References

Abell, G. O. (1972). In "External Galaxies and Quasi-Stellar Objects" (Symp. No. 44), p. 341. International Astronomical Union, Reidel, Dordrecht, The Netherlands.

Abell, G. O., and Mihalas, D. M. (1966). Astronom. J. 71, 635.

Alexandrov, A. D., and Ovchinnikova, V. V. (1953). Vest. Leningrad gos. Univ. 11, 95.

Alexandrov, A. D. (1967). Canad. J. Math. 19, 1119.

Arakelyan, M. A., Dibai, E. A., and Espisov, V. F. (1972). Astrofizika 8, 33.

Bahcall, J. N., and Hills, R. E. (1973). Astrophys. J. 179, 699.

Basu, D. (1973). Nature 241, 159.

Baum, W. A. (1972). In "External Galaxies and Quasi-Stellar Objects" (Symp. No. 44), p. 393. International Astronomical Union, Reidel, Dordrecht, The Netherlands.

Berman, S. J. "Wave equations with finite velocity of propagation." Doctoral dissertation, MIT. Published: Trans. Amer. Math. Soc. 188 (1974), 127-148.

Bolton, J. G. (1969). Astronom. J. 74, 131.

Braccesi, A., Ficarra, A., Formiggini, L., Gandolfi, E., Lari, C., Padrielli, L., Tomasi, P., Fanti, C., and Fanti, L. (1970b). Astronom. and Astrophys. 6, 268.

Braccesi, A., Formiggini, L., and Gandolfi, E. (1970a). Astronom. and Astrophys. 5, 264.

Burbridge, E. M. (1967). Annual Rev. Astronom. and Astrophys. 5, 399.

Burbridge, E. M. (1971). In "Nuclei of Galaxies." Vatican Conf. 1970 p. 121.

Burbridge, E. M., and Burbridge, G. (1967). Nature 222, 739.

Burbridge, E. M., and Burbridge, G. (1967). Quasi-Stellar Objects. Freeman, San Francisco.

Busemann, H., (1967). Dissertationes Math. (Rozprawy Mat.) 53, 52 pp.

Carruthers, P. (1971). Physics Reports 1C, No. 1.

Carswell, R. F., and Strittmatter, P. A. (1973). Nature 242, 394.

Cavaliere, A., Morrison, P., Sartori, L. (1971). Science 173, 525.

Choquet-Bruhat, Y. (1971). General Relativity and Gravitation 2, 1.

Colla, G., Fanti, C., Gioia, I., Lari, C., Lequeux, J., Lucas, R., and Ulrich, M.-H. (1975). Astron. Astrophys. 38, 209.

DeVeny, J. B., Osborn, W. H., and Janes, K. (1971) Publ. Astronom. Soc. Pacific 83, 611.

198 References

Ellis, G. F. R., and Hawking, S. W. (1973). "The Large-Scale Structure of Space-Time." Cambridge Univ. Press, London and New York.

Faddeev, L. D. (1971). Actes, Congr. Internat. Math. 1970 3, 35.

Fanti, R., Formiggini, L., Lari, C., Parielli, L., Katgert-Merkelijn, J. K., Katgert, P. (1973). Astronom. and Astrophys. 23, 161.

Fish, R. A. 1964, Astrophys. J. 139, 284.

Fokker, A. D. (1965). "Time and Space, Weight and Inertia." Pergamon Press, Oxford.

Fourès, Y., and Segal, I. (1955). Trans. Amer. Math. Soc. 78, 385.

Gårding, L. (1947). Ann. of Math. 48, 785.

Gross, L. (1964). J. Math. Phys. 5, 687.

Gunn, J. E., and Oke, J. B. (1975). Astrophys. J. 195, 255.

Haantjes, J. (1937). Proc. Kon. Akad. Wetensch. (Amsterdam) 40, 700.

Hawking, S. W., and Ellis, G. F. R. (1973). "The large-scale structure of space-time." Cambridge Univ. Press, London and New York.

Hawkins, G. S. (1962). Nature 194, 563.

Hetherington, N. S. (1971). Astronomical Society of the Pacific, Leaflet No. 509.

Holmberg, E. (1958). Medd. Lunds Astron. Obs. Ser. 2, No. 136.

