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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	X-Ray Astronomical Instrumentation -- Overview -- Proportional Counters -- Scintillation Counters -- Imaging Proportional Counters -- Aperture Modulation Telescopes -- Wolter Optics -- CCD Detectors -- High Resolution Spectroscopy -- Galactic X-Ray Astronomy -- Solar System Objects -- Nuclear Burning Stars -- White Dwarfs -- X-Ray Emission of Cataclysmic Variables and Related Objects -- Classical Novae -- Pulsars and Isolated Neutron Stars -- Accreting Neutron Stars -- Black-Hole Binaries -- X-Ray Studies of Supernovae and Supernova Remnants -- The Interstellar Medium -- The Galactic Center -- Extragalactic X-Ray Astronomy -- X-Rays from Nearby Galaxies -- X-Ray Flares in the Cores of Galaxies -- Active Galactic Nuclei -- X-Ray Studies of Clusters of Galaxies -- Gamma-Ray Bursts -- Cosmic X-Ray Background -- The Future.
Sommario/riassunto	In the last 45 years, X-ray astronomy has become an integral part of modern astrophysics and cosmology. There is a wide range of astrophysical objects and phenomena, where X-rays provide crucial diagnostics. In particular they are well suited to study hot plasmas and matter under extreme physical conditions in compact objects. This

book summarizes the present status of X-ray astronomy in terms of observational results and their astrophysical interpretation. It is written for students, astrophysicists as well a growing community of physicists interested in the field. An introduction including historical material is followed by chapters on X-ray astronomical instrumentation. The next two parts summarize in 17 chapters the present knowledge on various classes of X-ray sources in the galactic and extragalactic realm. While the X-ray astronomical highlights discussed in this book are mainly based on results from ROSAT, ASCA, RXTE, BeppoSAX, Chandra and XMM-Newton, a final chapter provides an outlook on observational capabilities and projects discussed for the future.