PART IV

MEETINGS OF COMMISSIONS

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MEETINGS OF COMMISSIONS

COMMISSION 3 (NOTATIONS)

PRESIDENT: Prof. E. STRÖMGREN.
SECRETARY: Dr LOUIS C. GREEN.

The new corrected list and the new suggestions received from members of the I.A.U. were discussed at the meeting, and some alterations in the list were adopted. The Commission decided to ask the General Assembly to adopt the list of notations in the form given below.

After the close of the meeting a letter was received from General Seligmann, the President of the Commission on Notations of the International Geodetic Association, asking for co-operation with regard to symbols common to astronomy and geodesy. Co-operation of this kind is clearly of great importance, and the matter will no doubt be discussed by the Commission in the future.

SPHERICAL ASTRONOMY

A (or Az if necessary to avoid confusion) — Azimuth, reckoned from S. towards W.
h — Altitude.
z — Zenith distance.
ϕ (or φ) — Altitude of north pole.
H or t — Hour angle.
δ — Declination, positive north of the equator, negative south of the equator (the sign should be stated, not the designation N. or S.).
η — Parallactic angle.
α — Right ascension.
θ — Sidereal time.
θ_0 — Sidereal time at mean midnight.
E — Equation of time, true solar time minus mean solar time.
L — Geographical longitude, reckoned from Greenwich, positive towards W., negative towards E.
ϕ (or φ) — Geographical latitude, positive north of the equator, negative south of the equator.
L, G, Z — as upper indices denote that the quantity refers to the local meridian, Greenwich meridian or zone meridian respectively.
ϵ — Obliquity of the ecliptic.
λ — Geocentric longitude, the ecliptic being the fundamental great circle.
β — Geocentric latitude, the ecliptic being the fundamental great circle.
l — Heliocentric longitude, the ecliptic being the fundamental great circle.
b — Heliocentric latitude, the ecliptic being the fundamental great circle.
a — Semi-major axis of meridian ellipse of the earth.
b — Semi-minor axis of meridian ellipse of the earth.
α — Compression of the earth, defined as $\alpha = \frac{a-b}{a}$.
g — Effective acceleration of gravity.
ρ — Distance from the centre of the earth.
ϕ' (or φ') — Geocentric latitude.
P_0 — Equatorial horizontal parallax.
P_h — Parallax in altitude, geocentric minus topocentric (positive or zero).
P_α — Parallax in right ascension, geocentric minus topocentric.

P_δ	Parallax in declination, geocentric minus topocentric.
$P_\odot$	Equatorial horizontal parallax of the sun at mean distance.
tc or *gc*	as upper indices denote that the position refers to the observing place (topocentric position) or the centre of the earth (geocentric position).
p	General precession in longitude in one tropical year.
p_1	Luni-solar precession in one tropical year.
p_2	Planetary precession in one tropical year.
p_α	Annual precession in right ascension, $p_\alpha = m + n \sin\alpha \tan\delta$.
p_δ	Annual precession in declination, $p_\delta = n \cos\alpha$.
v_α	Variatio saecularis in right ascension, i.e. change of p_α in 100 tropical years.
v_δ	Variatio saecularis in declination, i.e. change of p_δ in 100 tropical years.
π	Annual change in the inclination of the ecliptic towards the fundamental ecliptic (1850·0).
Π	Longitude of the ascending node of the ecliptic relative to the fundamental ecliptic (1850·0)
$-\zeta$	Right ascension of the north pole of the equator relative to a fundamental equator and equinox.
$90° - \nu$	Declination of the north pole of the equator relative to a fundamental equator.
$\Delta\psi$	Nutation in longitude.
$\Delta\epsilon$	Nutation in obliquity of the ecliptic.

The reduction from mean place for the beginning of the year to apparent place should be written in the notation of the great ephemerides.

R	Refraction.
z	Zenith distance affected by refraction.
ζ	Zenith distance corrected for refraction, $\zeta = z + R$.
R_0	Constant of refraction.

