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Sommario/riassunto

"Aimed at graduate students in physics and mathematics, this book provides an introduction to recent developments in several active topics at the interface between algebra, geometry, topology and quantum field theory. The first part of the book begins with an account of important results in geometric topology. It investigates the differential equation aspects of quantum cohomology, before moving on to noncommutative geometry. This is followed by a further exploration of quantum field theory and gauge theory, describing AdS/CFT correspondence, and the functional renormalization group approach to quantum gravity. The second part covers a wide spectrum of topics on the borderline of mathematics and physics, ranging from orbifolds to quantum indistinguishability and involving a manifold of mathematical tools borrowed from geometry, algebra and analysis. Each chapter presents introductory material before moving on to more advanced results. The chapters are self-contained and can be read independently of the rest"--Provided by publisher