

General Physical Constants

Constant	Symbol	Value
Speed of light	c	3.0×10^8 m/s
Gravitational Constant	G	6.67×10^{-11} m ³ /kg/s ²
Planck's Constant	h	6.63×10^{-34} J sec
Boltzmann's Constant	k	1.38×10^{-23} J/K
Gas Constant	R	8.31×10^3 J/mol/K
Stefan-Boltzmann Constant	σ	5.67×10^{-8} W/m ² / K ⁴
Radiation Pressure constant	a	7.56×10^{-16} Pa/K ⁴
Mass of proton/hydrogen	m _p	1.67×10^{-27} kg
Mass of electron	m _e	9.11×10^{-31} kg
Atomic Mass unit	u	1.66×10^{-27} kg

Astronomical Constants

Constant	Symbol	Value
Astronomical Unit	A. U.	1.496×10^{11} m
Parsec	pc	3.09×10^{16} m
Light year	ly or ltyr	9.46×10^{15} m
Mass of Sun	M _☉	1.99×10^{30} kg
Luminosity of Sun	L _☉	3.83×10^{26} Watts
Radius of Sun	R _☉	6.96×10^8 m
Surface Temperature of Sun	T _☉	5800 K
Effective Temperature of Sun	T _{eff ☉}	5772 K
Sun's Visual Apparent Magnitude	V _☉	-26.75
Sun's Bolometric Absolute Magnitude	M _{Bol ☉}	4.74
Sun's Bolometric Apparent Magnitude	m _{Bol ☉}	-26.83
Sun's Bolometric Correction	BC _☉	-0.08
Spectral Type and Luminosity Class		G2 V