

Fundamental Constants

Speed of light in vacuum	c	=	$2.998 \times 10^8 \text{ m s}^{-1}$
Planck Constant	h	=	$6.626 \times 10^{-34} \text{ J s}$
Boltzmann Constant	k_B	=	$1.381 \times 10^{-23} \text{ J K}^{-1}$
Stefan-Boltzmann Constant	σ	=	$5.670 \times 10^{-8} \text{ W m}^{-2} \text{ K}^{-4}$
Charge of electron	e	=	$1.602 \times 10^{-19} \text{ C}$
Universal Gravitational Constant	G	=	$6.674 \times 10^{-11} \text{ N m}^2 \text{ kg}^{-2}$
Universal Gas Constant	R	=	$8.315 \text{ J mol}^{-1} \text{ K}^{-1}$
Avogadro Constant	N_A	=	$6.022 \times 10^{23} \text{ mol}^{-1}$
Wien's displacement law	$\lambda_m T$	=	$2.898 \times 10^{-3} \text{ m K}$
Mass of electron	m_e	=	$9.109 \times 10^{-31} \text{ kg}$
Mass of proton	m_p	=	$1.673 \times 10^{-27} \text{ kg}$
Mass of neutron	m_n	=	$1.675 \times 10^{-27} \text{ kg}$
Atomic Mass Unit (a.m.u.)	u	=	$1.661 \times 10^{-27} \text{ kg}$

Astronomical Data

1 parsec (pc)		=	$3.086 \times 10^{16} \text{ m}$
1 astronomical unit (AU)	a_{\oplus}	=	$1.496 \times 10^{11} \text{ m}$
Solar Mass	M_{\odot}	=	$1.989 \times 10^{30} \text{ kg}$
Solar Radius	R_{\odot}	=	$6.955 \times 10^8 \text{ m}$
Solar Luminosity	L_{\odot}	=	$3.826 \times 10^{26} \text{ W}$
Apparent magnitude of the Sun at mid-day	m_{\odot}	=	-26.72 mag
Solar Constant (at Earth)		=	1366 W m^{-2}
Apparent angular diameter of Sun	θ_{\odot}	=	$30'$
Earth Mass	M_{\oplus}	=	$5.972 \times 10^{24} \text{ kg}$
Earth Radius	R_{\oplus}	=	$6.371 \times 10^6 \text{ m}$
1 tropical year		=	$365.242 \text{ solar days}$
		=	$3.156 \times 10^7 \text{ s}$
Jupiter Mass	M_J	=	$1.898 \times 10^{27} \text{ kg}$
Orbital radius of Jupiter	R_J	=	5.203 AU