

1. Record Nr.	UNISA996466504203316
Autore	Veselic Ivan <1973->
Titolo	Existence and regularity properties of the integrated density of states of random Schrodinger operators // Ivan Veselic
Pubbl/distr/stampa	Berlin ; ; Heidelberg : , : Springer, , [2008] ©2008
ISBN	3-540-72691-8
Edizione	[1st ed. 2008.]
Descrizione fisica	1 online resource (X, 147 p.)
Collana	Lecture notes in mathematics ; ; 1917
Disciplina	515.724
Soggetti	Schrodinger operator Spectral energy distribution Quantum theory
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"1617-9692 (electronic ed.)."
Nota di bibliografia	Includes bibliographical references (pages [113]-138) and index.
Nota di contenuto	Random Operators -- Existence of the Integrated Density of States -- Wegner Estimate -- Wegner's Original Idea. Rigorous Implementation -- Lipschitz Continuity of the IDS.
Sommario/riassunto	The theory of random Schrödinger operators is devoted to the mathematical analysis of quantum mechanical Hamiltonians modeling disordered solids. Apart from its importance in physics, it is a multifaceted subject in its own right, drawing on ideas and methods from various mathematical disciplines like functional analysis, selfadjoint operators, PDE, stochastic processes and multiscale methods. The present text describes in detail a quantity encoding spectral features of random operators: the integrated density of states or spectral distribution function. Various approaches to the construction of the integrated density of states and the proof of its regularity properties are presented. The setting is general enough to apply to random operators on Riemannian manifolds with a discrete group action. References to and a discussion of other properties of the IDS are included, as are a variety of models beyond those treated in detail here.