

INDEX

Incorporating a Key to the Literature Cited

- Abell, G. O., 513*s*
absorption, 406: 30 Doradus, 333; hydrogen line, 360; ionized hydrogen, 406, 451, 458, 460, 466
Adgie, R. L., 352*s*; 354*d*, 365*d*; 304*l*, 354*l*; 364, 401
Akabane, K., 116*l*, 236*l*
Akhiezer, A. I., 200*l*
Alekseev, U. J., 259*s*; 84, 289
Alfvén, H., 601*l*; 542
Allen, C. W., 28*l*, 97*l*, 116*l*
Aller, L. H., 335*l*, 428*l*
Alon, I., 116*l*
Al'pert, Ia. L., 128*l*
Alsop, L. E., 69*s*
Ambartsumian, V. A., 335, 549
Andromeda nebula (M_{31}), 408, 412, 447
Appleton, E. V., 207*l*
Arams, F. R., 74*l*
Archer, S., 487*s*; 338*l*
Arsac, J., 236
Athay, R. G., 98*s*; 96*l*, 104*l*, 157*l*; 81, 287
Avignon, Yvette, 240*s*; 139*l*; 84
Axtell, J., 156*l*

Baade, W. A., 322*l*, 459*l*, 522*l*, 601*l*; 296, 330, 444, 542
Babcock, H. D. and H. W., 115*l*, 593*l*; 109
Bailey, D. K., 559*l*
Baldwin, J. E., 347*s*, 460*s*, 487*s*; 462–63*d*; 327*l*, 335*l*, 462*l*, 491*l*, 527*l*; 316, 338, 399, 466, 486
Barrow, C. H., 55*l*, 60*l*
Basinski, Jane, 514*s*
Bauer, S. G., 12*l*
Becker, F., 413*d*
Bećvář, A., 506*l*
Behr, A., 401*l*
Bell, Barbara, 106
Bidelman, W. P., 429*d*
Biermann, L. F. B., 600
Billings, D. E., 157*l*
Blaauw, A., 466*s*; 396*d*, 421*d*
Blackwell, D. E., 273*l*, 281*l*
Blevins, B. C., 45
Bloembergen, N., 73*l*
Blum, E. J., 282*s*; 104*l*, 116*l*, 142*l*, 284*l*; 82, 279
Blythe, J. H., 466*l*; 453, 460
Bohm, D., 200*l*
Boischot, A., 140*s*, 186*s*, 240*s*, 263*s*, 282*s*, 492*s*; 116*l*, 236*l*, 239*l*, 284*l*; 82, 136, 181, 189, 279, 287, 399, 526
Bok, B. J., 514*s*; 359*d*, 396*d*, 413*d*, 430*d*, 588*d*; 373*l*; 398
Bolton, J. G., 296*l*, 349*l*, 446*l*, 491*l*
Bracewell, R. N., 314*d*, 421*d*; 170*l*, 236*l*, 314*l*, 346*l*, 446*l*; 156
Brotén, N. W., 165*l*, 236*l*

Brown, R. Hanbury, 471*s*; 429*d*, 463*d*, 464*d*, 482*d*; 327*l*, 446*l*, 482*l*, 506*l*; 347, 468, 536
Browne, I. C., 45*l*; 11
Bruton, R. H., 12*l*
Bumba, V., 128*l*
Burbidge, G. R., 323*s*, 541*s*; 527*d*, 550–51*d*, 594*d*; 327*l*, 601*l*
Burbidge, Margaret, 323*s*; 414*d*, 429*d*, 588*d*; 468
Burke, B. F., 374*s*; 60*l*
bursts: diameter, 228, 251; dynamic spectra, 84, 176, 188, 245; harmonics, 183, 189, 195, 598; location, 176, 240, 251; mechanism, 574; microwave bursts, 86, 160, 215, 218, 226, 291, 562; miscellaneous types, 203, 208, 237, 245, 263, 291; motion, 176, 290, 554; polarization, 215, 218, 234, 252, 260; type I (storm bursts), 83, 86, 240, 248, 251, 255, 288; type II (outbursts), 85, 86, 178, 188, 194, 201, 203, 210, 289, 555, 562; type III (fast bursts), 84, 86, 176, 210, 214, 252, 260, 289, 554; type IV, 85, 86, 181, 186, 189, 290, 569, 598; type V, 182, 290; U-bursts, 86, 177, 191, 291
Burunsuzian, E. S., 497*l*

