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Autore	Bohm Arno
Titolo	Dirac Kets, Gamow Vectors and Gel'fand Triplets [[electronic resource]] : The Rigged Hilbert Space Formulation of Quantum Mechanics. Lectures in Mathematical Physics at the University of Texas at Austin / / by Arno Bohm, Manuel Gadella ; edited by Arno Bohm, J.D. Dollard
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Disciplina	530.15
Soggetti	Physics Elementary particles (Physics) Quantum field theory Mathematical analysis Analysis (Mathematics) Mathematical Methods in Physics Numerical and Computational Physics, Simulation Elementary Particles, Quantum Field Theory Analysis
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Nota di contenuto	I. The algebraic structure of the space of states -- II. The topological structure of the space of states -- III. The conjugate space of ? -- IV. Generalized eigenvectors and the nuclear spectral theorem -- V. A remark concerning generalization -- References on chapter I -- II. The Moller wave operators -- III. The Hardy class functions on a half plane -- References for chapter II -- I. Rigged Hilbert spaces of Hardy class functions -- II. The spaces ?+ and ?? -- III. Functional for Ho and Hl -- References for chapter III -- I. The RHS model for decaying states -- II. Dynamical semigroups -- III. Virtual states -- References for chapter IV.
Sommario/riassunto	Dirac's formalism of quantum mechanics was always praised for its elegance. This book introduces the student to its mathematical

foundations and demonstrates its ease of applicability to problems in quantum physics. The book starts by describing in detail the concept of Gel'fand triplets and how one can make use of them to make the Dirac heuristic approach rigorous. The results are then deepened by giving the analytic tools, such as the Hardy class function and Hilbert and Mellin transforms, needed in applications to physical problems. Next, the RHS model for decaying states based on the concept of Gamow vectors is presented. Applications are given to physical theories of such phenomena as decaying states and resonances.