Record Nr. UNINA9910300374003321 Autore Gasperini Maurizio Titolo Gravity, Strings and Particles: A Journey Into the Unknown / / by Maurizio Gasperini Pubbl/distr/stampa Cham:,: Springer International Publishing:,: Imprint: Springer,, 2014 **ISBN** 3-319-00599-5 Edizione [1st ed. 2014.] 1 online resource (135 p.) Descrizione fisica Disciplina 520 523.1 530 530.1 Soggetti Gravitation Astronomy Quantum field theory String theory Cosmology Mathematical physics Classical and Quantum Gravitation, Relativity Theory Popular Science in Astronomy Quantum Field Theories, String Theory Mathematical 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 and index. Nota di contenuto From the Contents: Prologue: inside the energy walls of our \cradle" --Gravity at small distances -- Gravity at large distances -- Space, time and space-time -- Strings and fundamental interactions -- The past of our Universe. Sommario/riassunto New fundamental forces of Nature? New forms of "dark" energy? Signals from epochs preceding the Big Bang? Is our space-time unique? Only a joint study of the three topics examined in this book – gravity, strings

and particles – may provide answers to these questions. Such a study

may also provide the key to solving one of the most fascinating

mysteries of modern science, namely: Besides time and the three spatial dimensions, how many other dimensions exist in our universe? The book is primarily addressed to readers who do not necessarily have a specific background in physics but are nevertheless interested in discovering the originality and the possible implications of some of the amazing ideas in modern theoretical physics. The emphasis is on conveying ideas rather than explaining formulas, focusing not on what is known but -- mainly -- on what is still unknown. Many parts of the book are devoted to fundamental theoretical models and results which are potentially highly relevant for a deeper understanding of Nature, but are still waiting to be confirmed (or disproved) by experiments. From this point of view, the material of this book may also be of interest to professional physicists, whether or not they work in the field of fundamental interactions.