

I N D E X

- Accretion 325
 of comets 343-345
- Albedo
 effect on spin rate 392
 of cometary dust
 Bond 224,225
 ultraviolet 263-266
- Alexander, W.M. 342,421,425
- Alvarez, P. 61
- Anderson, P.C. 41
- Apollo objects 220
- Apollo 17 41
-
- Babadzhanov, P.P. 111,157
- Baggaley, V.J. 85,109
- Bahr, P. 273
- Baryshikova, C. 371
- Braun, C. 275
- Brownlee, D.W. 183,273,319,333,374,394
- Burns, J.A. 53,281,320
- Buitrago, J. 61
-
- Cepolecha, Z. 171
- Chamberlain, J.D. 421
- Chernova, C.P. 259
- Clair, D. 271
- Clark, P.C. 271
- Comets 212-219
 accretion of nuclei 343-345
 association with meteor streams. See: Meteor showers
 collisions, erosion 212,213
 composition 223,237,349
 dust from 10,212,223-249,255-258,259-262,329-332,345-347
 ejection velocity 215,239,241,246
 P/Fucke 163,219,221,224,240,330,331
 P/Halley 149,150,217,330,332
 P/West 10,223,224,229,244,263-270
 tails
 anomalous 240,241
 structure 242
- Cook, A.F. 53,170,198,379,389,401,420
- Corbin, J.D. 421,425
- Cosmic rays
 solar 385-388
 tracks 172

Cratering experiments 357-364, 368. See also: Penetration of thin films
 in differing targets 358
 in low-density target 362
 in thick targets 396

Dabizha, A.I. 205

Dalman, R.F. 273

Daniels, P.A. 325

Delcourt, J. 137

Dobrovolsky, O.V. 259

Dumont, R. 65, 67

Dust. See: Particles

Elford, W.C. 100, 101, 298, 332

Earth

magnetosphere 422-424, 425-428

pre-historic particle ring 412-413

Explorer 46 329

Explorer XIII, XV 426

Farrell, J.A. 267

Fastie, W.G. 41

Fechtig, H. 236, 271, 273, 342, 357, 424

Fedynski, V.V. 205

Feldman, P.D. 12, 236, 263

Gabhard, J.P. 137

Calibina, I.V. 145

Gegenschein 2, 33-36

Getman, V.S. 111

Giese, R.H. 1, 70, 79, 309, 342

Giovane, F. 25

Greenberg, J.M. 44, 235, 313, 343

Crün, F. 52, 275, 277, 293, 302, 309, 311, 313, 321, 342, 365, 415

Gustafson, B. 310, 314

Hahn, R.C. 19, 25

Hajduk, A. 149

Halliday, I. 197

Hanner, M. 15, 44, 223, 276, 278

Harvard Radio Meteor Project 152, 154

Havnes, O. 315

Hawkes, R.L. 117, 183, 349, 354, 394

Helios 5, 15-18, 277, 294, 321-324, 365-369

Hellmich, P. 255

Henry, R.C. 41

HEOS spacecraft 294, 426

Hill, J.R. 350, 417

Hodge, P.W. 333

Hughes, D.W. 153, 166, 183, 198, 207, 298, 325, 332, 341, 370, 379, 389

- International Solar Polar Mission (ISPM) 5,23
 photopolarimeter (ZLE) 6,288
Interplanetary dust. See: Particles
Interstellar dust. See: Particles, interstellar
- Jones, J. 117,167
Jupiter
 magnetosphere 417-420
 radius, equatorial 409
 ring 409-412,415,416,419
 color 410
 radius 409
 shape 411
 satellite 1979J1 411,412
- Keay, C.S.L. 197,222
Keller, F.U. 156,255,310,320,356,415
Kessler, D.J. 137
Khare, B.N. 355
Kiselev, N.N. 259
Kissel, J. 271,273,275
Koutchmy, S. 37
Kramer, E.F. 199
Krätschmer, W. 351
Kresák, L. 152,156,198,211,292,332
Krol, E. 371
- Lafon, J.P.J. 303
Lamy, P.L. 32,36,37,75,278,289,302,303,311,314,341
Landry, P.M. 137
Lang, B. 371
Laser levitation experiments 392
Leinert, C. 13,15,36,53,80,292,302
Le Sergeant, L.R. 289
Levasseur-Regourd, A.C. 67
Levin, B.J. 279
Lindblad, B.A. 105,166
Llebaria, A. 37
Lokanadham, B. 127,163,183,236,278,311,349,415
Long Duration Exposure Facility (LDEF) 395-400
López, C. 55,61
Lunar
 dust and spherules 342
 ejecta 421-428
 microcraters 295,357
Lunar Explorer 421
Lunar Orbiter 421
- Mandeville, J.C. 395
Martin, P. 371
McDonnell, J.A.V. 80,309,379,395

