PHYSICAL CONSTANTS (cgs)[7]

Physical Quantity	Symbol	Value	Units
Boltzmann constant	k	1.3807×10^{-16}	erg/deg (K)
Elementary charge	e	4.8032×10^{-10}	statcoulomb (statcoul)
Electron mass	m_e	9.1094×10^{-28}	g
Proton mass	m_p	1.6726×10^{-24}	g
Gravitational constant	G	6.6726×10^{-8}	dyne-cm^2/g^2
Planck constant	h	6.6261×10^{-27}	erg-sec
	$\hbar = h/2\pi$	1.0546×10^{-27}	erg-sec
Speed of light in vacuum	c	2.9979×10^{10}	cm/sec
Proton/electron mass ratio	m_p/m_e	1.8362×10^{3}	
Electron charge/mass ratio	e/m_e	5.2728×10^{17}	statcoul/g
Rydberg constant	$R_\infty = \dfrac{2\pi^2 m e^4}{ch^3}$	1.0974×10^{5}	cm^{-1}
Bohr radius	$a_0 = \hbar^2/me^2$	5.2918×10^{-9}	cm
Atomic cross section	$\pi {a_0}^2$	8.7974×10^{-17}	cm^2
Classical electron radius	$r_e = e^2/mc^2$	2.8179×10^{-13}	cm
Thomson cross section	$(8\pi/3){r_e}^2$	6.6525×10^{-25}	cm^2
Compton wavelength of electron	$h/m_e c$	2.4263×10^{-10}	cm
	$\hbar/m_e c$	3.8616×10^{-11}	cm
Fine-structure constant	$\alpha = e^2/\hbar c$	7.2974×10^{-3}	
	α^{-1}	137.04	
First radiation constant	$c_1 = 2\pi hc^2$	3.7418×10^{-5}	erg-cm^2/sec
Second radiation constant	$c_2 = hc/k$	1.4388	cm-deg (K)
Stefan-Boltzmann constant	σ	5.6705×10^{-5}	erg/cm^2-sec-deg^4
Wavelength associated with 1 eV	λ_0	1.2398×10^{-4}	cm

Physical Quantity	Symbol	Value	Units
Frequency associated with 1 eV	ν_0	2.4180×10^{14}	Hz
Wave number associated with 1 eV	k_0	8.0655×10^{3}	cm^{-1}
Energy associated with 1 eV		1.6022×10^{-12}	erg
Energy associated with 1 cm^{-1}		1.9864×10^{-16}	erg
Energy associated with 1 Rydberg		13.606	eV
Energy associated with 1 deg Kelvin		8.6174×10^{-5}	eV
Temperature associated with 1 eV		1.1604×10^{4}	deg (K)
Avogadro number	N_A	6.0221×10^{23}	mol^{-1}
Faraday constant	$F = N_A e$	2.8925×10^{14}	statcoul/mol
Gas constant	$R = N_A k$	8.3145×10^{7}	erg/deg-mol
Loschmidt's number (no. density at STP)	n_0	2.6868×10^{19}	cm^{-3}
Atomic mass unit	m_u	1.6605×10^{-24}	g
Standard temperature	T_0	273.15	deg (K)
Atmospheric pressure	$p_0 = n_0 k T_0$	1.0133×10^{6}	$\mathrm{dyne/cm}^2$
Pressure of 1 mm Hg (1 torr)		1.3332×10^{3}	$\mathrm{dyne/cm}^2$
Molar volume at STP	$V_0 = RT_0/p_0$	2.2414×10^{4}	cm^3
Molar weight of air	M_{air}	28.971	g
calorie (cal)		4.1868×10^{7}	erg
Gravitational acceleration	g	980.67	$\mathrm{cm/sec}^2$