POSITIONAL ASTRONOMY

T	Observed clock time of transit.
ΔT	Clock correction, positive if clock is slow.
r	Diurnal clock rate.
k	Azimuth error of transit instrument.
i	Level error of transit instrument.
c	Collimation error of transit instrument.
m	Bessel's m.
n	Bessel's n.
b	Horizontal flexure.
x, y	Rectangular Polarissima co-ordinates.
$\Delta\alpha_\alpha, \Delta\delta_\alpha$	Systematic corrections or differences in right ascension resp. declination depending on right ascension.
$\Delta\alpha_\delta, \Delta\delta_\delta$	Systematic corrections or differences in right ascension resp. declination depending on declination.
$\Delta\alpha_m, \Delta\delta_m$	Systematic corrections or differences in right ascension resp. declination depending on magnitude.
p	Position angle, reckoned from N. towards E.
d	Angular distance.
r	Revolution value.
Δp	Deviation of micrometer thread from apparent parallel.
x, y	Rectangular co-ordinates of instrumental pole.

A_0, D_0	Right ascension and declination of zero point on photographic plate, referred to a standard mean equinox.
X, Y	Standard rectangular co-ordinates, defined by α, δ, A_0 and D_0.
x_m, y_m	Measured rectangular co-ordinates.
x, y	Rectangular co-ordinates, corrected to conform with the adopted transformation formula to standard co-ordinates.
p, q	Rectangular co-ordinates (x, y) for the actual point of tangency.
$\left\{\begin{matrix} A, B, C \\ -B, A, D \end{matrix}\right\}$	Orthogonal linear plate constants, defined by $\left\{\begin{matrix} X=Ax+By+C. \\ Y=-Bx+Ay+D. \end{matrix}\right.$
$\left\{\begin{matrix} a, b, c \\ k, l, m \end{matrix}\right\}$	General linear plate constants, defined by $\left\{\begin{matrix} X=ax+by+c. \\ Y=kx+ly+m. \end{matrix}\right.$
$\left\{\begin{matrix} f, g, h \\ r, s, t \end{matrix}\right\}$	Second order plate constants, defined by $\left\{\begin{matrix} X=ax+by+c+fx^2+gxy+hy^2. \\ Y=kx+ly+m+rx^2+sxy+ty^2. \end{matrix}\right.$

CELESTIAL MECHANICS

k	Gaussian gravitational constant.
G	Gravitational constant.
m	Planetary mass in units of the solar mass.
t	Time of observation or instant considered.
T	Perihelion time.
t_0	Time of epoch.
M_0	Mean anomaly at time of epoch.
ω	Angle from ascending node to perihelion.
π	Longitude of perihelion, $\pi=\omega+\Omega$.
Ω	Longitude of the ascending node.
i	Inclination.
e	Eccentricity of orbit.
ϕ (or φ)	Angle of eccentricity, defined by $e=\sin\phi$.
n	Mean angular motion per mean solar day.
a	Semi-major axis of orbit.
q	Perihelion distance.
p	Parameter, $p=q\ (1+e)$.
P	Orbital period.
M	Mean anomaly.
B	Parabolic time argument in Barker's equation, defined by $B=(t-T)\ q^{-\frac{3}{2}}$.
E	Eccentric anomaly.
v	True anomaly.
u	$u=\omega+v$.
r	Radius vector from the centre of the sun.
$\left.\begin{matrix} C \\ S \end{matrix}\right\}$	Rectangular co-ordinates in the orbit divided by the major axis, defined by $\left\{\begin{matrix} r\cos v=aC. \\ r\sin v=aS. \end{matrix}\right.$
$\left.\begin{matrix} x \\ y \\ z \end{matrix}\right\}$	Rectangular equatorial heliocentric co-ordinates.
$\left.\begin{matrix} a, A, A' \\ b, B, B' \\ c, C, C' \end{matrix}\right\}$	Gaussian equatorial constants.

P_x, P_y, P_z	Equatorial direction cosines of the radius vector to perihelion.
Q_x, Q_y, Q_z	Equatorial direction cosines of the radius vector corresponding to $v=90°$.
R_x, R_y, R_z	Equatorial direction cosines of the normal to the orbit.
$\left.\begin{matrix}X\\Y\\Z\end{matrix}\right\}$	Rectangular equatorial geocentric co-ordinates of the sun.
R	Distance between the centres of the sun and the earth.
L or $\odot$	The sun's geocentric longitude with regard to the ecliptic.
B	The sun's geocentric latitude with regard to the ecliptic.
$\left.\begin{matrix}\xi\\\eta\\\zeta\end{matrix}\right\}$	Rectangular equatorial geocentric co-ordinates.
Δ	Distance of object from the centre of the earth.
l, m, n	Equatorial geocentric direction cosines.

