

## INDEX

- Amplitude spectrum of fortnightly lunar terms 42  
angular momentum vector from transit observations 28  
    intermediate ephemeris frame of reference and 27  
astronomical constants IAU system 2-4  
    nutation specification in ix, 1-7  
atmosphere 149
- Bakhrakh, N. M. 47-49  
bandwidth synthesis, long-baseline interferometric 131  
Barlik, M. 211-221  
Bender, P. L. 127-128
- Cannon, W. H. 129-138  
Capitaine, N. 87-94, 95-108  
Chandler period 141-142  
    wobble 187-193  
        core-mantle interactions and 205-208  
Chollet, F. 81-86, 95-108  
core  
    liquid, effect on Earth's rotation ix  
    (see also Earth, fluid core)  
Coriolis forces, nutation and 149
- Dahlen, F. A. 187-193  
data reduction 13-16  
    of FK4 95-108  
    declination 42  
Dĕbarbat, S. 95-108  
Dejaiffe, R. J. 247-255  
Dejneka, Y. P. 159  
density of Earth's interior 159  
discussion  
    General Report of 247-255  
    Session I 22  
    Session II 125-126  
    Session III 160  
    Session IV 223-224  
    Session V 245-246

Dukwicz, M. 211-221

## Earth

- axis of rotation of 145
- constitution of 139-151
- core
  - effect on nearly diurnal free polar motion 59, 60
  - magnetohydrodynamics of 149
  - mantle coupling 207-208
    - electromagnetic 205-208
  - oscillation 149
- density distribution 159
- dynamically unbalanced 157
- elastic deformation of 171-174
- elastic nature of 142
- fluid core 144
  - annual nutation and 115
  - data 13
  - effect 14
  - hydromagnetic motion of 206-207
  - model 9
    - review 161-163
  - rigid envelope model 143
  - stratified model 165-183
    - numerical computation 177-178
- fluid outer core, angular momentum equation 167-171
- free core oscillations 61-65
- inelastic, Love numbers of 239-242
- irregular rotation of, forced nutation and 235-237
- mantle, superadiabatic temperature gradient 153
- mass flows in 153
- model 5
  - elastic 2
  - interior ix
  - parameters 145
  - reference 148
  - normal mode 196
    - numerical calculations 198-202
- models, proliferation of 148
- Moon system, secular changes, core-mantle friction and 178, 181-182
- motion of, Eulerian 140
- nonhydrostatic quadrupole excess moment of 153-156
- nonrigid, nutation and 117
- outer core
  - oscillations of 185-186
  - stratification of 191
- quasi-static approximate model 188
- response to luni-solar torque 13
- rheology of 150
- rotating ellipsoidal model 190

- (Earth)  
rotational deceleration of 153  
rotation of, core-mantle coupling and 208  
shear modulus of interior 149  
shell-and-core model 147  
spheroidal model 146ff.  
structure of, and fortnightly nutation 41  
tides 144
- ecliptic, obliquity of 3
- Egorov, Al. K. 157
- elastic parameters, in Earth models 145  
frequency dependency of 190-191
- Emetz, A. I. 75-79
- epoch J2000.0 definition 4
- Erzhanov, Zh. S. 157
- euclidean body, herpolhode and polhode of 18
- Fedorov, E. P. 23-32
- Feissel, M. 109-110
- frame of reference  
celestial nonrotating 23  
celestial-terrestrial transformation matrix 23  
intermediate, definition 23-24  
intermediate ephemeris, angular momentum vector in 27  
terrestrial 23  
terrestrial ephemeris 24  
transformation to conventional terrestrial 24-26
- free polar motion  
aliasing periods of 63  
nearly diurnal 73-74  
from latitude and time observation 59-66  
observation of 61-63
- frame of reference, polar 76
- Galas, R. 211-221
- geodetic parameters 3
- gravitational oscillation of Earth's outer core 185-186
- Griffin, S. F. 51-57
- Guinot, B. 109-110
- Harrison, J. C. 203-204
- Hooke body 19
- hydrosphere 149
- Inertial oscillation of Earth's outer core 185-186
- interferometry, long-baseline ix  
absolute phase of 129-130  
accuracy of 129  
description of 129-131  
error sources in 134-135  
measurement corrections 136-137

(interferometry)

phase-stable 132-138

phase uncertainty in 130

satellite phase synchronization in 131-132

Jeffreys body 19

Jeffreys, H. 9-11

Koźaczek, B. 211-221

Kolybaev, A. A. 157

Korsun', A. A. 41-46

Kovbasjuk, L. D. 111-116

Latitude

analysis, nutation terms in 95-108

astronomical, free polar motion and 59-66

terrestrial rotation vectors and 61

continuing observation 257

corrections to 97

International Survey 142

nearly diurnal variation 67-74

nonpolar variation 79

nutation errors and 87ff.

