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E. Martínez -González J. L. Sanz (Eds.)

The Universe at High- z , Large-Scale Structure and the Cosmic Microwave Background

Proceedings of an Advanced Summer School
Held at Laredo, Cantabria, Spain, 4–8 September 1995



Springer

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Preface

The advanced summer school “The Universe at High- z , Large-Scale Structure and the Cosmic Microwave Background” was held in Laredo (Cantabria, Spain), September 4 - 8 1995, at the XI Cursos de Verano de Laredo. The aim was to review and discuss, in a pedagogical way, the most recent developments in the field and the future perspectives. The topics covered in the 26 one-hour lectures included: QSO absorption systems, identification of objects at high redshift, radiogalaxies, galaxy formation and evolution, galaxy number counts, clustering, theories of structure formation, large-scale structure and streaming motions, gravitational lensing, and spectrum and anisotropies of the cosmic microwave background radiation. During the school, observational developments, data analysis, and theoretical aspects were covered. The lectures were delivered by the following speakers: T. Broadhurst (Univ. of California, Berkeley), L. Cayón (LBL & Univ. of California, Berkeley), S. Charlot (IAP, Paris), R. Giovanelli (Cornell Univ., Ithaca), W. Hu (Princeton Univ., Princeton), E. Martínez-González (IFCA, Santander), S. Matarrese (Univ. of Padova, Padova), G. Miley (Leiden Univ., Leiden), R. Rebolo (IAC, Tenerife), P. Schneider (MPIFA, Munich), J. L. Sanz (IFCA, Santander), J. Silk (Univ. of California, Berkeley), M. Dickinson (STScI, Baltimore), and D. Tytler (Univ. of California, San Diego).

Cosmology has dramatically evolved during the last decade. On the one hand, data coming from 4-m telescopes and more recently the 8-m Keck telescope and the Hubble Space Telescope (HST), have changed our ideas about the universe considerably (e.g. the large-scale structure and, more recently, imaging and spectroscopy of galaxies up to redshift $z \simeq 1$). On the other hand, there has been a certain theoretical development (e.g., theories of galaxy formation in connection with the early universe, gravitational lensing) dealing with different topics. These new developments motivated us to promote a school covering all of these new ideas and observations in a pedagogical way, with the lectures given by seniors and young researchers, to account for different views.

These proceedings contain the review talks given in the advanced summer school. The organizers express their cordial thanks to all participants and specially to our speakers who kindly accepted our invitation. We are also indebted to the sponsoring institutions: Universidad de Cantabria, XI Cursos de Verano de Laredo, and also M.E.C. and Facultad de Ciencias (Univ. de Cantabria).

Santander, March 1996

E. Martínez-González
J.L. Sanz

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