Holmberg, E. (1961). Ark. Astronom. 2, 559.

Holmberg, E. (1964). Ark. Astronom. 387.

Holmberg, E. (1969). Ark. Astronom. 5, 305.

Hubble, E. P. (1929). Proc. Nat. Acad. Sci. U.S.A. 15, 168.

Hubble, E. P. (1936a). Proc. Nat. Acad. Sci. U.S.A. 22, 621.

Hubble, E. P. (1936b). Astrophys. J. 84, 270.

Hubble, E. P., and Humason, M. L. (1931). Astrophys. J. 74, 43.

Humason, M. L., Mayall, N. U., and Sandage, A. R. (1956). Astronom. J. 61, 97.

Kafka, P. (1967). Nature 213, 346.

Kellermann, K. I., Davis, M. M., and Pauliny-Toth, I. I. K. (1971). Astronom. J. Lett. 170, L1. Layzer, D., and Hively, R. (1973). Astrophys. J. 179, 361.

Legg, T. H. (1970). Nature 226, 65.

Leray, J. (1952) "Hyperbolic Partial Differential Equations." Institute for Advanced Study, Princeton, New Jersey.

Lichnerowicz, A. (1971). General Relativity and Gravitation 1, 235.

Lichnerowicz, A. (1961). Publ. Math. Inst. Haut. Etudes Sci. No. 10.

Longair, M. S., and Rees, M. J. (1972). Comments Astrophys. Space Phys. 4, 79.

Longair, M. A., and Scheuer, P. A. G. (1967). Nature 215, 919.

Longair, M. S., and Scheuer, P. A. G. (1970). Monthly Notices Roy. Astronom. Soc. 151, 45.

Lundmark, K. (1920). Stockholm Acad. Hand. 50, No. 8.

Lundmark, K. (1925). Monthly Notices Roy. Astronom. Soc. 85, 865.

Lynden-Bell, D. (1971). Monthly Notices Roy. Astronom. Soc. 155, 119.

Lynds, R., and Petrosian, V. (1972). Astrophys. J. 175, 591.

Lynds, R., and Wills, D. (1970). Nature 226, 532.

Lynds, R., and Wills, D. (1972). Astrophys. J. 172, 531.

Mayer, J. E. (1968). "Equilibrium Statistical Mechanics." Pergamon Press, Oxford.

Miley, G. K. (1971). Monthly Notices Roy. Astronom. Soc. 152, 477.

Noonan, T. W. (1973). Astronom. J. 78, 26.

Oke, J. B. (1970). Astrophys. J. Lett. 161, L17.

Oorí, J. H. (1974). In "The Formation and Dynamics of Galaxies" (Symp. No. 58). International Astronomical Union, Reidel, Dordrecht, The Netherlands.

O'Raifeartaigh, L. (1965). Phys. Rev. Lett. 14, 575.

Peach, J. V. (1970). Astronom. J. 159, 753.

Pearson, E. S., and Hartley, H. O. (1972). "Biometrika Tables for Statisticians," Vol. II. Cambridge Univ. Press, London and New York.

Peterson, B. A. (1970a). Astronom. J. 75, 695.

Peterson, B. A. (1970b). Astrophys. J. 159, 333.

Philips, T. O., and Wigner, E. P. (1968). In "Group Theory and Its Applications" (E. M. Loebl, ed.), Vol. I, p. 631. Academic Press, New York.

Pimenov, R. I. (1970). "Kinematic Spaces" (Seminars in Mathematics, Vol. 6). Steklov Mathematics Institute, Leningrad; translated and published by Consultants Bureau, New York.

Pooley, G. G., and Ryle, M. (1968). Monthly Notices Roy. Astronom. Soc. 139, 515.

Purcell, E. M. (1969). Astrophys. J. 158, 433.

Pugh, C. C. (1967). Amer. J. Math. 89, 1010.

Rubin, V. C., Ford, W. K., and Rubin, J. S. 1973, Astrophys. J. 183, L111.

Rees, M. J., and Sargent, W. L. W. (1972). Comments Astrophys. Space Phys. 4, 7.

Robb, A. A. (1936). "Geometry of Space and Time." Cambridge Univ. Press, London and New York.

Rust, B. W. (1974). "The use of supernovae light curves for testing the expansion hypothesis and other cosmological relations." Thesis, Department of Astronomy, Univ. of Illinois, Urbana, Illinois.