Rectangular ecliptic co-ordinates and direction cosines should be dashed.

c_1, c_3	Ratios of triangles, defined by $c_1=\frac{\{r_{23}\}}{\{r_{13}\}}$ and $c_3=\frac{\{r_{12}\}}{\{r_{13}\}}$.
$c_1{}^0, c_3{}^0$	Ratios of sectors, defined by $c_1{}^0=\frac{t_3-t_2}{t_3-t_1}$ and $c_3{}^0=\frac{t_2-t_1}{t_3-t_1}$.
τ_1, τ_2, τ_3	Time intervals multiplied by k, i.e. $\tau_1=k\ (t_3-t_2)$, $\tau_2=k\ (t_3-t_1)$, $\tau_3=k\ (t_2-t_1)$.
$\bar{y}_1, \bar{y}_2, \bar{y}_3$	Ratios of sector to triangle corresponding to the time intervals (t_3-t_2), (t_3-t_1) and (t_2-t_1) resp.
f, g	Coefficients in relation between co-ordinates at any time and co-ordinates and velocities at some fixed epoch; $x(t)=fx(t_0)+gx'(t_0)$.
ψ	Geocentric angle between sun and object.
A, B	Coefficients in the dynamical equation, $\Delta_2=A-\frac{B}{r_2{}^3}$.
O	Olbers' $M=\frac{\Delta_3}{\Delta_1}$.
δ	to denote differential correction of a quantity.

ASTROPHYSICAL OBSERVATIONS

I	Intensity.
I_ν, I_λ	Spectral intensity.
$I^{(P)}$	Point-intensity. If no confusion results, the index P may be omitted.
$I^{(\sigma)}$	Surface intensity. If no confusion results, the index σ may be omitted.
$I_\nu{}^{(P)}, I_\lambda{}^{(P)}$	Spectral point-intensity. If no confusion results, the index P may be omitted.
m	Apparent magnitude.
m_{v}	Apparent visual magnitude.
m_{pg}	Apparent photographic magnitude.
m_{pv}	Apparent photovisual magnitude.
m_{r}	Apparent red magnitude.
m_{rad}	Apparent radiometric magnitude.
m_{bol}	Apparent bolometric magnitude.
M	Absolute magnitude (corresponding to the distance 10 parsecs). Indices as for m.
C.I.	Colour Index.
H.I.	Heat index $=m_{\mathrm{v}}-m_{\mathrm{rad}}$.

n, c, s, p	Coefficients in expression for difference in two magnitude systems, defined by $m^{(1)} - m^{(2)} = n + \text{C.I.} + s\ (m - m_0) + p\ (m - m_0)\ \text{C.I.}$
b, a, f, g, k, m	Spectral type expression for colour index.
E	Colour excess.
λ	Wave-length.
ν	Frequency.
λ_e	Effective wave-length.
T_e	Effective temperature.
T_c	Colour temperature.
ϕ	Absolute gradient.
$\Delta\phi$	Relative gradient.
r_λ, r_ν	Ratio of intensity at wave-length λ resp. frequency ν within a spectral line and intensity in adjacent continuous spectrum.
w_a	Equivalent width of absorption line.
t	Exposure-time.
g	Absorption in grating expressed in magnitudes.
f_λ	Transmission coefficient of filter at wave-length λ.
q_λ	Transmission coefficient of optical system at wave-length λ.
p_λ	Zenith transmission coefficient of atmosphere at wave-length λ.
$F(z)$	Optical path through atmosphere corresponding to zenith distance z $(F(0^\circ) = 1)$.
V	Radial velocity.
V_0	Time-mean of variable radial velocity (radial velocity of centre of gravity).
s	Measured co-ordinate in spectrum in the direction of dispersion.
c, s_0, λ_0, a	Constants in Hartmann's dispersion formula, $s - s_0 = \dfrac{c}{(\lambda - \lambda_0)^a}$.
D_λ	Dispersion at wave-length λ, expressed in mm. or seconds of arc per Ångström.
x_d	Reduction of radial velocity to the centre of the earth.
x_a	Reduction of radial velocity to the centre of the sun from the centre of the earth.

