2. ASTROPHYSICAL CONSTANTS

Table 2.1. Figures in parentheses give 1-σ uncertainties in last place(s). This table represents neither a critical review nor an adjustment of the constants, and is not intended as a primary reference. See the full edition of this *Review* for references and detailed explanations.

Quantity	Symbol, equation	Value	Reference
speed of light	c	299 792 458 m s^{-1}	defined [1]
Newtonian gravitational constant	G_N	$6.672\,59(85) \times 10^{-11}$ $m^3\,kg^{-1}\,s^{-2}$	[2]
astronomical unit	AU	$1.495\,978\,706\,6(2) \times 10^{11}$ m	[3,4]
tropical year (equinox to equinox) (1994)	yr	31 556 925.2 s	[3]
sidereal year (fixed star to fixed star) (1994)		31 558 149.8 s	[3]
mean sidereal day		$23^h\,56^m\,04\overset{s}{.}090\,53$	[3]
Jansky	Jy	10^{-26} W $m^{-2}\,Hz^{-1}$	
Planck mass	$\sqrt{\hbar c/G_N}$	$1.221\,047(79) \times 10^{19}$ GeV/c^2	uses [2]
		$= 2.176\,71(14) \times 10^{-8}$ kg	
parsec (1 AU/1 arc sec)	pc	$3.085\,677\,580\,7(4) \times 10^{16}$ m = 3.262... ly	[5]
light year (deprecated unit)	ly	0.306 6... pc = $0.946\,1... \times 10^{16}$ m	
Schwarzschild radius of the Sun	$2G_N M_\odot/c^2$	2.953 250 08 km	[6]
solar mass	$M_\odot$	$1.988\,92(25) \times 10^{30}$ kg	[7]
solar luminosity	$L_\odot$	3.846×10^{26} W	[8]
solar equatorial radius	$R_\odot$	6.96×10^8 m	[3]
Earth equatorial radius	$R_\oplus$	$6.378\,140 \times 10^6$ m	[3]
Earth mass	$M_\oplus$	$5.973\,70(76) \times 10^{24}$ kg	[9]
luminosity conversion	L	$3.02 \times 10^{28} \times 10^{-0.4\ M_b}$ W	[10]
		(M_b = absolute bolometric magnitude	
flux conversion	$\mathscr{F}$	$2.52 \times 10^{-8} \times 10^{-0.4\ m_b}$ W m^{-2}	from above
		(m_b = apparent bolometric magnitude)	