

Table III-4a. Orbital and physical parameters of Sun and nine planets.

	Relative distance	Eccentricity	Orbital period	Orbital inclination	Spin period	Spin inclination
	a/a_E (AU)	e	p (years)	i (degree)	p_s (days)	i_s (degree)
Sun	0				25 to 35 ^a	$\sim 7^b$
Mercury	0.3871	0.206	0.24	7	58.6	~ 0
Venus	0.7233	0.007	0.062	3.4	243	177
Earth	1	0.017	1	0	1	23.4
Mars	1.524	0.093	1.88	1.9	1.03	25.2
Jupiter	5.203	0.048	11.9	1.3	0.41	3.1
Saturn	9.588	0.056	29.5	2.5	0.43	26.7
Uranus	19.19	0.046	84.1	0.77	0.65	97.9
Neptune	30.06	0.01	165	1.8	0.77	29
Pluto	39.53	0.248	249	17.2	6.4	~ 90

	Relative radius	Relative mass	Angular momentum	Escape velocity	Effective surface temperature	Average density
	r/r_E	m/m_E	(10^{36} g·km ² /sec)	(km/sec)	(K)	ρ (g/cm ³)
Sun	109	3.3×10^5	190	616	5800	1.41
Mercury	0.38	0.055	0.92	4.3	448	5.43(5.2) ^c
Venus	0.95	0.82	18.5	10.4	328	5.24(4.0) ^c
Earth	1	1	26.6	11.2	279	5.52(4.0) ^c
Mars	0.53	0.107	3.5	5	226	3.94(3.7) ^c
Jupiter	11.2	318	19300	60	122	1.31
Saturn	9.41	94.3	7830	36	91	0.69
Uranus	3.98	14.5	1690	21	64	1.3
Neptune	3.81	17.2	2520	24	50	1.66
Pluto	0.18	~ 0.0026	~ 0.4	~ 1	45	2.1

a_E = semimajor axis of the Earth = 150×10^6 km = one astronomical unit (AU); r_E and m_E are radius and mass of the Earth = 6380 km and 6×10^{27} g respectively; a: 25 days on equator and 35 days near the pole; b: relative to ecliptic plane. c: value in parentheses is the estimated density at 1 atmospheric pressure, (Wasson, 1985);