Sandage, A. R. (1967). Astrophys. J. 150, L9.

Sandage, A. R. (1970). Phys. Today 34,

Sandage, A. R. (1972a). Astrophys. J. 173, 485.

Sandage, A. R. (1972b). Astrophys. J. 178, 1.

Sandage, A. R. (1972c). Astrophys. J. 178, 25.

Sandage, A. (1973). Astrophys. J. 180, 687.

Sandage, A., and Tammann, G. A. (1975). Astrophys. J. 197, 265.

Sandage, A., Tammann, G. A., and Hardy, E. (1972). Astrophys. J. 172, 253.

Sargent, W. L. W. (1971). In "Nuclei of Galaxies." Vatican Conf., 1970 p. 81.

Sargent, W. L. W. (1972). Astrophys. J. 173, 7.

Schmidt, M. (1968). Astrophys. J. 151, 393.

Schmidt, M. (1970). Astrophys. J. 162, 371.

Schmidt, M. (1972a). Astrophys. J. 176, 273.

Schmidt, M. (1972b). Astrophys. J. 176, 289.

Schmidt, M. (1972c). Astrophys. J. 176, 303.

Scott, E. L. (1957). Astrophys. J. 62, 248.

Segal, I. (1951). Duke Math. J. 18, 221.

Segal, I. (1967a). Proc. Nat. Acad. Sci. U.S.A. 57, 194.

Segal, I. (1967b). J. Functional Analysis 1, 1.

Segal, I. (1971). Bull. Amer. Math. Soc.

Segal, I. (1972). Astronom. and Astrophys. 18, 143.

Segal, I. E. (1975). Proc. Nat. Acad. Sci. U.S., 72, 2473.

Setti, G., and Woltjer, L. (1973a). Astrophys. J. 181, L61.

Setti, G., and Woltjer, L. (1973b). Ann. N. Y. Acad. Sci. 223, 8.

Shepard, G. C. (1966). Canad. J. Math. 18, 1294.

Snyder, H. S. (1947). Phys. Rev. 71, 38.

Stannard, D. (1973). Nature 246, 295.

Takase, B. (1972). Publ. Astronom. Sci. Japan 24, 295.

Tifft, W. G. (1972). Astrophys. J. 175, 613.

Tits, J. L. (1957). Forschungsinst. Math. 1, 98.

Tits, J. (1960). "Colloque sur la théorie de la relativité." Centre Belge Recherches Math., 107. Van Den Bergh, S. (1970). Nature 225, 503.

200 References

de Vaucouleurs, G. (1970). Science 167, 1203.

de Vaucouleurs, G. (1972). In "External Galaxies and Quasi-Stellar Objects" (Symp. No. 44), p. 353. International Astronomical Union, Reidel, Dordrecht, The Netherlands.

de Vaucouleurs, G., and de Vaucouleurs, A. (1964). "Reference Catalogue of Bright Galaxies."
Univ. of Texas Press, Austin, Texas.

Veblen, O. (1933). "Projective Relativitatstheorie."

Vorontsov-Vel'yaminov, B. A., and Ivanisevic, G. (1974). Sov. Astron. 18, 174.

Wampler, E. J., Robinson, L. B., Baldwin, J. A., and Burbridge, E. M. (1973). Nature 243, 336. von Weizsäcker, C. F. (1951). Astrophys. J. 114, 165.

Weyl, H., (1921). "Raum, Zeit, Materie." Springer-Verlag, Berlin.

Whitney, A. R., Shapiro, I. I., Rogers, A. E. E., Robertson, D. S., Clark, T. A., Goldstein, R. M., Marandino, G. E., and Vandenberg, N. R. (1971). Science 173, 225.

Weinberg, S. (1972). "Gravitation and Cosmology." Wiley, New York.

Wigner, E. P. (1939). Ann. of Math. 40, 149.

Wigner, E. P. (1950). Proc. Nat. Acad. Sci. U.S. 36, 184.

Yang, C. N. (1947). Phys. Rev. 72, 874.

Zeeman, E. C. (1964). J. Math. Phys. 5, 490.

Zwicky, F. (1970). Advan. Astronom. and Astrophys. 7, 228.