OPTICS OF ASTRONOMICAL INSTRUMENTS

n, n'	Index of refraction.
f	Focal length.
o	Diameter of free objective.
s, s'	Distance from refracting or reflecting surface of a point on the optical axis.
r	Radius of curvature of refracting or reflecting surface.
h	Distance of intersection point with surface from the optical axis.
v	Angular distance of object from the optical axis.
u, u'	Angle between ray in the meridian plane and optical axis.
i	Angle of incidence.
i'	Angle of emergence.
ϕ (or φ)	Refracting power of thin lens, defined as $\phi = (n-1)\left(\dfrac{1}{r_1} - \dfrac{1}{r_2}\right)$.
ν	Coefficient of dispersion, defined as $\dfrac{1}{\nu} = \dfrac{1}{n-1}\dfrac{dn}{d\lambda}$.
ϑ	Coefficient of secondary spectrum, defined as $\vartheta = \dfrac{1}{2}\dfrac{d^2n}{d\lambda^2} \Big/ \dfrac{dn}{d\lambda}$.
α	Refracting angle of prism.

b	Base of prism.
N	Number of lines of grating.
m	Order of spectrum.
d	Linear slit width.
D_λ	Dispersion at wave-length λ, expressed in mm. or seconds of arc per Ångström.
A	Resolving power of grating or prism (prisms), defined by $A=mN$ for grating, by $A=b\dfrac{dn}{d\lambda}$ for prism and $A=\Sigma b\dfrac{dn}{d\lambda}$ for prisms.
P	Purity of resulting spectrum, defined as ratio of wave-length to width of monochromatic image of slit expressed in wave-length units, the width being taken as the separation of the points, where the intensity has decreased to 0·405 times the maximum intensity (for an ideal spectrograph with infinitely narrow slit P coincides with A).

STELLAR ASTRONOMY

m	Apparent magnitude.
M	Absolute magnitude.
π	Parallax in seconds of arc.
r	Distance in parsecs.
l	Galactic longitude.
b	Galactic latitude.
X, Y, Z	Rectangular co-ordinates.
μ_α	Proper motion in right ascension, in seconds of time per year.
μ_δ	Proper motion in declination, in seconds of arc per year.
μ	Total proper motion, in seconds of arc per year.
θ	Position angle of proper motion, reckoned from N. towards E., i.e. $tg\theta=\dfrac{15\mu_\alpha \cos\delta}{\mu_\delta}$.
υ	Component of total proper motion in the direction towards the assumed apex.
τ	Component of total proper motion in a direction $+90°$ from the direction towards the assumed apex.
V	Radial velocity relative to the sun.
T	Tangential velocity relative to the sun.
W	Spatial velocity relative to the sun.
V_0, T_0, W_0	Radial, tangential and spatial velocity relative to the centroid of the stars considered.
u, v, w	Rectangular velocity components of velocities relative to the sun.
$A(m)$	Frequency function of apparent magnitudes of the stars considered.
$N(m)$	Number of stars (among those considered) brighter than apparent magnitude m.
$\phi(M)$	Frequency function of absolute magnitudes for unit volume for the stars considered.
$f(r)$	Frequency function of distances of the stars considered.
D	Star density, the star density in the sun's immediate neighbourhood being taken as unity.
$\varphi(u, v, w)$	Frequency function of spatial velocities relative to the sun.
S, A, D	Polar equatorial co-ordinates of the sun's velocity relative to the centroid of the stars considered.
u_0, v_0, w_0	Rectangular co-ordinates of the sun's velocity relative to the centroid of the stars considered.

