

1. Record Nr.	UNINA9910782100903321
Autore	Blank Jiri
Titolo	Hilbert space operators in quantum physics [[electronic resource]] / Jiri Blank, Pavel Exner, Miloslav Havlicek
Pubbl/distr/stampa	[Dordrecht], : Springer Melville, NY, : AIP Press, c2008
ISBN	1-4020-8870-1
Edizione	[2nd ed.]
Descrizione fisica	1 online resource (676 p.)
Collana	Theoretical and mathematical physics, , 1864-5879
Altri autori (Persone)	ExnerPavel <1946-> HavlicekMiloslav
Disciplina	515.733 530.1 530.1/2 530.12
Soggetti	Hilbert space Mathematical physics Quantum theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Previous ed.: New York: American Institute of Physics, 1994.
Nota di bibliografia	Includes bibliographical references (p. 617-646) and index.
Nota di contenuto	Some notions from functional analysis -- Hilbert spaces -- Bounded operators -- Unbounded operators -- Spectral theory -- Operator sets and algebras -- States and observables -- Position and momentum -- Time evolution -- Symmetries of quantum systems -- Composite systems -- The second quantization -- Axiomatization of quantum theory -- Composite systems -- Scattering theory -- Quantum waveguides -- Quantum graphs.
Sommario/riassunto	The second edition of this course-tested book provides a detailed and in-depth discussion of the foundations of quantum theory as well as its applications to various systems. The exposition is self-contained; in the first part the reader finds the mathematical background in chapters about functional analysis, operators on Hilbert spaces and their spectral theory, as well as operator sets and algebras. This material is used in the second part to a systematic explanation of the foundations, in particular, states and observables, properties of canonical variables, time evolution, symmetries and various axiomatic approaches. In the

third part, specific physical systems and situations are discussed. Two chapters analyze Schrödinger operators and scattering, two others added in the second edition are devoted to new important topics, quantum waveguides and quantum graphs. Some praise for the previous edition: "I really enjoyed reading this work. It is very well written, by three real experts in the field. It stands quite alone...." John R. Taylor, Professor of Physics and Presidential Teaching Scholar, University of Colorado at Boulder.
