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| Autore | Einsiedler Manfred |
| Titolo | Functional Analysis, Spectral Theory, and Applications / / by Manfred Einsiedler, Thomas Ward |
| Pubbl/distr/stampa | Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017 |
| ISBN | 3-319-58540-1 |
| Edizione | [1st ed. 2017.] |
| Descrizione fisica | 1 online resource (XIV, 614 p. 33 illus.) |
| Collana | Graduate Texts in Mathematics, , 2197-5612 ; ; 276 |
| Classificazione | 46 |
| Disciplina | 515.7 |
| Soggetti | Functional analysis<br>Differential equations<br>Harmonic analysis<br>Number theory<br>Dynamics<br>Functional Analysis<br>Differential Equations<br>Abstract Harmonic Analysis<br>Number Theory<br>Dynamical Systems |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di contenuto | Motivation -- Norms and Banach Spaces -- Hilbert Spaces, Fourier Series, Unitary Representations -- Uniform Boundedness and Open Mapping Theorem -- Sobolev Spaces and Dirichlet’s Boundary Problem -- Compact Self-Adjoint Operators, Laplace Eigenfunctions -- Dual Spaces -- Locally Convex Vector Spaces -- Unitary Operators and Flows, Fourier Transform -- Locally Compact Groups, Amenability, Property (T) -- Banach Algebras and the Spectrum -- Spectral Theory and Functional Calculus -- Self-Adjoint and Symmetric Operators -- The Prime Number Theorem -- Appendix A: Set Theory and Topology -- Appendix B: Measure Theory -- Hints for Selected Problems -- Notes. . |
| Sommario/riassunto | This textbook provides a careful treatment of functional analysis and some of its applications in analysis, number theory, and ergodic theory. |

In addition to discussing core material in functional analysis, the authors cover more recent and advanced topics, including Weyl's law for eigenfunctions of the Laplace operator, amenability and property (T), the measurable functional calculus, spectral theory for unbounded operators, and an account of Tao's approach to the prime number theorem using Banach algebras. The book further contains numerous examples and exercises, making it suitable for both lecture courses and self-study. Functional Analysis, Spectral Theory, and Applications is aimed at postgraduate and advanced undergraduate students with some background in analysis and algebra, but will also appeal to everyone with an interest in seeing how functional analysis can be applied to other parts of mathematics.