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Descrizione fisica	1 online resource (XII, 179 p. 78 illus.)
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Disciplina	522.682
Soggetti	Observations, Astronomical Astronomy—Observations Astrophysics Cosmology Astronomy, Observations and Techniques Astrophysics and Astroparticles
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Includes Index.
Nota di contenuto	Part 1: The basics -- Chapter 1: Setting the scene -- Chapter 2: Pointing the telescope: astronomical coordinates and sky catalogs -- Part 2: Optical Astronomy -- Chapter 3: Optical astronomy: telescopes -- Chapter 4: Telescopes: ground based or in space? -- Chapter 5: Optical astronomy: detectors -- Chapter 6: Optical photometry -- Chapter 7: Optical spectroscopy -- Part 3: The low energy side of classical astronomy -- Chapter 8: Infrared astronomy -- Chapter 9: Radio and submillimeter astronomy: radiotelescopes -- Chapter 10: Radio and submillimeter astronomy: receivers and spectrometers -- Part 4: Instruments acting together: interferometry -- Chapter 11: Interferometry and aperture synthesis -- Chapter 12: Interferometers -- Part 5: Observing -- Chapter 13: Observations: preparation and execution -- Chapter 14: After observation: data analysis -- Chapter 15: Conclusions.
Sommario/riassunto	This textbook presents the established sciences of optical, infrared, and radio astronomy as distinct research areas, focusing on the science targets and the constraints that they place on instrumentation in the

different domains. It aims to bridge the gap between specialized books and practical texts, presenting the state of the art in different techniques. For each type of astronomy, the discussion proceeds from the orders of magnitude for observable quantities that drive the building of instrumentation and the development of advanced techniques. The specific telescopes and detectors are then presented, together with the techniques used to measure fluxes and spectra. Finally, the instruments and their limits are discussed to assist readers in choice of setup, planning and execution of observations, and data reduction. The volume also includes worked examples and problem sets to improve student understanding; tables and figures in chapters summarize the state of the art of instrumentation and techniques.

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