Record Nr. UNINA9910782424203321 Autore Vietri Mario Titolo Foundations of high-energy astrophysics [[electronic resource] /] / Mario Vietri Chicago,: University of Chicago Press, 2008 Pubbl/distr/stampa **ISBN** 1-281-96673-8 9786611966737 0-226-85571-6 Descrizione fisica 1 online resource (575 p.) Collana Theoretical astrophysics **US 2000** Classificazione 523.01/976 Disciplina Soggetti **Astrophysics** Infrared astronomy X-ray astronomy Gamma ray astronomy Particles (Nuclear physics) Lingua di pubblicazione Inglese Materiale a stampa **Formato** Livello bibliografico Monografia Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references (p. 533-542) and index. Frontmatter -- Contents -- Preface -- Chapter 1. Hydrodynamics --Nota di contenuto 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.