1. Record Nr. UNINA9910299972203321

Autore	Dobrev V. K.
Titolo	Lie Theory and Its Applications in Physics [[electronic resource]] : Varna, Bulgaria, June 2013 / / edited by Vladimir Dobrev
Pubbl/distr/stampa	Tokyo : , : Springer Japan : , : Imprint : Springer, , 2014
ISBN	4-431-55285-5
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (554 p.)
Collana	Springer Proceedings in Mathematics & Statistics, , 2194-1009 ; ; 111
Disciplina	510 512.55 512482 516 530.15
Soggetti	Geometry Mathematical physics Topological groups Lie groups Mathematical Physics Topological Groups, Lie Groups
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	Preface; Acknowledgments; Contents; List of Participants; Part I Plenary Talks; Revisiting Trace Anomalies in Chiral Theories; 1 Introduction; 2 One-Loop Trace Anomaly in Chiral Theories; 3 Pontryagin Density and Supersymmetry; 3.1 Minimal Supergravity; 3.2 Other Nonminimal Supergravities; References; Complete T-Dualization of a String in a Weakly Curved Background; 1 Bosonic String in the Weakly Curved Background; 2 Partial T-Dualization; 2.1 The Partially T-Dualized Action; 3 The Total T-Dualization of the Initial Action; References; Modular Double of the Quantum Group SLq(2,R) 1 Definitions2 Weyl Pair; 3 Explicit Realization; 4 Representation s; 5 Quantum Dilogarithm; 6 Decomposition of s1 s2 ; References; Physical Ageing and New Representations of Some Lie Algebras of Local Scale-Invariance; 1 Introduction; 2 Logarithmic Representations; 2.1 Schrödinger Algebra; 2.2 Conformal Galilean Algebra; 2.3 Exotic

Sommario/riassunto

Traditionally, Lie theory is a tool to build mathematical models for physical systems. Recently, the trend is towards geometrization of the mathematical description of physical systems and objects. A geometric approach to a system yields in general some notion of symmetry which is very helpful in understanding its structure. Geometrization and symmetries are meant in their widest sense, i.e., representation theory, algebraic geometry, infinite-dimensional Lie algebras and groups, superalgebras and supergroups, groups and quantum groups, noncommutative geometry, symmetries of linear and nonlinear PDE, special functions, and others. Furthermore, the necessary tools from functional analysis and number theory are included. This is a big interdisciplinary and interrelated field. Samples of these fresh trends are presented in this volume, based on contributions from the Workshop "Lie Theory and Its Applications in Physics" held near Varna (Bulgaria) in June 2013. This book is suitable for a broad audience of mathematicians, mathematical physicists, and theoretical physicists and researchers in the field of Lie Theory.