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Soggetti	Geometry, Differential Manifolds (Mathematics) Global analysis (Mathematics) Quantum physics Differential Geometry Manifolds and Cell Complexes Global Analysis and Analysis on Manifolds Quantum Physics Teoria quàntica de camps Matemàtica Llibres electrònics
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Sommario/riassunto	This book provides an introduction to deformation quantization and its relation to quantum field theory, with a focus on the constructions of Kontsevich and Cattaneo & Felder. This subject originated from an attempt to understand the mathematical structure when passing from a commutative classical algebra of observables to a non-commutative quantum algebra of observables. Developing deformation quantization as a semi-classical limit of the expectation value for a certain observable with respect to a special sigma model, the book carefully describes the relationship between the involved algebraic and field-

theoretic methods. The connection to quantum field theory leads to the study of important new field theories and to insights in other parts of mathematics such as symplectic and Poisson geometry, and integrable systems. Based on lectures given by the author at the University of Zurich, the book will be of interest to graduate students in mathematics or theoretical physics. Readers will be able to begin the first chapter after a basic course in Analysis, Linear Algebra and Topology, and references are provided for more advanced prerequisites.

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