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Collana	Lecture Notes in Physics, , 0075-8450 ; ; 541
Disciplina	530.14/3
Soggetti	Astrophysics Cosmology Elementary particles (Physics) Quantum field theory Gravitation String theory Astrophysics and Astroparticles Elementary Particles, Quantum Field Theory Classical and Quantum Gravitation, Relativity Theory Quantum Field Theories, String Theory
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Nota di contenuto	Are We at the Dawn of Quantum-Gravity Phenomenology? -- Classical and Quantum Physics of Isolated Horizons: A Brief Overview -- Old and New Processes of Vorton Formation -- Anti-de Sitter Supersymmetry -- Combinatorial Dynamics and Time in Quantum Gravity -- Non-commutative Extensions of Classical Theories in Physics -- Conceptual Issues in Quantum Cosmology -- Single-Exterior Black Holes -- Dirac-Bergmann Observables for Tetrad Gravity -- Meaning of Noncommutative Geometry and the Planck-Scale Quantum Group -- Loop Quantum Gravity and the Meaning of Diffeomorphism Invariance -- Black Holes in String Theory -- Gravitational waves and massless particle fields.

Sommario/riassunto

The aim of this book is to give graduate students an overview of quantum gravity but it also covers related topics from astrophysics. Some well-written contributions can serve as an introduction into basic conceptual concepts like time in quantum gravity or the emergence of a classical world from quantum cosmology. This makes the volume attractive to philosophers of science, too. Other topics are black holes, gravitational waves and non-commutative extensions of physical theories.
