Nominal Solar & Planetary Quantities
IAU 2015 Resolution B3 (Prša et al. 2016)

Name	Symbol	Value	Units
Solar Mass Parameter	$(GM)_{\odot}^{N}$	1.3271244×10^{20}	$m^3\ s^{-2}$
Solar Radius	$R_{\odot}^{N}$	6.957×10^{8}	m
Solar Irradiance (@ 1au)	$S_{\odot}^{N}$	1361	$W\ m^{-2}$
Solar Luminosity	$L_{\odot}^{N}$	3.828×10^{26}	W
Solar Effective Temperature	$T_{\odot}^{N}$	5772	K
Earth Mass Parameter	$(GM)_{E}^{N}$	3.986004×10^{14}	$m^3\ s^{-2}$
Earth Equatorial radius	R_{Ee}^{N}	6378.1	km
Earth Polar Radius	R_{Ep}^{N}	6356.8	km
Jupiter Mass Parameter	$(GM)_{J}^{N}$	1.2668653×10^{17}	$m^3\ s^{-2}$
Jupiter Equatorial Radius	R_{Je}^{N}	71492	km
Jupiter Polar Radius	R_{Jp}^{N}	66854	km

Reference: Prša, A. et al. 2016, AJ, 152, 41 (arXiv:1605.09788)

Since masses by themselves will always appear in equations with G, GM should be used in practice. If an SI mass is explicitly needed in kg, divide the relevant GM by G, using the current NIST 2014 CODATA value (physics.nist.gov) of

$$G = (6.67408 \pm 0.00031) \times 10^{-11}\ kg^{-1}\ m^3\ s^{-2}.$$

The nominal solar luminosity ($L_{\odot}^{N}$) is a rounded value based on the nominal solar irradiance (aka "flux") at 1 au ($S_{\odot}^{N}$) and the IAU 2012 Resolution B2 definition of the Astronomical Unit:

1 au = 149,597,870.700 kilometers

To compute the nominal volumes of the Earth or Jupiter, use

$$V_E^N = 4\pi {R_{Ee}^N}^2 R_{Ep}^N/3$$

$$V_J^N = 4\pi {R_{Je}^N}^2 R_{Jp}^N/3$$

The nominal solar temperature ($T_{\odot}^{N}$) is rounded to the nearest K based on the best estimates of the solar radius & luminosity and the NIST 2014 CODATA value of the Stefan-Boltzmann constant:

$$\sigma = (5.670367 \pm 0.000013) \times 10^{-8}\ W\ m^{-2}\ K^{-4}.$$