

43. ASTROPHYSICAL PLASMAS AND MAGNETOHYDRODYNAMICS
(PLASMAS ET MAGNÉTO-HYDRODYNAMIQUE
EN ASTROPHYSIQUE)

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The topic of this commission overlaps various fields and subjects in Astrophysics. For this reason the work necessarily covers some aspects also dealt with by other commissions. In order to avoid duplication and since a number of excellent periodicals with review articles in this field are now available, the Organizing Committee was of the opinion that a draft report in the usual manner would not be adequate nor necessary. Instead we present a list of review articles and books published during the last three years about the subject covered by this commission.

REVIEW ARTICLES

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- Burlaga, L. F. 1971, 'Hydromagnetic Waves and Discontinuities in the Solar Wind', *Space Science Rev.*, **12**, 600.
- Canuto, V., Chiu, H. Y. 1971, 'Intense Magnetic Fields in Astrophysics', *Space Science Rev.* **12**, 3.
- Dalgarno, A., McCray, R. A. 1972, 'Heating and Ionization of HI Regions', *Ann. Rev. Astron. Astrophys.*, **10**, 375.
- Field, G. B. 1972, 'Intergalactic Matter', *Ann. Rev. Astron. Astrophys.*, **10**, 227.
- Friedman, H. W., Linson, L. M., Patrick, R. M., Petschek, H. E. 1971, 'Collisionless Shocks in Plasmas', *Ann. Rev. Fluid Mechanics*, **3**, 63.
- Ginzburg, V. L. 1971, 'Pulsars (Theoretical Considerations)', *Highlights of Astronomy*, **2**, 20.
- Hewish, A. 1970, 'Pulsars', *Ann. Rev. Astron. Astrophys.*, **8**, 265.
- Hewish, A. 1971, 'Pulsars', *Highlights of Astronomy*, **2**, 3.
- Holzer, T. E., Axford, W. I. 1970, 'The Theory of Stellar Winds and Related Flows', *Ann. Rev. Astron. Astrophys.*, **8**, 31.
- Hundhausen, A. J. 1970, 'Composition and Dynamics of the Solar Wind Plasma', *Rev. Geophys. and Space Phys.*, **8**, 729.
- Jokipii, J. R. 1971, 'Propagation of Cosmic Rays in the Solar Wind', *Rev. Geophys. and Space Phys.*, **9**, 27.
- Kaplan, S. A., Tsyтович, V. N. 'Plasma Processes in the Universe', to be published in *Physics Reports*, Section C of *Physics Letters*.
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- Krause, F., Rädler, K.-H. 1971, *Ergebnisse der Plasmaphysik und der Gaselektronik*, **2**, (ed. R. Rompe und M. Steenbeck) Akademie-Verlag Berlin.
- Lockwood, J. A. 1971, 'Forbush Decreases in the Cosmic Radiation', *Space Science Rev.*, **12**, 658.
- McCracken, K. G., Rao, U. R. 1971, 'Solar Cosmic Phenomena', *Space Science Rev.*, **11**, 155.
- Meyer, P. 1969, 'Cosmic Rays in the Galaxy', *Ann. Rev. Astron. Astrophys.*, **7**, 1.
- O'Gallagher, J. J. 1972, 'Observations of the Radial Gradient of Galactic Cosmic Radiation over a Solar cycle', *Rev. Geophys. Space Phys.*, **10**, 821.
- Parker, E. N. 1970, 'The Origin of Solar Magnetic Fields', *Ann. Rev. Astron. Astrophys.*, **8**, 1.
- Parker, E. N. 1971, 'Recent Developments in Theory of Solar Wind', *Rev. Geophys. Space Phys.*, **9**, 825.

- Pomerantz, M. A., Duggal, S. P. 1971, 'The Cosmic Ray Solar Diurnal Anisotropy', *Space Science Rev.*, **12**, 75.
- Rao, U. R. 1972, 'Solar Modulation of Galactic Cosmic Radiation', *Space Science Rev.*, **12**, 719.
- Scarf, F. L. 1971, 'Microscopic Structure of the Solar Wind', *Space Science Rev.*, **11**, 234.
- Schatten, K. H. 1971, 'Large-Scale Properties of the Interplanetary Magnetic Field', *Rev. Geophys. and Space Phys.*, **9**, 773.
- Smith, F. G. 1972, 'Pulsars', *Reports on Progress in Physics*, **35**, 399.
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BOOKS AND CONFERENCE PROCEEDINGS

- Brandt, J. C. 1970, *Introduction to the Solar Wind*, Freeman.
- Hundhausen, A. J. 1972, *Coronal Expansion and Solar Wind*, Vol. 5 of *Physics and Chemistry in Space*, Springer.
- Kaplan, S. A., Tsytoich, V. N. *Plasma Astrophysics*, Russian Edition by 'Nauka', Moscow, 1972, English translation by D. Ter Haar will be published by Pergamon Press in April 1973.
- 5th Consultation on Solar Physics and Hydromagnetics*, Potsdam 30.9.-4.10.1968. Geod. Geophys. Veröff., Nationalkomitee für Geodäsie und Geophysik, Berlin, **13**, 1969.
- Plasma Instabilities in Astrophysics* (ed. Tidman, D. G. and Wentzel, D. A.), Proceedings of a Conference held in Asilomar, Calif., Gordon and Breach, 1969.
- 11th International Conference on Cosmic Rays*, Budapest 1969.
- 12th International Conference on Cosmic Rays*, Hobart (Tasmania), 1971.
- 'Solar Magnetic Fields', *IAU Symposium 43*, ed. R. Howard, D. Reidel, 1971.
- 'White Dwarfs', *IAU Symposium 42*, ed. W. J. Luyten, D. Reidel, 1971.
- 'The Cowling Symposium on Magnetic Problems in Astrophysics', *Q. J. Roy. Astron. Soc.*, **12**, 347, 1971.
- 'The Crab Nebula', *IAU Symposium 46*, ed. R. D. Davies and F. G. Smith, D. Reidel, 1971.
- 'From Plasma to Planets', *Nobel Symposium No. 21*, ed. A. Elvius, Almqvist and Wiksell, 1972.
- Solar Wind*, Proceedings of a Conference at Asilomar, Calif., sponsored by NASA, ed. C. P. Sonett, P. J. Coleman, Jr. and J. M. Wilcox, NASA SP-308, 1972.
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- Cosmic Plasma Physics*, Proceedings of a Conference on Cosmic Plasma Physics in Frascati (Italy), ed. K. Schindler, Plenum Press, 1972.

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