Carr, T. D., 55*l*, 60*l*
Carter, A. W. L., 446
Cassiopeia A (23N5A): deuterium absorption, 353; distance, 398; flux density, 494; hydrogen-line absorption, 361; mechanism, 601; optical object, 317; position, 317; spectrum, 298; structure, 309
Centaurus A (13S4), 328
Čerenkov radiation, 541, 561
Ceti, UV, 552
Chapman, S., 60*l*, 274*l*
Chen Fan-yun, 174*s*
Christiansen, W. N., 108*s*; 104*l*, 107*l*, 115*l*, 122*l*, 124*l*, 236*l*, 396*l*; 83, 148, 152, 287
chromosphere: energy balance, 91; formation, 286; model, 98; plages, 83, 108, 145; spicules, 287; structure, 89, 98, 286; temperature, 93, 99, 286; *see also* bursts, slowly-varying component
Coates, R. J., 104
Coblentz, W. W., 68*l*
Code, A. D., 459*l*
Cohen, M. H., 252*s*; 184*d*, 258*d*, 308*d*; 236*l*; 84, 191, 290
colliding galaxies, 473; *see* Cygnus A
Collins, C., 560
Coma Berenices, 347, 366, 447, 465, 473
comet Arend-Roland, 6, 56, 77
condensations in corona, 82, 87, 108, 121, 156, 165, 172
confusion of sources, 475, 491, 536
continuum emission, 405: galactic corona, 407, 412, 431, 435, 460, 466; galactic disk,

s = symposium paper, *d* = discussion item, *l* = literature citation

- 439 ; H II regions, 406 ; spiral arms, 443, 467 ; surveys, 447, 460
 Conway, R. G., 354*l*, 364*d* ; 450*l*
 corona : asymmetry, 287 ; condensations, 82, 87, 108, 121, 156, 165, 172 ; formation of, 286 ; green line emission, 287 ; model, 105, 149 ; propagation in, 81, 574 ; radio emission, 286, 554, 562, 574 ; refraction in, 274, 279, 282, 284 ; scattering in, 268, 275, 282, 291 ; structure, 89, 285, 291 ; *see* Galaxy, halo
 coronograms, 118
 coronameter, 149
 cosmic noise absorption, 208
 cosmic rays, 210, 237, 405, 583, 589, 599
 cosmology, 523, 529, 533, 538
 Costain, C. H., 48*l*
 Coutrez, R. A. J., 553*l* ; 6, 264
 Covington, A. E., 159*s* ; 104*l*, 139*l*, 148*l*, 165*l*, 207*l*, 236*l* ; 115, 287, 291, 495
 Crab nebula : lunar occultation, 6, 47 ; mechanism, 598 ; polar occultation, 268, 274, 275, 282, 291
 Craig, K. J., 19*s* ; 12*l*
 Crawford, A. B., 68*l*
 Cygni, γ , 344
 Cygnus A (19N4A) : colliding galaxies, 473 ; cosmology, 534, 538 ; discovery, 295 ; energy, 600 ; flux density, 70, 493 ; hydrogen line absorption, 362 ; optical object, 510 ; position, 493 ; spectrum, 299 ; structure, 309
 Cygnus loop, 315, 320, 323, 398, 401
 Cygnus X (20N4A), 339, 356, 399, 441, 447
 Daniels, F. B., 12*l*
 Das Gupta, M. K., 314*l*
 Davies, R. D., 355*s* ; 359*d*, 420*d* ; 115*l*, 148*l*, 359*l*, 364*l* ; 339, 401
 Davis, L., 572*d*
 Degrasse, R. W., 74
 de Groot, T., 245*s* ; 84, 250
 de Jager, C., 89*s* ; 97*d*, 157*d*, 192*d*, 250*d* ; 96*l*, 81, 286
 Denisse, J. F., 81*s*, 237*s* ; 183*d*, 243–44*d*, 273*d*, 285*d*, 495*d*, 551*d* ; 104*l*, 115*l*, 116*l*, 148*l*, 187*l* ; 286, 290
 Denissov, N. G., 581*l*
