1. Record Nr. UNINA9910820851403321

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Titolo	General relativistic dynamics : extending Einstein's legacy throughout the universe / / Fred I. Cooperstock
Pubbl/distr/stampa	Singapore ; ; Hackensack, NJ, : World Scientific, c2009
ISBN	1-282-44282-1 9786612442827 981-4271-17-9
Edizione	[1st ed.]
Descrizione fisica	1 online resource (243 p.)
Disciplina	530.11
Soggetti	General relativity (Physics) Gravity Gravitational fields Galaxies
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. 217-224) and index.
Nota di contenuto	Introduction -- Essentials of special relativity -- Bondi's K-calculus approach to special relativity -- Essentials of general relativity -- Schwarzschild solution and its consequences -- Gravitational waves -- The normal scales of physics and the Planck scale -- General relativistic cosmology -- Motion of stars in the galaxy -- Clusters of galaxies -- Closed timelike curves and time machines -- The direction of physics research -- Summary and concluding commentary.
Sommario/riassunto	This book brings Einstein's general relativity into action in new ways at scales ranging from the tiny Planck scale to the scale of immense galactic clusters. It presents the case that Einstein's theory of gravity can describe the observed dynamics of galaxies without invoking the unknown "dark matter" required in models based on Newtonian gravity. Drawing on the author's experience as a lecturer and on his own research, the book covers the essentials of Einstein's special and general relativity at a level accessible to undergraduate students. The early chapters provide a compact introduction