

GLOSSARY OF SYMBOLS & LIST OF IMAGES

(0.1), 0.1	coefficients relative to action of m on m' (article 475)
A	apparent diameter
A_0, A_1, A_2	coefficients in expansion of R ; lunar perturbation coefficients
$A_j^{(i,j)}$	coefficients in perturbation theory of Jupiter satellites i and j
A, B, C	moments of inertia
a	mean distance of planet m from the sun; half the greater axis of an ellipse
a_0, a_1, a_2	lunar perturbation coefficients (article 725)
a_i, e_i, \mathbf{v}_i	$= -d\bar{a}, -d\bar{e}, -d\bar{v}$ (article 531)
B_0, B_1, \dots	coefficients in expansion of R ; lunar perturbation coefficients
B, B'	functions of K_i, L_i
b	distance
b_0, b_1, b_2	lunar perturbation coefficients (article 716)
C, C', C_j	arbitrary constant quantities
C_i	coefficients in the perturbations in radius vector; lunar perturbation coefficients (article 724)
c, c', c''	arbitrary constants
c	distance; the number 2.71828... whose hyperbolic logarithm is unity; quantity in the general form of $R = m'k \cos\{i'n't - int + c\}$
D	diameter; arbitrary constant quantity
D_i	coefficients in the perturbations in radius vector
D	perihelion distance of a comet
d	differential
E	mass of the earth
E_i	coefficients in the perturbations in radius vector
e	eccentricity (CS/CP in fig. 75)
F	resultant force
F'	resultant of forces $F, F', F'', \&c.$
F_i	coefficients in the perturbations in longitude
f	function; centrifugal force
f, f', f''	distances; arbitrary constants
G	common centre of gravity of a planet and its satellites
G_i	coefficients in the perturbations in longitude
g	acceleration due to gravity
g, g_1, g_2	mean secular motions of the perihelia of m, m', m'' ; annual and sidereal motions of the apsides of the orbits of the four Jupiter satellites (article 831)

Glossary of Symbols & List of Images

H	eccentricity of Jupiter's orbit (article 836)
H, H'	coefficients in theory of ethereal medium (article 790)
H_i	coefficients in the perturbations in longitude
h, h'	$e \sin \mathbf{v}$, $e' \sin \mathbf{v}'$
h, h_1, h_2, h_3	real eccentricities of the four Jupiter satellites (article 831)
I	inclination of the invariable plane (article 525)
i	integer; ratio of mean motion of planet to moon (article 780)
K, K'	coefficients in theory of ethereal medium (article 788)
K_i	coefficients in perturbations of radius vector
k	constant in Kepler's 3 rd law $T^2 = k^2 a^3$; quantity in the general form of $R = m'k \cos\{i'n't - int + c\}$
L_i	coefficients in perturbations of radius vector
$L, L_1, -L$	inclinations of Jupiter's equator and orbit on the fixed plane (article 869 & 872)
l, l'	$e \cos \mathbf{v}$, $e' \cos \mathbf{v}'$
l, l, l''	arbitrary constant quantities
l, l_1, l_2, l_3	inclinations of the orbits of the four Jupiter satellites (article 859)
M_0, M_1, \dots	coefficients in expansion of R
m	mass
m_i	mass of any satellite (article 810) with co-ordinates x', y', z'
N_0, N_1, \dots	coefficients in expansion of R
n	angular velocity $2\mathbf{p} / T$ or $360^\circ / T$
nt	mean anomaly
o	origin of co-ordinate system
P	$P = R \bar{A} / D$; parallax; density of a shell of Jupiter's spheroid at a distance \bar{R} from his centre; mass of a planet (article 780)
P, P'	functions of Q_0, Q_1, \dots
p	(du / dx) ; pressure; quantity dependent on longitude of the nodes of the Jupiter satellites (article 861) in $\sin(v + pt + \Lambda)$
$\`p$	quantity dependent on longitude of the nodes of the Jupiter satellites (article 872) in $-L \sin(v + \`pt + \` \Lambda)$
p, p_1, \dots	annual and sidereal motions of the nodes of the Jupiter satellites (article 868)
Q_0, Q_1, \dots	coefficients in expansion of R
q	(du / dy)
r	(du / dz) ; radius vector
r_i	curtate distance (radius vector projected onto the plane of the ecliptic)
$\mathbf{d}r$	periodic perturbation in radius vector of planet m
R	radius

