1. Record Nr. UNINA9910156238703321 Autore Rovelli Carlo Titolo Reality Is Not What It Seems: The Journey to Quantum Gravity Pubbl/distr/stampa East Rutherford:,: Penguin Publishing Group,, 2017 ©2017 **ISBN** 9780735213944 0735213941 Descrizione fisica 1 online resource (252 pages) Classificazione SCI033000SCI055000SCI057000 Altri autori (Persone) CarnellSimon SegreErica Disciplina 530.14/3 Soggetti Quantum gravity Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Grains; Is there a limit to divisibility?; The nature of things -- The Nota di contenuto classics; Isaac and the little moon; Michael: fields and light -- Albert; The extended present; The most beautiful of theories; Mathematics or physics?; The cosmos -- Quanta; Albert again; Niels, Werner, and Paul; Fields and particles are the same thing; Quanta 1: Information is finite; Quanta 2: Indeterminacy; Quanta 3: Reality is relation; But do we really understand? -- Spacetime is quantum; Matvei; John; The loop's first steps -- Quanta of space; Spectra of volume and area; Atoms of space; Spin networks -- Time does not exist; Time is not what we think it is; The candle chandelier and the pulse; Spacetime sushi spinfoam: What is the world made of? -- Beyond the big bang: The master: Quantum cosmology -- Empirical confirmations?: Signals from nature; A window onto quantum gravity -- Quantum black holes -- The end of infinity -- Information; Thermal time; Reality and information -- Mystery. Sommario/riassunto "The man who makes physics sexy . . . the scientist they're calling the next Stephen Hawking." — The Times Magazine From the New York Times -bestselling author of Seven Brief Lessons on Physics. The

Order of Time, Helgoland, and Anaximander, a closer look at the mind-bending nature of the universe. What are the elementary

ingredients of the world? Do time and space exist? And what exactly is reality? Theoretical physicist Carlo Rovelli has spent his life exploring these questions. He tells us how our understanding of reality has changed over the centuries and how physicists think about the structure of the universe today. In elegant and accessible prose, Rovelli takes us on a wondrous journey from Democritus to Albert Einstein, from Michael Faraday to gravitational waves, and from classical physics to his own work in quantum gravity. As he shows us how the idea of reality has evolved over time, Rovelli offers deeper explanations of the theories he introduced so concisely in Seven Brief Lessons on Physics. This book culminates in a lucid overview of quantum gravity, the field of research that explores the quantum nature of space and time, seeking to unify quantum mechanics and general relativity. Rovelli invites us to imagine a marvelous world where space breaks up into tiny grains, time disappears at the smallest scales, and black holes are waiting to explode—a vast universe still largely undiscovered.