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Autore	Goswami Debashish
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Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (254 pages)
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Soggetti	Global analysis (Mathematics) Manifolds (Mathematics) Mathematical physics Geometry, Differential Functional analysis Quantum theory Global Analysis and Analysis on Manifolds Mathematical Physics Differential Geometry Functional Analysis Quantum Physics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Chapter 1. Introduction -- Chapter 2. Preliminaries -- Chapter 3. Classical and Noncommutative Geometry -- Chapter 4. Definition and Existence of Quantum Isometry Groups -- Chapter 5. Quantum Isometry Groups of Classical and Quantum -- Chapter 6. Quantum Isometry Groups of Discrete Quantum Spaces -- Chapter 7. Nonexistence of Genuine Smooth CQG Actions on Classical Connected Manifolds -- Chapter 8. Deformation of Spectral Triples and Their Quantum Isometry Groups -- Chapter 9. More Examples and Computations -- Chapter 10. Spectral Triples and Quantum Isometry Groups on Group C*-Algebras.
Sommario/riassunto	This book offers an up-to-date overview of the recently proposed

theory of quantum isometry groups. Written by the founders, it is the first book to present the research on the “quantum isometry group”, highlighting the interaction of noncommutative geometry and quantum groups, which is a noncommutative generalization of the notion of group of isometry of a classical Riemannian manifold. The motivation for this generalization is the importance of isometry groups in both mathematics and physics. The framework consists of Alain Connes’ “noncommutative geometry” and the operator-algebraic theory of “quantum groups”. The authors prove the existence of quantum isometry group for noncommutative manifolds given by spectral triples under mild conditions and discuss a number of methods for computing them. One of the most striking and profound findings is the non-existence of non-classical quantum isometry groups for arbitrary classical connected compact manifolds and, by using this, the authors explicitly describe quantum isometry groups of most of the noncommutative manifolds studied in the literature. Some physical motivations and possible applications are also discussed.