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   Titolo   Hilbert space operators in quantum physics / / Jiri Blank, Pavel Exner,
                        Miloslav Havlicek

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   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
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   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.