

SUBJECT INDEX

- area integral 170
asteroid 37, 77, 81
- bifurcational eccentricity 111
bifurcational inclination 99, 105, 111
binary 211, 225, 232, 244
binary interactions 268
Bode's law 21
Bohlin-type expansion 125
bounded cluster of galaxies 275
bounded motion 275
- capture 213, 219
Carnot engine 262
cat's eye effect 84
central configuration 277
central problem 173
characteristic multiplier 15
close encounter 234
close pair 233
close triple 219
cluster dynamics 225
cluster remnant 231
cluster of galaxies 273
coincidence phenomena 231, 233
comet 133, 135, 137
commensurability 57, 125, 157
constant perturbation 180
containment theorem 192
convergence of perturbation series 1
coupled case 301
critical eccentricity 97, 111
critical inclination 97, 99, 104, 111, 125
critical term 148
C-system 202
- diffusion process 298
diffusion time 302, 304
disintegrating cluster of galaxies 277
dissolution of clusters 271
distribution function 59, 266
dynamical evolution 57, 63, 239
dynamical figure of the Moon 201
dynamical formation of binaries 270
dynamical friction 285
dynamical stability 241
dynamical system 297
dynamical system, generic properties of 16
dynamical systems theory 11
- dynamics 273
- eigenvalue criterion 302
elliptic motion 274
empirical check 235
Enceladus-Dione 57
ergodic 299, 301, 307
escape 185
escape energy 217
escape probability 217
escape theorem 186, 194
exchange 214
expanding gravitational system 257
expanding like t 275
expanding like $t^{2/3}$ 275
expansion method 3
expansions of disturbing function 157
- family of asteroids 81
fixed frequency expansion 5
fixed frequency ratio expansion 5
fly-by 214
force law 274
formation of disks 83
formation of planets 93
frequency of escape 215
- galaxies, mass of 280
Galilean satellites 151, 167
gambler's ruin model 304
generic dynamical systems 12
global differentiable dynamics 12
global solution 125
gravothermal catastrophe 264
- Hamiltonian dynamical systems 17
hard binary 226
Hecuba gap 77, 183
hierarchical cluster of galaxies 276
hierarchical system 240
Hill's approximation 117
Hill's equation 131
H-system 266
Hubble's constant 278
hyperbolic motion 274
ideal resonance problem 209
inclination type 71
inelastic collision 83
integrable case 117

- integrable zone 301
 intermediary orbit 140
 invariant integral 249
 isolating integral 297
 isothermal enclosure 262
 iterative method 139
- Jacobi constant 44, 49, 50
 Jeans-Ambartsumian law 245
- Kirkwood gaps 37
- Laplace's first integral 171
 Levi-Civita solution 253
 libration 63, 174, 180
 linear inequality 144
 linear tangential mapping 298
 Liouville theorem 265
 literal operations on computer 149
 long period term 165
 lunar artificial satellite 120, 201
- mapping 297
 mean motion, distribution of 23
 measure-theoretic sense 282
 microcanonical ensemble 269
 Mimas-Tethys 57, 71
 mixed trapezium 240
 Moon 201
 Moon's gravity field 201
 mother planet of asteroids 62
- N*-body experiments 227
N-body problem 19, 193, 249, 273
N-body system 257, 261
 negative specific heat 264
 Neptune-Pluto case 73, 163
 nonlinear inequality 147
 non-resonant case 97, 103
 normal trapezium 240
N-planet problem 96
 numerical experiments 257, 259
- oblate planet 117
 open cluster 235
 optical trapezium 240
 orbital evolution 67
 orbital stability 250
 orbit-orbit resonance 71
 original distribution of asteroids 37
 origin of asteroid ring 59
 origin of commensurability 57
 origin of resonance 71
 oscillatory motion 279
- Palomar-Leiden survey (PLS) 37
 parabolic motion 274
- Perseid meteor stream 62
 physical libration of Moon 202
 planetary motion 157
 planetary system 26
 planetary theory 139
 Poincaré's periodic orbit 95, 110
 Poisson technique 176
 proper oscillation 174
 pulsating motion 280
- quantum number of planets 26
 quantum rule 25
 Quasars 278
 quasi-resonance 174
- random motion 8
 resonant asteroid 112
 resonant case 109
 restricted three-body problem 6, 63, 103, 109, 129, 131, 162
 retention 185, 198
 retention theorem 189
 rigid-body dynamics 209
 rotational-translational motion 201
- Sampson's table 167
 satellite problem 117
 satellite, retrograde 129
 satellite system 57
 satellite theory 125
 Saturn's oblateness 71
 Saturn's ring 83
 secular perturbation 81, 157
 secular system 150
 singular solution 252
 small cluster, stability of 231
 small stellar system 239
 soft binary 226
 Solar system 23, 25, 83, 165
 specular enclosure 264
 spherical cluster 285
 spherical stellar system, stability of 259
 stability 1, 95, 250
 stability criterion 6
 stability in measure 7
 stability of asteroid motion 77
 star cluster 225, 270, 285
 stationary solution 95
 stellar dynamics 261
 stellar encounter 285
 stochasticity of orbit 300
 subsystem 276, 277
 surface number density of asteroids 46, 53
- thermodynamics 261
 three-body experiments 211
 three-body problem 7, 95, 97, 185, 211

- tidal dissipation 57
tidal dissipation function 57
translational motion 203
trapezium system 239
trapezium-type system 240
triple system 226, 247
Trojan asteroid 63
uncoupled case 308
Uranus' satellite 120
variable frequency expansion 2
wide trapezium 240