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The Gaussian frequency function for a variable x should be written

$$N.\frac{1}{\sqrt{2\pi}\sigma}e^{-\frac{(x-x_0)^2}{2\sigma^2}} \quad \text{or} \quad N.\frac{h}{\sqrt{\pi}}e^{-h^2(x-x_0)^2}.$$

Parameters of a drift ($i = 1, 2, \ldots$):

$N^{(i)}$	Number of stars in the drift among those considered.
$S^{(i)}, A^{(i)}, D^{(i)}$	Polar equatorial co-ordinates of the sun's velocity relative to the drift.
$u_0^{(i)}, v_0^{(i)}, w_0^{(i)}$	Rectangular co-ordinates of the sun's velocity relative to the drift.
$\sigma^{(i)}, h^{(i)}$	Scattering resp. precision of the Maxwellian drift-distribution.

Parameters of an ellipsoidal velocity distribution:

S, A, D	Polar equatorial co-ordinates of the sun's velocity relative to the centre of the distribution.
u_0, v_0, w_0	Rectangular co-ordinates of the sun's velocity relative to the centre of the distribution.
$\sigma_u, \sigma_v, \sigma_w; h_u, h_v, h_w$	Scattering, resp. precision of the Gaussian distributions of the velocity components.
R, θ, z	Cylindrical galactic galactocentric co-ordinates.
Π, Θ, Z	Cylindrical galactic galactocentric velocity components.
$-V$	Potential energy of a unit mass in the gravity field of the galaxy.
I_1	Sum of kinetic and potential energy of a unit mass in the gravity field of the galaxy.
I_2	Angular momentum of a unit mass with respect to the centre of the galaxy.
A	Coefficient of rotational term in radial velocities.
B	Coefficient of rotational term in proper motions.
a	Absorption coefficient in interstellar space, expressed in magnitudes per 1000 parsecs.

Rectangular co-ordinates and direction cosines referring to co-ordinate systems with different orientation of the axes should be distinguished when necessary with the aid of dashes.

THEORETICAL ASTROPHOTOMETRY

$I, I^{(P)}, I_\nu, I_\nu^{(P)}, I_\lambda, I_\lambda^{(P)}$	Intensities, as under astrophysical observations.
P	Degree of polarization.
q	Direction of analyser.
$q_\parallel, q_\perp$	Direction of analyser parallel resp. at right angles to the plane of vision.
$I(q), I(q_\parallel), I(q_\perp)$	Intensity corresponding to directions of analyser $q, q_\parallel, q_\perp$ respectively. The electric vector should define the direction of polarization.
$\kappa_\nu, \kappa_\lambda$	Mass-absorption coefficient at frequency ν or wave-length λ.
j_ν, j_λ	Mass-emission coefficient at frequency ν or wave-length λ.
ω	Solid angle.
σ	Area.
s	Geometrical path in the direction of ray considered.
τ_ν	Optical path, defined by $d\tau_\nu = -\kappa_\nu \rho\, ds$.
θ	Angle with positive direction of normal.
ψ	Angle with negative direction of normal, $\psi = 180° - \theta$.
J_ν	Mean intensity, defined by $J_\nu = \int I_\nu \frac{d\omega}{4\pi}$.
F_ν^+, F_ν^-, F_ν	Flux in positive direction, flux in negative direction, net-flux at frequency ν (counted per unit area and unit time).
F^+, F^-, F	Integrated flux in positive direction, negative direction, integrated net-flux.

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$B_\nu(T)$	Planck intensity at frequency ν and temperature T.
σ	Stefan's constant; the positive or negative flux in a black body is σT^4.
a	$\frac{4}{c}$ times Stefan's constant; the energy density of black radiation is aT^4.
A	Albedo.
$A^{(B)}$	Bond's albedo.
r	Coefficient of diffuse reflection.
i	Angle of incidence.
ϵ	Angle of emergence of diffusely reflected light considered.
a	Difference of azimuth of incident and emergent ray with respect to a horizon defined by the diffusely reflecting element.
α	Phase angle.
$\phi(\alpha)$	Phase law.
f	Phase coefficient defined by $\left(\frac{d\phi(\alpha)}{d\alpha}\right)_0$.
ψ, ω	Latitude and longitude on planetary surface assumed to be globular, the equator being defined by the directions towards the sun and the earth, the prime meridian by the direction towards the earth.