 deuterium, 352, 401
 de Vaucouleurs, G., 335*l*, 349*l*, 506*l*, 522*l* ; 347, 442
 Dewhurst, D. W., 507*s* ; 49*d*, 338*d*, 485*d*, 513*d* ; 327*l* ; 337, 398, 489, 527
 Dicke, R. H., 68*l*
 Dieter, Nannielou, 465*l* ; 426
 discrete sources : classes I and II, 471, 501 ; cosmological aspects, 523, 529, 533, 538 ; diameters, 492 ; discovery, 295 ; distribution, 443, 471 ; extended, 399 ; extragalactic, 328 ; flux density, 492 ; H II absorption, 406, 451, 458, 460, 466 ; identification, 472, 498, 507, 514, 537 ; nature of, 523 ; optical observations, 315, 398 ; polarization, 398, 405 ; positions, 337, 398, 492 ; spectra, 297, 398 ; statistics, 501, 523
 Dodson-Prince, Helen W., 116*l*, 139*l*, 187*l*, 200*l*, 207*l* ; 146, 211
 Doherty, L., 335*l*
 Dollfus, A., 48*l*
 Dombrovskii, V. A., 601*l* ; 542
 Doradus, 332, 399, 407
 Douglas, J. N., 53*s*
 Drake, F. D., 339*s*, 366*s* ; 368–69*d* ; 521*l*, 65, 346, 399
 Ecklund, E. T., 374*s*
 eclipse of sun, 174
 Edge, D. O., 487*s* ; 322*l*, 527*l* ; 338, 486, 489
 Edmondson, F. K., 350*d*, 414*d*
 electron density in sun, 126, 151, 278
 Elgarøy, Ø., 248*s* ; 250*d* ; 84, 289
 Ellis, G. R., 462*l*, 594*l*
 Elsmore, B., 47*s*, 337*s*, 487*s* ; 48–49*d* ; 48*l*, 491*l* ; 77, 399, 486
 Erickson, W. C., 390*s* ; 368*d*, 396–97*d*, 550*d*, 572*d* ; 399
 Evans, J. V., 8*s* ; 12*d*, 308*d* ; 45*l* ; 75
 Evans, S., 8*s* ; 75
 Ewen, H. I., 52*l* ; 65
 extragalactic hydrogen : neutral, 423, 465, 467 ; ionized, 332, 399, 407, 429
 extragalactic sources, 328
 Faïnberg, E. L., 128*l*
 Faraday rotation : cislunar, 7, 8, 75 ; interstellar, 307
 Farley, D., 587
 Fermi, E., 587
 Field, G. B., 486*d*, 570*d*
 Firor, J. W., 107*s*, 136*s*, 374*s* ; 85, 105, 157, 287, 399
 flare stars, 552, 599
 flares, 87, 201, 203, 214, 218, 231
 Fleischer, R., 208*s* ; 209*l*
 Fokker, A. D., 252*s*, 263*s* ; 193*d*, 267*d* ; 84, 88, 289
 Fornax A, 328, 330
 Franklin, F. A., 359*l*
 Franklin, K. L., 60*l*
 Fraunhofer-Institut, 109
 Fresnel, A. J., 45–46
 Fricker, S. J., 45
 Friis, H. T., 68*l*
 Fürstenberg, F., 104*l*
 galactic clusters, 366
 galactic pole, 409, 413
 galaxies, normal and abnormal, 472, 536
 Galaxy : classification, 442 ; emission mechanism, 571, 583, 589, 598 ; flatness of disk, 406, 409 ; halo (corona), 407, 412, 431, 435, 460, 466, 590, 600 ; ionized hydrogen, 448 ; meter wavelengths, 431 ; rotation, 410 ; spiral arms, 355, 400, 405, 409, 418, 431, 443, 467
 Gallet, R., 26, 78, 553
 Gardner, F. F., 60*l*
 Gaze, V. F., 322*l* ; 323
 Gelfreich, G. B., 125*s*, 218*s* ; 221*l*
 Gershman, B. N., 581*l*, 582*l*
 Getmantsev, G. G., 582*l*, 594*l*
 Geusic, R., 74*l*
 Gibson, J. E., 50*s* ; 3, 52, 77
 Ginat, M., 116*l*, 142*l*
 Ginzburg, V. L., 574*s*, 589*s* ; 128*l*, 581*l*, 582*l*, 593*l*, 594*l*, 601*l* ; 105, 544
 Giordmaine, J. A., 69*s* ; 399

