

1. Record Nr.	UNINA9910782277603321
Titolo	Geometric methods for quantum field theory [[electronic resource]] : proceedings of the summer school : Villa de Leyva, Colombia, 12-30 July 1999 / / editors, Hernan Ocampo, Sylvie Paycha, Andres Reyes
Pubbl/distr/stampa	Singapore ; ; River Edge, N.J., : World Scientific, c2001
ISBN	1-281-95625-2 9786611956257 981-281-057-9
Descrizione fisica	1 online resource (530 p.)
Altri autori (Persone)	OcampoHernan PaychaSylvie ReyesAndres
Disciplina	530.143
Soggetti	Quantum field theory Field theory (Physics)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction; CONTENTS; Lectures; Lecture 1: Introduction to differentiable manifolds and symplectic geometry; Lecture 2: Spectral properties of the Dirac operator and geometrical structures; Lecture 3: Quantum theory of fermion systems: Topics between physics and mathematics; Lecture 4: Heat equation and spectral geometry. Introduction for beginners; Lecture 5: Renormalized traces as a geometric tool; Lecture 6: Concepts in gauge theory leading to electric-magnetic duality; Lecture 7: An introduction to Seiberg-Witten theory; Short Communications Remarks on duality analytic torsion and gaussian integration in antisymmetric field theoriesMultiplicative anomaly for the C-regularized determinant; On cohomogeneity one Riemannian manifolds; A differentiable calculus on the space of loops and connections; Quantum Hall conductivity and topological invariants; Determinant of the Dirac operator over the interval [0 B]
Sommario/riassunto	Both mathematics and mathematical physics have many active areas of research where the interplay between geometry and quantum field

theory has proved extremely fruitful. Duality, gauge field theory, geometric quantization, Seiberg-Witten theory, spectral properties and families of Dirac operators, and the geometry of loop groups offer some striking recent examples of modern topics which stand on the borderline between geometry and analysis on the one hand and quantum field theory on the other, where the physicist's and the mathematician's perspective complement each other, leading to new mathe