observational data 42

polar variation 79

short period terms in 51-57

spectral analysis of 111-116

variations 211-221

data filtering 75-76

meteorological origin of 64-65

length (distance), astronomical unit of 3

longitude

lunar, observed latitude and 42

luni-solar nutation and 146

precession in 3

lunar ranging 127-128

nutation determination and ix

luni-solar motion 140-141

nutation 146

precession 120-121

Magnetosphere 149

mass, astronomical unit of 3

McCarthy, D. D. 117-124

Melchior, P. 17-21, 161-163, 225-234

Mescheryakov, G. A. 159

model

Earth, defining parameters 5

Earth core, effect on nearly diurnal free polar motion 59-60

elastic, of Earth 2

Molodensky, S. M. 239-242

Moon, theory of 5  
 motion, polar 5  
 Mueller, I. I. 243-244

### Nutation

annual  
   liquid core effect on 115  
   harmonic coefficients of 36  
   solar 73  
 choice of axis 248-249  
 coefficients  
   astronomical determination of 118-119  
   improved 256  
 constants 3  
   long-baseline interferometry and 129-138  
   observed versus theoretical 120-121  
 core, free polar motion and 60  
 correction of Woolard's theory 117-124  
 correction to terms of 92-93  
 definition 18  
 Earth's constitution and 139-151  
 error in, effect on latitude and time observations 87ff.  
 forced 5, 143, 144  
   astronomical 20  
   definitions 19-21  
   derivation from IPMS system terms 36-40  
   determination of Earth's irregular rotation and 235-237  
   geophysical 19  
   tides and 225-234  
 fortnightly, from ILS data 41-46  
   term coefficients 28ff.  
 free 5  
   Chandlerian 19  
   prograde 19  
   Eulerian 18  
   prograde 19  
   principal core retrograde 19  
   principal retrograde 19  
   rheological description of 18-19  
 frequency, tidal frequency and 228  
 latitude variation and 67-74  
 liquid core models for computation 161-163  
 lunar ranging data and 127-128  
 nearly diurnal 147  
 new series, committee on 257  
 new theory, requirements for 4-6  
 normal mode 195-202  
 observed versus theoretical 10  
 Oppolzer terms and 23-32  
 phase-stable long-baseline interferometry and 132-138  
 precession and 157

- (nutation)
  - principal 73
    - corrected 93
    - terms 81-96, 109-110, 143
      - coefficients 28ff.
      - scale value effect on 33-34
  - semiannual corrected 93
    - harmonic coefficients of 36
    - solar 73
    - term 11-16
      - term coefficients 28ff.
  - series, adoption of new 249-250
  - short-period 47-49
    - terms, effect on observations 51-57
  - specification of, in IAU system of astronomical constants ix, 1-7
  - stratified fluid core model and 165-183
  - theoretical problems 9-11
  - theory of, new 5-7
  - tides and ix
- Observational data
  - astrolabe, correction of 81-86
    - periods and amplitudes of 89ff.
  - Herstmonceaux zenith tube 51-57
  - of bright zenith stars at Poltava 67-68
  - Pulkovo polar tube 47-49
- ocean
  - effect on Earth's rotation ix
  - quasi-static theory 188
- O'Hora, N. P. J. 51-57
- Opalski, W. 209
- Oppolzer terms in frame of reference transformations 26
- oscillation, free, differential equations of 147
- Phase synchronization
  - of interferometers, by satellite 131, 132
- Pilnik, G. P. 235-237
- plate tectonics
  - global, polar motion and 243-244
- Poincaré body 19
- Poinsot diagram 140
- polar coordinates 14, 15
  - determination of 76
- polar motion 79
  - damping 209
  - free, nearly diurnal ix
  - nearly diurnal prograde 65
  - secular, plate tectonics and 243-244
  - terminology 17-21
- pole
  - of rotation 5

- (pole)
  - true 5
- Popov, N. A. 67-74
- power spectrum of bright stars 68
- precession equation 157
- proper motion data reduction 42
  
- Random excitation, polar damping and 209
- reciprocity of static and dynamic terms in stratified fluid core model 174-175
- resolutions of the Symposium
  - consideration of 251-254
  - English text 256-257
  - French text 257-258
- Ruzymikina, T. V. 153-156
  
- Saito, Masanori 165-183
- Sasao, Fetsuo 165-183
- satellites, geostationary, interferometer phase synchronization 131-132
- Seidelmann, P. K. 117-124
- seismic wave
  - P* and *S* 144
  - attenuation of 149
- seismology
  - inelastic attenuation in mantle and crust 190
- Sekiguchi, N. 205-208
- semantic confusion 17-21, 140
- Shen, Po-Yu 185-186
- Shuhei, Okubo 165-183
- Smith, M. L. 195-202
- solar 243-244
- star
  - location, and fortnightly nutation 41
- star observation
  - bright, latitude variation from 67-74
- Sun
  - theory 5
  - torque effect on Earth 13
- superadiabatic temperature gradient 153
- Symposium 78
  - organizing committee ix
  - participants xi-xvi
  - recommendation ix
  - resolutions - *see* Resolutions of the Symposium
  - topics covered ix
  
- Taradij, V. K. 41-46
- temperature disturbance, mass flow in Earth and 154
- terminology (*see also* semantic confusion) 253-254
- thanks 255
- tidal effects on observational data 51-57

## tide

- differential equations of 147
- polar, equilibrium nature of 191
- solid Earth, nutation constants based on 122, 123
- Chandler wobble and 188
- forced nutation and 144, 225-234
- liquid-core models for computation 161-163
- local effects on observations 203-204
- nutation and ix
- observational difficulties 230-232
- solid Earth 118

## time

- astronomical and terrestrial rotation vectors 61
  - free polar motion and 59-66
  - unit of 3
- Julian century 4
- nutation error and 87ff.
- short-period terms in observations with Herstmonceux zenith table 51-57
  - variation, meteorological origin of 64, 65
- torque, dissipative coupling 176
- transit observation, angular momentum vector calculation from 28

Van Flandern, T. C. 117-124

Verberen, R. 247-255

Vincente, R. O. 139-151

Wilkins, G. A. 1-7, 247-255

wobble (*see also* semantic confusion)

- nearly diurnal 76

- normal mode 195-202

Woolard's theory 4, 5

- empirical correction of 117-124

Woolard's series

- coefficients of ix

- corrections to 2

Yablokov, E. A. 33-34

Yatskiv, Ya. S. 59-66, 67-74

Yen, J. L. 129-138

Yokoyama, K. 36-40

Yumi, S. 13-16

Zharkov, V. N. 239-242