- Giovanelli, R. G., 201*s*, 214*s*; 200*l*, 214*l*, 601*l*
 globular cluster, 499
 Gold, T., 583*s*; 18d, 49*d*, 273*d*, 308*d*, 414*d*,
 421*d*, 430*d*, 484*d*, 535*d*, 551*d*, 560*d*; 467,
 545, 598, 600
 Goldberg, L., 207*l*
 Gottlieb, K., 514*s*
 gradual rise and fall, 86, 226
 Grant, C. R., 45*l*; 18
 Greenstein, J. S., 545
 Groot, H., 446*l*
 Gross, E. P., 200*l*
 Gum, C. S., 335*i*, 506*l*; 451, 516
 Gutmann, Monique, 123*s*; 83, 287
- H II regions, *see* hydrogen, ionized
 Hachenberg, O., 104*l*
 Haddock, F. T., 188*s*; 183*d*, 192*d*, 239*d*, 267*d*;
 68*l*, 74*l*, 104*l*, 200*l*, 304*l*; 84, 139, 181, 187,
 254, 265
 Hagen, J. P., 104*l*, 304*l*, 322*l*; 360, 494
 halo, *see* Galaxy
 Hargreaves, J. K., 12*l*
 harmonics, 183, 189, 191, 579, 598
 Haro, G., 553*l*
 Hartz, T. R., 554*s*; 184*d*, 560–61*d*
 Harvey, G. A., 165*l*
 Hatanaka, T., 116*l*, 236*l*, 258*l*
 Hazard, C., 477*s*; 350*d*, 506*d*; 446*l*, 506*l*; 347,
 472
 Hedeman, E. Ruth, 139*l*, 187*l*, 207*l*
 Heeschen, D. S., 365*d*, 420*d*; 359*l*, 465*l*; 364
 Helfer, H. L., 390*s*; 368
 Henize, K. G., 335*l*
 Hepburn, Nannie, 68*l*
 Herbig, G. H., 553*l*
 Hercules A, 510
 Herlofson, N., 601*l*; 542
 Hewish, A., 268*s*; 273*d*, 285*d*; 18*l*, 273*l*, 338*l*;
 56, 82, 84, 279
 Hey, J. S., 13*s*, 295*s*; 185*d*; 296*l*, 354*l*; 76
 Hill, E. R., 338*l*, 446*l*; 349, 466, 507
 Hindman, J. V., 396*l*, 446*l*; 105, 462
 Hitotuenagi, 290
 Hoffmeister, C., 553*l*
 Högbom, J., 56*s*, 251*s*; 57*l*; 289
 Holmberg, E., 513*l*
 hot universe, 583
 Howard, W. A., 401
 Hoyle, F., 529*s*, 583*s*, 598*s*; 49*d*, 349*d*, 354*d*,
 414*d*, 422*d*, 430*d*, 462*d*, 528*d*, 535*d*, 588*d*;
 327*l*, 601*l*; 467, 533, 538, 544, 548
 Hughes, V. A., 13*s*; 45, 76
 Humason, M. L., 428*l*; 336, 533
 Hydra A, 510, 538
 hydrogen, ionized, 399, 405: absorption, 406,
 451, 460, 466; γ Cygni, 344; distribution,
 431, 444, 448, 467; emission, 339, 406, 514;
 extragalactic, 332, 429; 30 Doradus, 332,
 399, 407
 hydrogen line: absorption, 360; Coma cluster,
 465; extragalactic, 423; galactic clusters,
 366, 401; galactic nucleus, 406, 411, 416;
 galactic plane, 374; galactic structure, 405,
 409; high galactic latitudes, 390, 399; Ori-
 on, 370; spiral arms, 355, 405, 409, 418;
 3.03-cm line, 96
 hydrogen, molecular, 429, 468
- IC 443, 320, 323; IC 1613, 424, 428; IC 1759,
 447; IC 2082, 516
 identification of sources, 472, 498, 507, 514,
 537
 Ikhсанова, V. N., 171*s*, 218*s*; 128*l*, 173*l*; 83
 Ingalls, R. P., 45
 interferometers, 133, 162, 222, 286, 309, 477,
 492, 496, 585
 interplanetary medium, 6
 isolated bursts, *see* bursts, type III
 Ivanenko, D., 597*l*
- Jaeger, J. C., 236*l*; 555
 Jansky, K., 295
 Jennison, R. C., 309*s*; 314*d*, 485*d*; 314*l*; 399
 Johnson, H. M., 459*l*
 Jones, R. B., 349*l*
 Joy, A. H., 553*l*
 Jupiter, 3, 5, 53, 59, 78; mechanism, 599;
 thermal radiation, 66, 70, 77
- K-term, 394
 Kahn, F. D., 359*l*
 Kaidanovskii, N. L., 166*s*, 218*s*; 128*l*, 221*l*,
 308*l*; 88, 173
 Kaiser, T. R., 48*d*, 267*d*
 Kakinuma, T., 215*s*; 116*l*, 217*l*, 236*l*; 88, 115,
 173, 289, 569
 Kassim, M. A. K., 343
 Keller, G., 588*d*
 Kepler's nova, 315
 Kerr, F. J., 12*l*, 413*l*, 446*l*; 415, 420
 Khaikin, S. E., 166*s*; 128*l*, 221*l*, 308*l*; 115,
 173, 174
 Kikuchi, C., 74*l*
 Ko, H. C., 349*l*, 446*l*
 Komesaroff, M., 258*l*
 Korchak, A. A., 594*l*
 Korol'kov, D. V., 125*s*, 174*s*; 128*l*, 221*l*; 88,
 115
 Kraus, J. D., 349*l*, 446*l*; 77
 Kruse, U. E., 582*l*
 Kundu, M. R., 222*s*; 569*d*; 116*l*, 221*l*; 83, 88,
 148, 287, 291
 Kuz'min, A. D., 129*s*, 305*s*; 116*l*, 307*l*; 83, 399
 Kwee, K. K., 420*l*
- Labrum, N. R., 104*l*
 Laffineur, M., 314*d*; 399
 Lambe, J., 74*l*
 Lampland, C. O., 68*l*
 Lawrence, R. S., 373*l*
 Lee, R. H., 207*l*
 Lehany, F. J., 115*l*
 Lichtenstein, Pearl, 209*l*
 life on other planets, 599
 Lilley, A. E., 421*d*; 346*l*, 354*l*, 527*l*; 356, 364,
 372
 line emission: green line, 287; 3.03 cm, 96;
see hydrogen line
 Link, F., 58*s*, 274*s*; 49*d*, 284*d*; 48*l*, 284*l*

