

ASTRONOMICAL CONSTANTS AND CONVERSION FACTORS

	<u>SI VALUE</u>	<u>CGS VALUE</u>
Mass of sun (M_{\odot})	1.989×10^{30} kg	1.989×10^{33} g
Radius of sun (R_{\odot})	6.959×10^8 m	6.959×10^{10} cm
Luminosity of sun (L_{\odot})	3.826×10^{26} W	3.826×10^{33} erg s ⁻¹
Mass of earth (M_{\oplus})	5.976×10^{24} kg	5.976×10^{27} g
Equatorial Radius of earth (R_{\oplus})	6.378×10^6 m	6.378×10^8 cm
Astronomical unit (au)	1.496×10^{11} m	1.496×10^{13} cm
Parsec (pc)	3.086×10^{16} m	3.086×10^{18} cm
Tropical year	3.156×10^7 s	3.156×10^7 s

PLANETARY DATA

<u>Planet</u>	<u>Semi-Major Axis</u> <u>(au)</u>	<u>Sidereal Period</u> <u>(tropical yrs)</u>	<u>Orbital</u> <u>Eccentricity</u>	<u>M/M</u>	<u>R/R</u>
Mercury	.3871	.24085	.2056	0.0558	0.382
Venus	.7233	.61521	.0068	0.8150	0.949
Earth	1.000	1.000039	.0167	1.0000	1.000
Mars	1.5237	1.88089	.0934	0.1074	0.532
Jupiter	5.2028	11.8622	.0483	317.893	11.27
Saturn	9.538	29.4577	.0560	94.147	9.44
Uranus	19.191	84.013	.0461	14.54	4.10
Neptune	30.061	164.793	.0097	17.23	3.88
Pluto	39.529	248.54	.2482	.0022	0.180

SOLAR DATA

Apparent bolometric magnitude, m_{bol} :	-26.82
Apparent visual magnitude, m_v (or V):	-26.74
Absolute bolometric magnitude, M_{bol} :	+ 4.75
B - V colour index:	+ 0.65
Spectral Type and Luminosity Class:	G2 V
Effective Temperature (T_{eff}):	5770 °K

MISCELLANEOUS

Hubble's Constant: $75 \text{ km s}^{-1} \text{ Mpc}^{-1}$

ASTRONOMY DATA SHEET

UNITS

<u>Physical Quantity</u>	<u>SI Unit</u>	<u>CGS Value</u>
Mass	1 kg	10^3 g
Length	1 m	10^2 cm
Time	1 s	1 s
Energy	1 joule (J)	10^7 erg
Power	1 watt (W)	10^7 erg s ⁻¹
Force	1 newton (N)	10^5 dyne
Velocity	1 m s ⁻¹	10^2 cm s ⁻¹
Pressure	1 pascal (Pa)	10 dyn cm ⁻²
Density	1 kg m ⁻³	10^{-3} g cm ⁻³
Electric Charge	1 Coulomb (C)	2.998×10^9 esu
Magnetic flux density	1 Tesla (T)	10^4 gauss

PHYSICAL CONSTANTS AND CONVERSION FACTORS

	<u>SI Value</u>	<u>CGS Value</u>
Speed of light, c:	2.998×10^8 m s ⁻¹	2.998×10^{10} cm s ⁻¹
Gravitational constant, G:	6.670×10^{-11} N m ² kg ⁻²	6.670×10^{-8} dyn cm ² g ⁻²
Planck constant, h:	6.626×10^{-34} J s	6.626×10^{-27} erg s
Boltzmann constant, k:	1.381×10^{-23} J K ⁻¹	1.381×10^{-16} erg K ⁻¹
Electric charge, e:	1.602×10^{-19} C	4.803×10^{-10} esu
Stefan Boltzmann constant, σ :	5.669×10^{-8} W m ⁻² K ⁻⁴	5.669×10^{-5} erg cm ⁻² K ⁻⁴ s ⁻¹
Radiation density constant, a:	7.565×10^{-16} J m ⁻³ K ⁻⁴	7.565×10^{-15} erg cm ⁻³ K ⁻⁴
Mass of electron	9.1096×10^{-31} kg	9.1096×10^{-28} g
Mass of proton	1.6726×10^{-27} kg	1.6726×10^{-24} g
Mass of neutron	1.6749×10^{-27} kg	1.6749×10^{-24} g
Mass of hydrogen atom	1.6735×10^{-27} kg	1.6735×10^{-24} g
Mass of helium atom	6.6464×10^{-27} kg	6.6464×10^{-24} g
1 amu	1.66053×10^{-27} kg	1.66053×10^{-24} g
1 eV	1.602×10^{-19} J	1.602×10^{-12} erg
1 A	10^{-10} m	10^{-8} cm
Wien's law constant	2.898×10^{-3} m K	0.2898 cm K