McIntosh, B.A. 170

Mendis, D.A. 417

Meteor

- ablation products
 - cooling of 86
 - excited states 86
 - interaction with atmospheric molecules 88
 - ions and electrons
 - loss processes 95
 - reflection of radio waves 85. See also: Radar meteor
 - neutral atoms and molecules 86,114
 - spherules 333-338
 - transport, diffusion 87,98
- heights 109,119,120,130,131
- luminosity, light curve 90-95,111
 - persistent train 94,95,122
- photometric mass 112,118. See also: Meteorite
- radiants 168. See also: Radar meteor
- shower. See: Meteor shower
- spectra 111,113,121-132
 - 5577Å forbidden oxygen (green) line 129-132
- television observations 117,124,167
- trail length 120
- velocity, acceleration 130,131,179

Meteor shower

- Aquarid,delta 147,167-169,214
- Aquarid,eta 149-152
- Arietid 167,219
- Geminid 157,164,165,219,221,330,
 - age 158
- Leonid 330,425
- Orionid 149-152,330
- Perseid 129-132,161,167,219
- Quadrantid 17,18,153-156,165,166,219,330
 - age 158
 - orbit 154,157-162
 - semi-major axis 154-156
- Taurid 147,163,164,330,331
- Ursid 330
- association with comets 154,165
 - Encke 163
 - Halley 149-152
- planetary perturbations 156,158
- Poynting-Robertson effect 157

Meteorite

- carbonaceous 176,220,232
- chondrite 179
- chondrules 371-374
- crater-forming bodies 205

- fireballs, interaction with Earth's atmosphere 171-198
 - ablation 172-173, 187-189
 - airwaves 191-194
 - end heights 172-173
 - luminous efficiency 172, 173, 178, 190
- fragmentation 187
- Innisfree 171, 177, 181
- Lost City 177, 181
- mass
 - dynamic 172-174
 - from cosmic ray tracks 172
 - influx on Earth 138, 205, 207-210
 - photometric 172-173, 179, 210
- Prairie network (US) 172-174, 180, 182, 210
- Pribram 181
- Revelstoke 194
- saturation magnetization 371-374
- thermomagnetic curves 371-374
- Tunguska 194, 198, 222
- Micrometeorites 333-342. See also: Particles
 - chondritic aggregates 336-342
 - composition 336-337
 - flux 335
 - structure 336
- Millet, J.M. 303
- Millman, P.N. 121, 170, 183, 198, 278, 332, 342, 429
- Misconi, F.Y. 49, 298, 379, 389, 391
- Miyashita, A. 45
- Moran, J.L.T. 137
- Morfill, G.F. 273, 309, 311, 313, 318, 428
- Mujica, A. 55, 61
- Mukai, T. 310, 320, 379, 385, 420
- Murray, C.D. 153
- Musiy, V.I. 199

- Nagel, P. 357
- Narizhnaja, N.V. 259
- Neptune
 - possible rings 413
- Nowakowski, A. 371

- Obrubov, Y.V. 157
- Olszewski, E. 333

- Paddack, S.J. 391
- Pailer, N. 275, 357, 365
- Particles, dust
 - absorbing 7, 17, 225, 227, 230, 239, 248, 281, 319, 353
 - alpha meteoroids 294, 297

- aggregates, conglomerates, fluffy 7,8,78,80,233,235,239,269,336-338
- amorphous 381-384
 - radiation effects 382
- beta meteoroids 285-288,289,294-296,313,319,323
- collection techniques 271,273,333-342,397-400
- collisions 289-292,296,299-302,326,375,385
- density 365-370
- dielectric 7,17,225,226,239,248,279,351-354
- disruption, fragmentation 267-270,339,342,385-388,399,417-418. See also: collisions
 - rotational 391-394
- distribution 3,15,59,62-65,75-80,289-292,294,325-328,419
 - models of 3,81,212
- electrostatic charge, potential 303-307,315,417-418,427,428
- ice 240,375-380
- mass loss rates 387,388
- orbits, evolution, dynamics 277,284,293,309,321-324,331,375
 - electromagnetic effects 52,309,311,313,330
 - Lorentz force 269
 - Poynting-Robertson effect 220,279,281-284,287,289,296,299-302,319,375. See also: Meteors
 - radiation pressure 220,226,228,236,238,251-254,277,279,281-288,297,319,321,330,422
- physical properties 7,81-84,223-249,333-338
 - composition 336-338,396-397
 - measurement with mass spectrometer 275-277
 - porosity 339
 - refractive index 81-84
- scattering properties. See: Scattering
- sizes 5,81-84,223,224,227,228,238-254,259-262,324,333-336
- sources 211-222,339,343-350
 - production rates from comets 212,255-258
- sputtering 320,377,382,385-388
- sublimation 319,376,385-388
- submicron 329-332
- synthetic 355
- temperature 229,233
- thermal radiation 226-230
- two-stream instability 315-318
- Particles, interstellar 344-349
 - infrared absorption and emission 351-354
 - silicate grains 351-354
- Particles, meteoric See also: Meteorite, Micrometeorite
 - ablation 85 171-182,202. See also: Meteor, ablation products
 - asteroids and comets as sources 199-204
 - distribution in space 133-136,141-144
 - evolution 133-136,145-148
 - orbits, dynamics 133-136,145-148,199-204
 - Poynting-Robertson effect 133-136
 - flux on Earth 138. See also: Meteor, rates, Radar meteor, rates