s = symposium paper, *d* = discussion item, *l* = literature citation

INDEX

- Little, A. G., 236*l*, 258*l*, 322*l*, 506*l*; 138, 181, 557
 Loughhead, R. E., 214*l*
 Lovell, A. C. B., 75*s*; 483*d*, 513*d*
 Lundmark, K., 359*l*
- McCabe, Marie, 214*l*
 McClain, E. F., 61*s*; 304*l*, 322*l*, 354*l*, 527*l*; 364, 399
 McCready, L. L., 200*l*
 McCullough, T. P., 68*l*, 74*l*, 308*l*; 304
 MacDonald, D. F., 28*l*
 McEwan, R. J., 50*s*
 MacRae, D. A., 399
 McVittie, G. C., 533*s*; 415*d*, 420*d*, 527*d*; 534*l*; 538
 McWhorter, A. L., 74*l*
 Magellanic clouds, 328, 332, 334, 407, 423
 magnetic field of sun, 272, 280
 magnetic storms, 198, 206, 210
 Makhov, G., 74*l*
 Mars, 3
 Marshall, Leona, 561*d*; 582*l*; 599
 Martyn, D. F., 104*l*; 105
 maser, 69
 Mason, W. C., 45
 Mathewson, D. S., 108*s*; 116*d*, 157*d*, 184*d*; 115*l*, 122*l*; 83, 287
 Matthews, T. A., 359*l*
 Maxwell, A., 207*l*; 177, 187, 253
 Mayall, N. U., 430*d*; 428*l*, 534*l*
 Mayer, C. H., 69*s*; 68*l*, 74*l*, 304*l*, 308*l*; 52, 399
 mechanism of emission, 405; continuum, 445; solar, 562 ff.
 Medd, W. J., 148*l*, 165*l*
 Menon, T. K., 372*l*; 401
 Menzel, D. H., 68*l*, 104*l*
 microwave bursts, 86, 160, 225, 291, 562; duration, 567; mechanism, 562; polarization, 215, 218, 565; spectrum, 565
 Miller, F. D., 346*l*
 Millman, P. M., 413*d*
 Mills, B. Y., 431*s*, 498*s*; 304*d*, 336*d*, 338*d*, 415*d*, 462–63*d*, 474*d*, 483*d*, 491*d*, 506*d*, 572*d*; 115*l*, 322*l*, 335*l*, 446*l*, 506*l*, 527*l*, 534*l*; 331, 337, 399, 406, 421, 448, 454, 459, 466, 486–87, 495, 507, 538
 Minkowski, R., 315*s*, 536*s*; 322*d*, 335*d*, 474*d*, 513*d*, 528*d*, 588*d*; 296*l*, 322*l*, 522*l*; 323, 330, 346, 364, 398, 444, 489, 500, 510, 513, 542
 Minnaert, M. G. J., 286*s*; 157*d*, 184*d*, 250*d*
 Minnett, H. C., 104*l*, 217*l*, 346*l*; 157
 Mirzabekian, E. G., 174*s*; 308*l*
 Mitra, A. P., 207*l*
 Molchanov, A. P., 174*s*
 moon: atmosphere, 6, 47, 77; communication via, 43; conductivity and permittivity, 29, 41; echoes, 8, 13, 19, 75; far-zone theory, 31; libration, 11; occultation, 6, 47, 268, 274, 275, 282, 291; range, 15, 19, 75; reflection coefficient, 4, 29, 38; thermal radiation, 3; topography, 5, 15, 18, 29
 Morgan, W. W., 459*l*
 Moriyama, F., 116*l*
 Morris, D., 527*l*; 512
 Mott, N. F., 49
 Muller, C. A., 360*s*, 465*s*; 365*d*; 322*l*, 373*l*, 396*l*, 420*l*; 342, 357, 364, 399, 401, 412, 447
 Müller, E., 207*l*
 Müller, H., 115*l*, 148*l*; 156
 Mulligan, J. F., 28*l*
 Münch, G., 410
 Murray, J. D., 200*l*
 Murray, W. A. S., 12*l*
 Nadubovich, U. A., 281*l*
 Nançay interferometer, 492
 Newkirk, G., 149*s*; 156*l*; 287
 NGC 157, 500
 205, 424
 221(*M32*), 424
 224(*M31*, *Andr*), 399, 408, 412, 423, 447, 473, 592
 253, 424
 470, 500
 474, 500
 533, 500
 584, 500
 598(*M33*), 423, 424, 468
 1068, 500
 1275, 483, 510
 1316(*Forn A*), 328, 500
 1417, 500
 1952(*M1*, *Taur A*), 510
 2682(*M67*), 366
 3031(*M81*), 412, 428
 3145, 515
 4027, 515
 4038/9, 500, 515
 Nikolskii, G. M., 281
 noise storms, 136, 240, 255, 558; storm bursts, 83, 86, 248, 251, 288
 novae, 315, 589, 600
 O'Brien, P. A., 105
 occultation: lunar, 6, 47; solar, 268, 274, 275, 282, 291
 Oort, J. H., 409*s*, 416*s*; 308*d*, 322*d*, 365*d*, 369*d*, 413–15*d*, 420–21*d*, 430*d*, 463–64*d*, 535*d*, 573*d*, 588*d*; 308*l*, 354*l*, 373*l*, 413*l*; 364, 405, 467, 542, 544, 548
 Ophiuchus, 454
 Orion: neutral hydrogen, 370, 401; continuum, 447
 Orrall, F. O., 104*l*
 Oster, L., 97*l*
 Osterbrock, D. E., 322*l*, 459*l*
 outbursts (type II), 85, 86, 178, 188, 194, 201, 203, 210, 289, 562
 Owren, L., 187*l*
 Palmer, H. P., 527*l*; 512
 Pannekoek, A., 359*l*
 Panovkin, B. N., 105*s*; 281
 Paraskevopoulos, J. S., 522*l*
 Pariiskii, U. N., 166, 172
 Parker, E. N., 594*l*; 551
 Parsons, S. J., 296*l*
 Parthasarathy, R., 107*l*; 105, 139

