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Autore	Vink Jacco
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Descrizione fisica	1 online resource (XXIII, 521 p. 170 illus., 137 illus. in color.)
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Nota di contenuto	1. Introduction -- 2. Supernovae -- 3. Classification and Population -- 4. Shocks and Post-shock Plasma Processes -- 5. Supernova Remnant Evolution -- 6. Neutron Stars, Pulsars, and Pulsar Wind Nebulae -- 7. Dust Grains and Infrared Emission -- 8. Optical Emission from Supernova Remnants -- 9. Young Supernova Remnants: Probing the Ejecta and the Circumstellar Medium -- 10. Middle-Aged and Old Supernova Remnants -- 11. Cosmic-Ray Acceleration by Supernova Remnants: Introduction and Theory -- 12. Supernova Remnants and Cosmic Rays: Non-thermal Radiation -- 13. Radiation Processes -- 14. Summary and Prospects.
Sommario/riassunto	Written by a leading expert, this monograph presents recent developments on supernova remnants, with the inclusion of results from various satellites and ground-based instruments. The book details the physics and evolution of supernova remnants, as well as provides an up-to-date account of recent multiwavelength results. Supernova remnants provide vital clues about the actual supernova explosions from X-ray spectroscopy of the supernova material, or from the imprints the progenitors had on the ambient medium supernova remnants are interacting with - all of which the author discusses in great detail. The way in which supernova remnants are classified, is reviewed and explained early on. A chapter is devoted to the related topic of pulsar wind nebulae, and neutron stars associated with

supernova remnants. The book also includes an extended part on radiative processes, collisionless shock physics and cosmic-ray acceleration, making this book applicable to a wide variety of astronomical sub-disciplines. With its coverage of fundamental physics and careful review of the state of the field, the book serves as both textbook for advanced students and as reference for researchers in the field.

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