073 amu
Rydberg constant	R_∞	1.0974×10^7 m ⁻¹
Speed of light	c	2.9979×10^8 m/s
Standard volume of ideal gas	--	22.4140 l/g-mole
Stefan-Boltzmann constant	σ	5.6704×10^{-8} w/m ² -K ⁴
Universal gas constant	R	8.3145 J/g-mole K 1.9855 cal/g-mole K