- Pawsey, J. L., 405*s*; 184*d*, 244*d*, 285*d*, 349*d*, 413*d*, 486*d*, 560*d*; 115*l*, 236*l*, 522*l*; 156, 286
- Payne-Scott, Ruby, 207*l*, 236*l*, 258*l*; 138, 181, 557
- Pecker, J. C., 192*d*, 464*d*
- Perseus, 473, 483
- Peterson, L., 238
- Phillips, J. W., 296*l*
- Pictor A, 516
- Piddington, J. H., 115*l*, 148*l*, 346*l*, 446*l*; 156
- Pikel'ner, S. B., 594*l*
- Pines, D., 200*l*
- plages faculaires, 83, 108, 145, 287
- planetary ionospheres, 58
- plasma waves, 574
- Platt, J. R., 582
- Plechkov, V. M., 74*l*
- point sources: discovery, 295; *see discrete sources*
- polarization: bursts, 215, 218, 234, 252, 260; discrete sources, 305, 405; noise storm, 255; slowly varying component, 83, 87, 112, 125, 175, 232, 287; solar eclipse observations, 175; Taurus A, 305
- Populations I and II, 536
- postbursts, 88, 226
- Praesepe, 366
- Price, R., 354*l*
- Priester, W., 527*l*
- prominences, 133, 157, 201
- propagation in corona, 81
- Puppis A (08S4A), 320, 444
- quiet sun radiation, 81, 86, 107, 141
- R center, 83, 240, 287
- radar, 4, 8, 13, 19, 29, 76
- radiometry: deuterium line, 352; 54-channel receiver, 390, 399
- radio telescopes, 61, 166
- Raimond, E., 428*l*; 361
- Razin, V. A., 74*l*, 593*l*
- Reber, G., 462*l*; 295
- Redlich, R. W., 209*l*
- Reid, G. C., 560
- Rishbeth, H., 322*l*, 459*l*; 373
- Rishkov, N., 125*s*
- Roberts, J. A., 194*s*, 201*s*; 18*d*, 157*d*, 183–84*d*, 192*d*, 258*d*, 267*d*, 285*d*, 561*d*; 200*l*, 214*l*, 267*l*; 85, 211, 290
- Roman, N. G., 19*s*; 12*l*, 304*l*; 76
- Roques, P. E., 553*l*
- Rougoor, G. W., 416*s*; 420–22*d*; 354*l*; 364, 405, 411, 467
- Rowe, W. C., 183*l*
- Royal Radar Establishment Staff, 45*l*; 13
- Ryle, M., 475*s*, 523*s*; 244*d*, 482*d*, 486*d*, 506*d*, 527–28*d*, 535*d*, 553*d*; 236*l*, 296*l*, 338*l*, 491*l*, 527*l*; 301, 337, 495, 535, 538
- Sagittarius A: center of expansion, 411, 417; deuterium absorption, 353; hydrogen line absorption, 363, 401
- Salomonovich, A. E., 129*s*, 174*s*; 116*l*; 83
- Salpeter, E. E., 366
- Sanamian, V. A., 496*s*; 497*l*
- Sandage, A. R., 428*l*; 533, 546
- Saturn, 3, 53
- Savedoff, M. P., 415*d*, 594*d*
- Scanlan, T. F., 19*s*; 76
- Scarborough, J. B., 156*l*
- scattering: lunar, 4, 8, 15, 26, 29, 76; solar, 268, 275, 292, 574
- Schatzman, E., 552*s*; 421*d*, 553*d*; 599
- Scheffler, H., 97*l*
- Scheuer, P. A. G., 487*s*; 304*d*, 308*d*, 482–84*d*; 491*l*, 527*l*; 476, 538
- Schiff, L. I., 545*l*
- Schmidt, M., 359*d*, 368*d*, 397*d*, 429*d*; 446*l*; 420, 468
- Schott, G. A., 543
- Schulz-Dubois, E. O., 74
- Schwinger, J., 597*l*; 543, 562, 598
- Scott, J. C. W., 45
- Scott, J. M. C., 295
- Scovil, H. E. D., 74
- Seeger, C. L., 304*l*, 450*l*; 71, 320, 447, 463, 466
- Sen, H. K., 200*l*, 582*l*
- Senior, T. B. A., 29*s*; 46*d*; 76
- Severnyi, A., 128*l*
- Shain, C. A., 328*s*, 451*s*; 12*l*, 60*l*, 207*l*, 335*l*, 462*l*; 399, 406, 438, 466
- Shain, G. A., 322*l*; 323
- Shakeshaft, J. R., 347*s*, 487*s*; 308*d*, 349*d*, 464*d*, 491*d*, 495*d*; 491*l*, 513*l*, 527*l*; 322, 338, 466, 486, 492
- Shapley, H. A., 350*d*; 349*l*, 350*l*, 522*l*; 463, 516
- Sharpless, S., 459*l*
- Sheridan, K. V., 176*s*; 116*l*, 192*l*, 322*l*, 335*l*, 506*l*; 84, 226, 289
- Shimoda, K., 74*l*
- Shklovskii, I. S., 308*l*, 506*l*, 593*l*, 594*l*, 601*l*; 105, 347, 405, 407, 542, 543, 598
- Siegel, K. M., 29*s*; 46*d*; 76
- Sigal, M., 122*l*
- Simon, P., 140*s*, 240*s*, 263*s*; 84, 88, 289
- Sitenko, A. G., 200*l*
- Slee, O. B., 281*l*, 338*l*, 446*l*, 495*l*, 506*l*, 527*l*; 285, 487, 507, 534
- Sloanaker, R. M., 61*s*; 68*l*, 304*l*, 308*l*; 50, 399
- slowly varying component, 82, 287; directivity, 110, 124, 132, 140; distribution on disk, 111, 118, 123, 129, 136, 164, 171, 224; electron density, 126; model, 146, 154; origin, 82, 108; persistence, 135, 145, 171; polarization, 83, 87, 112, 125, 175, 232, 287; relation to bursts, 225; source height, 109, 124, 172; source size, 109, 140, 174, 224, 287; temperature, 111, 126, 141, 155, 171, 224
- Smerd, S. F., 115*l*, 156*l*, 200*l*
- Smith, A. G., 551, 60*l*
- Smith, Elske v. P., 96*l*
- Smith, F. G., 3*s*; 12*d*, 45*d*, 373*d*, 462*d*, 486*d*, 572–73*d*; 296*l*, 304*l*, 317*l*, 335*l*; 77
- Smith, Harlan J., 53*s*; 336*d*; 77
- Soboleva, N. S., 125*s*, 218*s*; 115*l*, 128*l*, 221*l*; 88
- Sokolov, A., 597*l*
- solar cycle: in corona, 268, 287, 292
- sources, *see discrete sources*
- spectra: cosmic-ray, 583, 589, 599; discrete

