

1. Record Nr.	UNINA9910300367303321
Titolo	Springer Handbook of Spacetime / / edited by Abhay Ashtekar, Vesselin Petkov
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer Berlin Heidelberg : , : Imprint : Springer, , 2014
ISBN	3-642-41992-5
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (883 p.)
Collana	Springer Handbooks, , 2522-8706
Disciplina	519 520 530 530.01
Soggetti	Gravitation Astronomy Mathematical physics Physics - Philosophy Classical and Quantum Gravity Astronomy, Cosmology and Space Sciences Mathematical Physics Philosophical Foundations of Physics and Astronomy
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 at the end of each chapters and index.
Nota di contenuto	Introduction to Spacetime Structure -- Foundational Issues -- Spacetime Structure and Mathematics -- Confronting Relativity Theories with Observations -- General Relativity and the Universe -- Spacetime Beyond Einstein.
Sommario/riassunto	The Springer Handbook of Spacetime is dedicated to the ground-breaking paradigm shifts embodied in the two relativity theories, and describes in detail the profound reshaping of physical sciences they ushered in. It includes in a single volume chapters on foundations, on the underlying mathematics, on physical and astrophysical implications, experimental evidence and cosmological predictions, as well as chapters on efforts to unify general relativity and quantum

physics. The Handbook can be used as a desk reference by researchers in a wide variety of fields, not only by specialists in relativity but also by researchers in related areas that either grew out of, or are deeply influenced by, the two relativity theories: cosmology, astronomy and astrophysics, high energy physics, quantum field theory, mathematics, and philosophy of science. It should also serve as a valuable resource for graduate students and young researchers entering these areas, and for instructors who teach courses on these subjects. The Handbook is divided into six parts. Part A: Introduction to Spacetime Structure. Part B: Foundational Issues. Part C: Spacetime Structure and Mathematics. Part D: Confronting Relativity theories with observations. Part E: General relativity and the universe. Part F: Spacetime beyond Einstein. Key Topics › Historical origins of the spacetime notion › Basic ideas of special and general relativity › Nature of time and gravity › Mathematical structures › Physical and astrophysical implications › Observational status of the two relativity theories, › Various approaches to unify general relativity and quantum physics. Features › Concise, clear and coherent presentation › Research and application-oriented › Includes recent developments › Exhaustive references to approved data › All chapters with summaries › A resource for graduate students, researchers and teachers in the field.
