1. Record Nr. UNINA9910812441703321

Autore	Vietri Mario
Titolo	Foundations of high-energy astrophysics / / Mario Vietri
Pubbl/distr/stampa	Chicago, : University of Chicago Press, 2008
ISBN	1-281-96673-8 9786611966737 0-226-85571-6
Edizione	[1st ed.]
Descrizione fisica	1 online resource (575 p.)
Collana	Theoretical astrophysics
Classificazione	US 2000
Disciplina	523.01/976
Soggetti	Astrophysics Infrared astronomy X-ray astronomy Gamma ray astronomy Particles (Nuclear physics)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references (p. 533-542) and index.
Nota di contenuto	Frontmatter -- Contents -- Preface -- Chapter 1. Hydrodynamics -- Chapter 2. Magnetohydrodynamics and Magnetic Fields -- Chapter 3. Radiative Processes -- Chapter 4. Nonthermal Particles -- Chapter 5. Spherical Flows: Accretion and Explosion -- Chapter 6. Disk Accretion I -- Chapter 7. Disk Accretion -- Chapter 8. Electrodynamics of Compact Objects -- Appendix A. Propagation of Electromagnetic Waves -- Appendix B. Orbits Around Black Holes -- Appendix C. Useful Formulae -- Bibliography -- Index
Sommario/riassunto	Written by one of today's most highly respected astrophysicists, Foundations of High-Energy Astrophysics is an introduction to the mathematical and physical techniques used in the study of high-energy astrophysics. Here, Mario Vietri approaches the basics of high-energy astrophysics with an emphasis on underlying physical processes as opposed to a more mathematical approach. Alongside more traditional topics, Vietri presents new subjects increasingly considered crucial to understanding high-energy astrophysical sources, including the electrodynamics of cosmic sources, new developments in the theory of standard accretion disks, and the physics of coronae, thick disks, and

accretion onto magnetized objects. The most thorough and engaging survey of high-energy astrophysics available today, Foundations of High-Energy Astrophysics introduces the main physical processes relevant to the field in a rigorous yet accessible way, while paying careful attention to observational issues. Vietri's book will quickly become a classic text for students and active researchers in astronomy and astrophysics. Those in adjoining fields will also find it a valuable addition to their personal libraries.