

Table A.2 Gravitational parameter (μ) and sphere of influence (SOI) radius for the sun, the planets and the moon

Celestial body	μ (km ³ /s ²)	SOI radius (km)
Sun	132 712 000 000	–
Mercury	22 030	112 000
Venus	324 900	616 000
Earth	398 600	925 000
Earth's moon	4903	66 200
Mars	42 828	577 000
Jupiter	126 686 000	48 200 000
Saturn	37 931 000	54 800 000
Uranus	5 794 000	51 800 000
Neptune	6 835 100	86 600 000
Pluto	830	3 080 000

Table A.1 Astronomical data for the sun, the planets and the moon

Object	Radius (km)	Mass (kg)	Sidereal rotation period	Inclination of equator to orbit plane	Semimajor axis of orbit (km)	Orbit eccentricity	Inclination of orbit to the ecliptic plane	Orbit sidereal period
Sun	696 000	1.989×10^{30}	25.38d	7.25°	–	–	–	–
Mercury	2440	330.2×10^{21}	58.65d	0.01°	57.91×10^6	0.2056	7.00°	87.97d
Venus	6052	4.869×10^{24}	243d*	177.4°	108.2×10^6	0.0067	3.39°	224.7d
Earth	6378	5.974×10^{24}	23.9345h	23.45°	149.6×10^6	0.0167	0.00°	365.256d
(Moon)	1737	73.48×10^{21}	27.32d	6.68°	384.4×10^3	0.0549	5.145°	27.322d
Mars	3396	641.9×10^{21}	24.62h	25.19°	227.9×10^6	0.0935	1.850°	1.881y
Jupiter	71 490	1.899×10^{27}	9.925h	3.13°	778.6×10^6	0.0489	1.304°	11.86y
Saturn	60 270	568.5×10^{24}	10.66h	26.73°	1.433×10^9	0.0565	2.485°	29.46y
Uranus	25 560	86.83×10^{24}	17.24h*	97.77°	2.872×10^9	0.0457	0.772°	84.01y
Neptune	24 760	102.4×10^{24}	16.11h	28.32°	4.495×10^9	0.0113	1.769°	164.8y
Pluto	1195	12.5×10^{21}	6.387d*	122.5°	5.870×10^9	0.2444	17.16°	247.7y

* Retrograde