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	Sommario/riassunto	This book presents in a concise and accessible way, as well as in a common setting, various tools and methods arising from spectral theory, ergodic theory and stochastic processes theory, which form the basis of and contribute interactively a great deal to the current research on almost everywhere convergence problems. The text is divided into four parts. Part I is devoted to spectral results such as von Neumann's theorem, spectral regularizations inequalities and their link with square functions and entropy numbers of ergodic averages. The representation of a weakly stationary process as Fourier transform of some random orthogonal measure, and a study of Gaposhkin's spectral criterion conclude this part. Classical results such as mixing in dynamical systems, Birkhoff's pointwise theorem, dominated ergodic theorems, oscillations functions of ergodic averages, transference principle, Wiener-Wintner theorem, Banach principle, continuity principle, Bourgain's entropy criteria, Burton-Denker's central limit theorem are covered in part II. The metric entropy method and the majorizing measure method, including a succinct study of Gaussian processes, are treated in part III, with applications to suprema of random polynomials. Part IV contains a

study of Riemann sums and of the convergence properties of the system {f(nkx), k 1}, as well as a probabilistic approach concerning divisors with applications. Researchers working in dynamical systems and at the crossroads of spectral theory, ergodic theory and stochastic processes will find the tools, methods and results presented in this book of great interest. It is written in a style accessible to graduate students throughout.