Glossary of Symbols & List of Images

R°	mean earth radius (article 743)
R	perturbation forces defined in article 347
R'	value of R when u, u', v, v', z and z' equal zero
R_j	surface resistance (re-action force); $R_j = dR + \mathbf{d}R + \mathbf{d}'R$ (article 463); radius vector (article 780)
S, S'	values of A_0, A_1 when $s = +1/2$ and $s = -1/2$
S	mass of sun; heliocentric latitude (article 780)
\mathbf{S}	sign of ordinary integrals
s	latitude of m in perturbed orbit above the fixed plane; $\tan f \sin(v - q)$; $q \sin v - p \cos v$; tangent of the moon's latitude (article 771)
$\mathbf{d}s$	periodic perturbation in true latitude of planet m
T	period of a sidereal revolution of a planet m
t	time
U	longitude (article 780)
u	eccentric anomaly; vector from origin to particle m ; angular velocity
V	linear velocity
v	true anomaly; true longitude of a planet m ; velocity; angular velocity
$\mathbf{d}v$	periodic perturbation in true longitude of planet m
v_j	true longitude projected onto the plane of the ecliptic
x_0, x_1, x_2	lunar perturbation coefficients (article 730)
x, y, z	spatial co-ordinates of particle m
x', y', z'	spatial co-ordinates of particle m' or m_j
$\bar{x}, \bar{y}, \bar{z}$	common centre of gravity of a system
x_j, y_j, z_j	co-ordinates of a planet in perihelio, designated $(x_j), (y_j), (z_j)$ when $R = 0$
X, Y, Z	partial forces
\mathbf{a}	a/a' ; ratio of mean distance of planet from sun to mean distance of sun from earth (article 780)
\mathbf{b}	$n' - nt + \epsilon'$
$\mathbf{a}, \mathbf{b}, \mathbf{g}$	angular measure
\in	longitude of the epoch; the mean place of a planet in its orbit at a given instant, assumed to be the origin of time; \in mean longitude of planet m
\in_j	\in referred to the plane of the ecliptic
\mathbf{g}	equinoctial point; tangent of the inclination of the orbit of planet m' on the orbit of planet m ; inclination of Jupiter's orbit on the fixed plane (article 863)
\mathbf{n}	sine of the moon's declination
\mathbf{m}	sum of the mass of the sun plus mass of a planet $S+m$
\mathbf{h}	declination of a planet m relative to the sun's equator
\mathbf{r}	density of planet m ; ellipticity of the sun or earth
Ω	longitude of the ascending node of the invariable plane (see 525)
\mathbf{z}	mean motion
$\mathbf{z}, \mathbf{z}_1, \mathbf{z}_2$	mean longitudes of Jupiter's satellites (article 843)

Glossary of Symbols & List of Images

y	the ratio of the centrifugal force to gravity at the solar equator; retrograde motion of the descending node of Jupiter's equator on the fixed plane
q	longitude of the ascending node; inclination of Jupiter's equator on the fixed plane (article 862)
q'	inclination of Jupiter's equator on his orbit (article 870)
f	inclination of orbit of planet <i>m</i> on the plane of the ecliptic; ratio of centrifugal force at the equator to gravity (article 771)
w	angular velocity; obliquity of the ecliptic (article 771)
v	longitude of the perihelion
x	longitude of the node estimated on the plane of the orbit; arbitrary quantity;
x_i^(j)	parameter in theory of Jupiter satellites $x_i^{(j)} = h_i / h_j$ (article 832)
l	function of <i>m, m', x, x', y, y', z, z'</i> , (see article 687); arbitrary quantity
Λ, ^Λ	quantities dependent on longitude of the nodes of the Jupiter satellites (article 861 & 872) in $\sin(v + pt + \Lambda)$
Π	longitude of the line of intersection of the orbital planes of planets <i>m</i> and <i>m'</i> ; longitude of the perihelion (article 836)
t	longitude of the ascending node of Jupiter's orbit (article 863)
Γ, Γ₁, ...	mean longitudes of the lower apsides of the orbits of the four Jupiter satellites at the epoch (article 833)

List of Images

Image.	page.
The Solar System	xiv
The Earth	40
Pluto and Charon	44
Mercury	206
Venus	224
Mars	254
Saturn	286
Jupiter	410
The Sun	430
Uranus	438
The Moon	498
Satellites of Jupiter	610
Asteroids	702
Neptune	728