Reidel 宇宙科学新刊書

最新刊

UNDERSTANDING THE UNIVERSE
THE IMPACT OF SPACE ASTRONOMY

Based on Talks given at the
UN/IAU International Seminar on the Occasion of UNISPACE 82,
Hofburg, Vienna, Austria, 12 August 1982

edited by
RICHARD M. WEST
General Secretary, International Astronomical Union

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It is often thought that it is 'easier and better' to study the Universe from above the Earth's atmosphere. This is only true in as much as electromagnetic radiation of certain wavelengths (e.g. X-rays) does not penetrate the atmosphere and can only be studied from balloons and spacecrafts. The advent of space-borne astronomy has certainly not made ground-based observations obsolete - on the contrary, it is only through the combination of the two that we now have a vastly more comprehensive picture of the Universe than just a few decades ago.
This book explains why and how this is so. Based on lectures given by eminent scientists at the UN-IAU International Astronomy Seminar of UNISPACE 82, in Vienna, Austria on 12 August 1982, its five major chapters lead the reader from the nearby Sun to the most distant regions and the earliest times of the Universe. It is written at a level which is easily understood by the interested layman, and rather than attempting to include everything, it centres on some of the most fundamental problems in modern astronomy and astrophysics. What has space- and ground-based astronomy told us so far and how can we best proceed? What do we expect to learn during the next years?

新刊

SOLAR TERRESTRIAL PHYSICS – PRINCIPLES AND THEORETICAL FOUNDATIONS

Based upon the Proceedings of the Theory Institute held at Boston College August 9–26, 1982

edited by
Prof. R. L. CAROVILLANO and Dr. J. M. FORBES
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ASTROPHYSICS AND SPACE SCIENCE LIBRARY 104

880 pp., illus.
Cloth ¥34,450 ISBN 90-277-1632-3
1983, D. Reidel Publishing Company

This book is based on lectures presented at the Theory Institute, Boston College, August 9–26, 1982. Several years ago there was a convergence of efforts to promote the role of theory in space plasma physics. Reports from the National Academy of Sciences and NASA advisory committees documented the disciplinary maturity of solar-terrestrial physics and recommended that theorists play a greater role in the continued development of the field. The so-called theory programme in solar-terrestrial physics was established by NASA in 1979 and implemented in accordance with the guidelines set forth by a panel of scientists, primarily theorists, in the field. The same panel motivated the Boston College programme. Published proceedings of the school will provide curricular materials for the training of graduate students in solar-terrestrial physics.

ASTROPHYSICAL JETS

Proceedings of an International Workshop held in Torino, Italy, October 7–9, 1982

edited by
ATTILIO FERRARI
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Recent high-resolution observations at various frequencies (radio, optical, X-ray) have revealed that, in many cases, active astrophysical objects, from stellar size sources to galactic nuclei, can eject supersonic (eventual relativistic) flows. In particular, these flows involve a substantial fraction of the global energetics of their sources. The study of the physical processes producing 'jets', and supporting them in their rich morphological forms over extended regions for long lifetimes, is still at an early stage and many proposals and experimental tests are being actively discussed in an attempt at reaching a complete understanding of the phenomenon. The Torino Workshop on Astrophysical Jets was organized to provide a specific opportunity for these discussions, involving observers and theoreticians. The Workshop was well attended by about 90 scientists gathered from Europe and the United States. The important contributions collected in the Proceedings give an updated picture of the main topics of interest in the field as well as a state-of-the-art survey of the astrophysics of jets to the end of 1982.

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