THEORY OF STELLAR ATMOSPHERES AND DIFFUSE MATTER IN SPACE

T	Local temperature.
ρ	Local density.
p	Local gas pressure.
p_e	Local electron pressure.
k	Boltzmann's constant.
m_{H}	Mass of hydrogen atom.
m_0	Mass of unit of atomic weight.
m_e	Mass of electron.
$\mathfrak{R}$	Gas constant; this may also be written as $\frac{k}{m_0}$.
μ	Molecular weight.
g	Acceleration of gravity.
χ_i	Negative energy of stationary state i; the zero level is that corresponding to free electron at rest.
χ	Ionization potential.
g_i	Statistical weight of stationary state i.
a_{lk}, b_{lk}, b_{kl}	Einstein transition probability coefficients of spontaneous emission, induced emission and absorption, the coefficients b measuring the increase of transition probability per unit mean intensity.
f_{kl}	Oscillator strength.
N_i	Number of atoms in stationary state i per unit volume.
N_e	Number of free electrons per unit volume.
σ_ν	Mass line scattering coefficient at frequency ν.
κ_ν	Mass line absorption coefficient at frequency ν.
κ	Mass continuous absorption coefficient.
$\bar{\kappa}$	Opacity, i.e. Rosseland mean of $\kappa+\kappa_\nu+\sigma_\nu$.
τ	Optical depth, defined by $d\tau=-\bar{\kappa}\rho\, ds$.
η_ν	Ratio of line absorption coefficient and continuous absorption coefficient at frequency ν.
δ_{kl}	One half of the natural half-width in frequency units of spectral line corresponding to transition between stationary states k and l.

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ν_0, λ_0	Frequency and wave-length of centre of spectral line.
u	Coefficient of darkening, defined by $\dfrac{I(\theta)}{I(0)} = 1 - u + u\cos\theta$.
T_e	Effective temperature.
T_0	Boundary temperature.
W	Factor of dilution of radiation.

THEORY OF THE INTERIOR OF THE STARS

T	Temperature.
ρ	Density.
p_G	Gas pressure.
p_R	Radiation pressure.
P	Total pressure.
β	Ratio of gas pressure and total pressure.
$\mathfrak{R}$	Gas constant; this may also be written $\dfrac{k}{m_0}$.
μ	Molecular weight.
a	$\dfrac{4}{c}$ times Stefan's constant; the energy density of black radiation is aT^4.
m_e	Mass of electron.
m_{H}	Mass of hydrogen atom.
G	Gravitational constant.
Z	Nuclear charge.
A	Atomic weight.
κ_ν	Mass absorption coefficient at frequency ν.
κ	Mass opacity.
r	Distance from centre of star.
g	Acceleration of gravity.
V	Gravitational potential, defined by $dV = -g\,dr$.
M	Mass of star.
R	Radius of star.
L	Luminosity of star.
L_r	Total net-flux through the surface of a sphere of radius r with its centre at the centre of the star.
M_r	Mass within sphere of radius r.
η_r	Ratio of mean energy production within sphere of radius r to the surface value of this quantity $\left(\dfrac{L_r}{M_r} = \eta_r \dfrac{L}{M}\right)$.
ϵ	Production of subatomic energy per gram and second.
γ	Effective ratio of specific heats, defined by $P = \text{const.}\ \rho^\gamma$ under adiabatic conditions.
n	Polytropic index, defined by $P = \text{const.}\ \rho^{1+\frac{1}{n}}$.
u, ξ	Emden variables.
$-\Omega$	Total potential energy of star.
ω	Angular velocity of rotation.
η	Viscosity.
η_R	Radiative viscosity.

Central values should be denoted by index c, surface values by index o (if not otherwise specified as surface values).

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ϕ (or φ)	Heliographic latitude.
λ	Heliographic longitude.
S	Solar constant.
$\sigma_{\odot}$	Angular radius of sun at unit distance.
$R_{\odot}$	Linear radius of sun.
σ	Angular radius at unit distance.
g_0	Apparent magnitude of planet, reduced to unit distances from sun and earth.
$\Omega^{(e)}$, $i^{(e)}$	Longitude of the node and inclination of planet's equator plane.
b	Planetographic latitude.
l	Planetographic longitude from the central meridian.
L	Planetographic longitude from meridian defined by the direction towards the north pole of the earth's equator.
b_E	Planetographic latitude of the earth's projection (from the centre of the planet) on the planetary surface.
L_E	Planetographic longitude from the meridian defined by the direction towards the north pole of the earth's equator of the earth's projection on the planetary surface (i.e. the polar angle).
p_a	Position angle of planetary axis of rotation.

