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Nota di contenuto	Foreword -- Preface -- Space debris, optical measurements -- Meteors - light from comets and asteroids -- Extrasolar enigmas: from disintegrating and evaporating exoplanets to exo-asteroids -- Physical conditions and chemical abundances in photoionized regions -- The Common Envelope Phase -- A modern view of quantitative spectroscopy of massive OB stars -- Explosion mechanism of core-collapse supernovae and its observational signatures -- Is MOND the next great step forward in astrophysics? -- Low-mass and substellar eclipsing binaries in stellar clusters -- Globular cluster systems and galaxy formation -- X-ray spectroscopy of the hot atmospheric gas in clusters, groups and massive galaxies -- The establishment of the Standard Cosmological Model through observations -- GTC in the Realm of Contemporary Astronomy -- Exploiting solar visible-range

	observations: from flows in the solar subsurface to a flaring atmosphere -- Starburst galaxies.
Sommario/riassunto	This book presents a collection of focused review papers on the advances in topics in modern astronomy, astrophysics, cosmology and planetary science. The chapters are written by expert members of an EU-funded ERASMUS+ program of strategic partnership between several European institutes. The 13 reviews comprise the topics: Space debris, optical measurements Meteors, light from comets and asteroids Extrasolar enigmas: from disintegrating exoplanets to exo-asteroids Physical conditions and chemical abundances in photoionized nebulae from optical spectra Observational Constraints on the Common Envelope Phase A modern guide to quantitative spectroscopy of massive OB stars Explosion mechanisms of core-collapse supernovae and their observational signatures Low-mass and substellar eclipsing binaries in stellar clusters Globular cluster systems and Galaxy Formation Hot atmospheres of galaxies, groups, and clusters of galaxies The establishment of the Standard Cosmological Model through observations Exploiting solar visible-range observations by inversion techniques: from flows in the solar subsurface to a flaring atmosphere Starburst galaxies The book is intended for the general astronomical community as well as for advanced students who could use it as a guideline, inspiration and overview for their future careers in astronomy.