- physical properties
 - composition 121-127
 - fragmentation 111
 - size (mass) 112,118
- Particle, rings
 - Jupiter 410-412
 - Saturn 402-403,416
 - Uranus 403-409,416
- Pegasus 426
- Pekala, M. 371
- Penetration of thin films 365-370,397-400
- Perrin, J.M. 75
- Pilachowski, L. 333
- Pioneer 5,19,72,294,375,401-403,417-420
 - photopolarimeter 20,403
- Pitz, E. 15,29
- Poynting-Robertson effect. See: Particles, orbits
- Pre-biological molecules 349

- Padar (radio) meteor
 - diffusion of electrons and ions 101,109
 - Harvard Project 152,154
 - heights 109
 - radiants
 - distribution, model 141-144
 - rates 141,149,164,165
 - influence of the atmosphere on 101-108
- Radiation forces (pressure). See: Particles, orbits
- Ratcliff, F.F. 391
- ReVelle, D.O. 183,185,349
- Pichter, I. 15
- Poach, F.E. 44,53,127,311,349
- Robley, R. 33
- Roche limit and lobes 403-404,415
- Röser, S. 81
- Russell, J.A. 129

- Sagan, C. 355
- Saliout 6 37,38
- Sánchez, F. 55,61
- Sarma, T. 167
- Saturn
 - radius, equatorial 402
 - rings 383,402-403,415-416
 - divisions and gaps 402-403
 - temperatures 403
 - satellites 403
 - Van Allen belt 383
- Scattering
 - from cometary dust 223-236,346-347

- function (cross section, etc.) 5,55-72,76
 - function model 5,55-60,72
 - microwave analog 7,8
 - phase function 55-60
- inversion 4,67-72
- Mie theory 7,76,81,255,269,393
- polarization 10,225,226,239,260,346,347
- radiation forces 282
- wavelength dependence 226
- Schmidt, P.D. 156,321
- Schneider, E. 357
- Schuerman, D.W. 25,71,285
- Schwehm, G.H. 23,319
- Sekanina, Z. 152,237,251,267,278,332
- Shestaka, I.S. 199
- Shuttle
 - photopolarimeter 25-28
 - planned observations of diffuse sky radiation 25-28
- Simonenko, A.N. 279
- Singer, S.F. 32,302,314,329,342,369,379,389,420,428
- Skylab
 - zodiacal light observations from 19-22
- Smoluchowski, R. 381
- Solar corona, wind 306,375,383.
 - See also: Zodiacal light, solar activity effect
- Soter, S. 281
- Space colonization 286
- Spacelab 1,392-394
 - very wide field camera 38,39
- Stanley, J.E. 13,278,329
- Stakheev, Y. 371
- Starlight
 - subtraction of background 21,42,43,46
- Staude, H.J. 81,354
- Stohl, J. 141

- Takechi, A. 45
- Tanabe, H. 45
- Tektites 412
- Terentjeva, A.K. 145
- Tholins 355-356
- Timchenko-Ostroverkhova, E.A. 199
- Tupieva, F.A. 259
- Trulsen, J. 299

- Uranus
 - rings 403-409,415-416
 - Roche limit 403-409
 - satellites 403-409

Vanguard III 425
Voyager 401,409-411

Weinberg, J.L. 19,25

Wikan, A. 299

Williams, I.P. 153

Zodiacal light. See also: Scattering

color, spectrum, wavelength dependence 2,15,17,19-22,72,83,84
infrared 29

ultraviolet 41-44,84

Doppler shift 80

intensity 1,5,15,16,18,19-22,50,55-65,348

solar activity effect 33-36

5300Å 46

measurement from balloons 29

measurement from rockets 5

measurement from spacecraft

Appollo 17 41-44

Helios 5,15,17

ISPM 5,6,69,70

Pioneer 5,72

Salout 6 37,38

Spacelab 1 38,39

Skylab 19-22

measurements, ground-based 5,33-36,45-52,61

Kiso (Tokyo Astron. Obs.) 45-48

Mt. Haleakala 49-52

Pic du Midi 33-36

polarization 1,2,15,17,19-22,348

symmetry plane, photometric axis 3,15,16,45-52

Zook, H.A. 44,104,291,293,364,370,375

Zotkin, I.T. 205