DOUBLE STAR ASTRONOMY

d	Angular distance.
p	Position angle, reckoned from North towards East.
m_1, m_2	Apparent magnitudes of components.
Δm	Difference of magnitudes, $\Delta m = m_2 - m_1$.
M_1, M_2	Absolute magnitudes of components.
μ_1, μ_2	Masses of components.
a''	Angular semi-major axis of relative orbit.
a	Linear semi-major axis of relative orbit.
e	Eccentricity.
ω, Ω, i	Ordinary orbital elements with respect to the tangential plane as fundamental plane.
T	Perihelion time.
P	Period.
n	Mean angular motion.
A, B, F, G	Thiele-Innes constants.
C, H, L, N	Constants for computing third co-ordinate and relative radial velocity.
V_0	Radial velocity of centre of gravity.
K	Semi-amplitude of radial velocity curve.
α	Mass ratio ($\alpha \leqq 1$).
f	Mass function, defined by $f = \frac{\mu_2^3 \sin^3 i}{(\mu_1 + \mu_2)^2}$.
f_1, f_2	Mass functions, defined by $f_1 = \mu_1 \sin^3 i$, $f_2 = \mu_2 \sin^3 i$.
r_1, r_2	Radii of components ($r_1 \geqq r_2$).
k	Ratio of radii, defined as $k = \frac{r_2}{r_1}$ ($k \leqq 1$).
δ	Projection of distance between centres of components on tangential plane.
t	Time reckoned from principal minimum.
θ	Longitude in circular orbit, reckoned from principal minimum.

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l	Intensity in units of maximum intensity.
L_1, L_2	Intensity of non-eclipsed components in units of maximum intensity ($L_1+L_2=1$).
λ_1	Minimum intensity (l) for minimum with component 1 in front.
λ_2	Minimum intensity (l) for minimum with component 2 in front.
α	Intensity-deficiency relative to maximum intensity in units of intensity-deficiency at complete eclipse.
α_0	Value of α at minimum, i.e. maximum value of α during eclipse considered.
ϵ_1, ϵ_2	Eccentricities of meridian sections of components.
a_1, a_2	Semi-major axes of components.
b_1, b_2	Semi-minor axes of components.

Generally, quantities referring to relative motion, absolute motion of component 1, absolute motion of component 2, should be distinguished by the use of no index, index 1 and index 2 respectively.

VARIABLE STARS

P	Period.
A	Amplitude (A_{v}, A_{pg}, A_{pv}, A_{rad}, A_{bol}).
t^{max}	Time of maximum.
t^{min}	Time of minimum.
E	Number of periods elapsed.
m^{max}	Apparent magnitude of maximum.
m^{min}	Apparent magnitude of minimum.
M^{max}	Absolute magnitude of maximum.
M^{min}	Absolute magnitude of minimum.

In case t^{max} and t^{min} are inconvenient from typographic reasons, T and t might be used instead.

COMMISSION 4 (EPHEMERIDES)

PRESIDENT: Dr L. J. COMRIE.
SECRETARY: Miss J. M. VINTER HANSEN.

On August 4 a joint meeting was held with Commissions 8 and 20, with Dr J. Jackson in the chair.

Dr Jackson referred to the completion of the new fundamental catalogue FK3 by Prof. Kopff. The resolution referred from the General Assembly to Commissions 4 and 8: "That, from the beginning of 1940, the positions of stars used for the determination of time or in connection with the radio time-signals be based on the FK3 system" was a natural result of the appearance of the FK3, and the chairman proposed the adoption of the resolution. This was seconded by Dr Comrie and carried unanimously.

The chairman invited members to express their opinion on the following resolution, which was adopted by the General Assembly at the Paris meeting: "Commissions 4, 8 and 20 are requested to consider the advisability of restoring to positional astronomy the term in the annual aberration depending on the eccentricity of the Earth's orbit, and to report at the next meeting of the Union." The general feeling was that the present practice of neglecting the term in question should be continued as far as star positions are concerned. Prof. Leuschner pointed out that

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