s = symposium paper, *d* = discussion item, *l* = literature citation

- sources, 297, 324, 398; dynamic, 84, 176, 188, 245; nonthermal sources, 595, 599
 spectrographs, 176, 188, 245, 286
 spicules, 101, 287
 spiral arms, 355, 400, 405, 409, 418, 431, 443, 467
 Spitzer, L., 359*l*
 Stahr-Carpenter, Martha, 446*l*
 Stanley, G. J., 273*d*, 354*d*; 296*l*, 354*l*
 Steinberg, J. L., 123*s*; 104*l*, 116*l*; 83
 Stone, M. L., 45
 storm bursts (type I), 83, 86, 248, 251, 288
 storm centers (*centres R*), 83, 287
 Stratton, J. A., 45*l*
 Strömgren, B., 459*l*
 sudden ionospheric disturbances, 208
 Suess, H. E., 354*l*
 sun: *see also* bursts, chromosphere, corona, slowly varying component; anomalous event, 263, 291; brightness distribution, 108, 118, 129, 142, 162; daily flux density, 159; enhanced radiation, 83; gradual rise and fall, 86, 226; magnetic field, 272, 280; noise storms, 83, 86, 136, 240, 558; quiet sun, 81, 86, 107, 141; spots, 127, 145
 supercorona, 275
 supergalaxy, 347, 399
 supernovae, 315, 323, 444, 589, 600
 surveys: Cambridge, 487; comparisons, 477, 537; confusion, 475, 477, 481, 536; of continuum, 447, 460; of sources, 477, 492, 498; sensitivity limited, 477
 Swarup, G., 107*l*, 207*l*; 105, 139, 177
 synchrotron radiation, 405, 542, 598; clusters of galaxies, 347; galactic, 405, 407, 445, 571, 589, 595; solar, 87, 189, 562; *see also* bursts, types IV and V
 Syrovatskii, S. I., 594*l*
 Takahashi, H., 74*l*
 Takakura, T., 562*s*; 97*d*, 158*d*, 258*d*, 560*d*, 570*d*; 582*l*; 191, 239, 254, 598
 Tanaka, H., 215*s*; 116*l*, 217*l*, 236*l*, 569*l*; 88, 289, 291
 Tandberg-Hanssen, É., 105, 213
 Tatel, H. E., 374*s*, 390*s*; 396, 399
 Tauri, T., 552
 Taurus A (05N2A): hydrogen-line absorption, 362; occultation, 6, 47, 268, 274, 275, 282, 291; polarization, 305; spectrum, 299
 temperatures, solar, 93, 99, 105, 107, 125, 175
 Terhune, R. W., 74*l*
 thermal radiation, 3, 87, 154
 Thomas, R. N., 97*d*; 96*l*, 104*l*, 157*l*; 287
 Thompson, A. R., 210*s*; 192*d*; 207*l*, 527*l*; 84, 177, 290, 512
 Thompson, I. M., 593*l*
 Thomson, J. H., 8*s*; 527*l*
 Timofeeva, G. M., 218*s*; 221*l*
 Tovmasian, H. M., 496*s*; 497*l*
 Townes, C. H., 69*s*; 74*l*; 399
 Trellis, M., 115*l*
 Trent, G. H., 176*s*; 192*l*, 446*l*; 84, 289
