

experiments and calculations of the past few years. Three extended papers are given: in the first a review is presented of unsteady turbulent boundary layer experiments; in the second the response of a turbulent boundary layer to a pulsation of the external flow with and without adverse pressure gradients is discussed; and in the last some characteristics of pulsating or flapping jets are given. In about 30 short papers more information on unsteady turbulent shear flows is given. The book is meant for research workers who are active in this specialized field. The field is of considerable importance and has in recent years increasingly attracted the attention of research workers. In the book the current state of knowledge is given and the main areas for future research are defined.

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G. Jaschek and W. Heintz (eds.), *Automated Data Retrieval in Astronomy*, Proc. IAU Colloq. No. 69, Astrophysics and Space Science Library, Vol. 97, D. Reidel Publ. Co., Dordrecht, Holland, 1982, xx + 326 pp., Dfl. 110,- / US \$ 48.00.

This book contains 60 papers presented at IAU Colloquium No. 64 on Automated Data Retrieval in Astronomy, held in July 1981 at Strassbourg. They are arranged in the subjects: A. Existing Data Centers; B. Data Networks; C. New Hardware; D. Recent Software Developments; E. Bibliographical Services; F. Copyright; G. Editorial Policies and Nomenclature; H. Data in Astronomy; I. Data in Space Astronomy.

Most papers are contributed and describe ongoing services and projects; together, they give a good overview of the state of art. They make clear, on the one hand, that the scepticism which initially greeted the automation of astronomical information storage and retrieval has gone, while on the other there is yet a long way to go before astronomers will be content to have their papers appear as microfiche or computer tape only.

The book is of interest to any astronomer struggling with the problem of how to store and to find astronomical data efficiently; it should be present in every astronomical library.

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A. W. Wolfendale (ed.), *Progress in Cosmology*, Proceedings of the Oxford International Symposium (September 1981), Astrophysics and Space Science Library, Vol. 99, D. Reidel Publ. Co., Dordrecht, Holland, 1982, vii + 360, Cloth Dfl. 125,- / US \$ 54.50.

This volume contains 24 camera-ready contributions by a distinguished body of scientists. Five papers discuss the cosmological implications of unified field theories and particle physics, including a discussion on baryonsymmetric cosmology. A set of papers fully covers the background radiation fields (X- and  $\gamma$ -rays, far UV and the 3K backgrounds), including an extensive discussion of population III objects in relation to the microwave background radiation. Several contributions discuss the problems related to galaxy formation, clustering and the 'hidden mass'. Other contributions include an interesting discussion on the age problem, quasars at large redshifts, observational problems related to the detection of most distant galaxies and the problems raised by the finding of an anti-proton flux in the cosmic radiation. Although not exhaustive, this volume provides a comprehensive summary of most important subjects and ideas now being discussed in cosmology, and will certainly be a useful reference both for the specialist and the non-specialist.

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