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Disciplina	520
Soggetti	Observations, Astronomical Astronomy—Observations Astrophysics Geophysics Astronomy, Observations and Techniques Astrophysics and Astroparticles Geophysics/Geodesy
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Nota di contenuto	Problems and solutions in observational cosmology -- Clustered galaxies: Many questions and few answers -- Evolutionary effects in cluster galaxies -- Evolutionary population synthesis: From galaxies to open clusters -- The all-sky Abell Rich cluster catalogue: Preparation and uncertainties -- Large-Scale structure in the New Southern extension of the Abell catalogue -- Groups of galaxies -- The alignment of galaxies -- Distribution of galaxies of different luminosity in the virgo supercluster -- Southern superclusters and voids -- Filamentary structure of nearby superclusters of galaxies -- Anisotropies in the local universe -- Dusty intergalactic matter -- Quasar absorption spectra and cosmology -- Multiple aperture spectroscopy for cluster dynamics and large-scale structure: The MX spectrometer -- Spatial distribution of galaxies: considerations and implications concerning the foamlike structure -- Towards fractal description of structure -- Quantitative study of the large-scale

distribution of galaxies: fractal structure of the universe -- The non-linear universe from 0.01 to 100 Mpc -- Hypergalactic Structures -- The luminosity function in the context of biased galaxy formation -- The mass function of cosmic structures -- Gaussian properties of large-scale matter distribution -- Population III stars and baryonic dark matter -- Concealed parameters of dark matter and galaxy formation -- Gravitational instability in a two-component cosmological medium -- Connectivity in CDM universes -- Structure of the Universe via gravitational potential -- Primordial black holes and their cosmological consequences -- The cosmological constant — historical annotations -- Fritz Zwicky -- Ambartsumian's views on structure and evolution of the Universe -- Carl Wirtz — An early observational cosmologist -- Fritz Zwicky's postulate of freedom from prejudice considered from the standpoint of the theory of knowledge -- Philosophical foundations of Zwicky's morphological approach in science -- Summary.

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### Sommario/riassunto

Large-scale structures in the universe are becoming ever more important in modern astrophysics. This volume is dedicated to the memory of the late astrophysicist Fritz Zwicky and presents 34 lectures dealing with observational and theoretical aspects of the morphology of the universe. Reports on the distribution, properties and evolution of groups, clusters and superclusters of galaxies, as well as theoretical attempts to explain these findings using such ideas as biased galaxy formation and cold dark matter, are presented here for researchers and students of astronomy and astrophysics.

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