 Trexler, J. H., 45*l*
 Troitskii, V. S., 135*l*
 Tunmer, Harriet, 571*s*; 572*l*; 349
 Tuve, M. A., 374*s*; 399
 Twiss, R. Q., 115, 544, 570
 Tycho's nova, 315
 U-bursts, 86, 177, 191, 291
 Udal'tsov, V. A., 129*s*, 305*s*; 135*l*, 307*l*; 48, 83, 399
 Umetskii, V. N., 218*s*
 Unsöld, A., 97*l*, 239*l*, 593*l*
 Urey, H. C., 354*l*
 Ursa Major cluster, 447
 van de Hulst, H. C., 398*s*, 423*s*; 273*d*, 397*d*, 415*d*, 420–41*d*, 429–30*d*, 462–63*d*, 550*d*, 573*d*; 156*l*, 304*l*, 373*l*, 401*l*, 428*l*; 71, 157, 320, 361, 408, 467
 van Woerden, H., 370*s*; 373*d*; 354*l*, 428*l*; 361, 401, 411
 Vashakidze, M. H., 601*l*
 Vauquois, B., 143*s*; 148*l*; 83, 124, 224, 287
 Venus, 3, 50, 77; nonthermal radiation, 5, 77
 Virgo A (12N1A): hydrogen-line absorption, 362; mechanism (jet), 598; optical object, 510; spectrum, 299; structures, 331
 Virgo cluster, 347: diameter, 494; flux density, 71, 447, 494; position, 494
 Vitkevich, V. V., 129*s*, 259*s*, 275*s*; 48*d*, 116*d*, 122*d*, 285*d*, 308*d*, 484*d*; 116*l*, 122*l*, 273*l*, 281*l*; 48, 82, 287, 485
 Vladimirovskii, 543
 Volders, Louise, 423*s*; 408, 467
 Vonberg, D. D., 236*l*
 Wade, C. M., 462
 Waldmeier, M., 118*s*; 157*d*; 115*l*, 122*l*, 148*l*, 173*l*; 156, 287
 Wallis, G., 595*s*
 Walraven, T., 308*l*; 542, 544, 548
 Walsh, D., 477*s*; 327*l*
 Wang Shou-kuang, 174*s*
 Warburton, J. A., 104*l*, 107*l*, 139*l*, 236*l*; 155
 Warwick, Constance S. and J. W., 203*s*; 84, 209
 Wells, H. W., 304*l*
 Westerhout, G., 447*s*; 304*d*, 350*d*, 359*d*, 364*d*, 396*d*, 421*d*, 462*d*, 464*d*; 68*l*, 74*l*, 359*l*, 411*l*, 413*l*, 450*l*; 319, 340, 399, 406, 440, 442, 453, 467, 542
 Westfold, K. C., 200*l*, 349*l*, 446*l*, 559*l*; 226
 Whitfield, G. R., 56*s*, 297*s*; 48*l*, 57*l*, 513*l*, 594*l*; 324, 399
 Whitford, A. E., 459*l*
 Wild, J. P., 176*s*; 183–84*d*; 97*l*, 183*l*, 200*l*, 267*l*; 84, 192, 206, 211, 226, 244, 289, 555
 Williams, D. R. W., 364*l*
 Winckler, J. R., 238
 Wlérick, G., 157*d*; 156*l*
 Woltjer, L., 545, 548
 Yabsley, D. E., 115*l*
 Yaplee, B. S., 19*s*; 12*d*, 18*d*; 18*l*, 45*l*; 8, 15, 76
 Youmans, A. B., 45
 Young, A., 414
 Zelinskaia, M. R., 135*l*
 Zhelezniakov, V. V., 574*s*; 581*l*, 582*l*
 Zirin, H., 48*d*, 157–58*d*, 429*d*
 Zwicky bridges, 585, 588