

TABLE DES MATIERES

R. CARMONA : "RANDOM SCHRÖDINGER OPERATORS"

PREFACE	2
0. INTRODUCTION	3
I. SPECTRAL THEORY OF SELF ADJOINT OPERATORS	8
I.1. Domains, adjoints, resolvents and spectra	8
I.2. Resolutions of the identity	12
I.3. Representation theorems	17
I.4. The spectral theorem	19
I.5. Perturbations and quadratic forms	22
I.6. Self adjoint extensions of symmetric operators	23
I.7. References	24
II. MEASURABILITY AND ERGODICITY OF SELF ADJOINT OPERATORS	25
II.1. Measurability	25
II.2. Spectra in the ergodic case	30
II.3. Comments	40
III. SCHRÖDINGER OPERATORS	41
III.1. The free Laplacians	41
III.2. The perturbed Laplacians	44
III.3. The one dimensional case	46
III.4. Complements : the Feynman-Kac and Molcanov formulae	53
IV. RANDOM SCHRÖDINGER OPERATORS	57
IV.1. Essential self adjointness and measurability	57
IV.2. Examples	60
IV.3. Complements	63
V. THE INTEGRATED DENSITY OF STATES	64
V.1. Existence in the continuous case	65
V.2. Asymptotic behavior	72
V.3. The lattice case	75
V.4. The one dimensional case	80
V.5. Complements and comments	89

VI. THE ABSOLUTELY CONTINUOUS SPECTRUM IN ONE DIMENSION	92
VI.1. The Ljapunov exponent	92
VI.2. The Ishii-Pastur result	96
VI.3. Kotani's converse	97
VI.4. Complements and bibliographical comments	100
VII. EXPONENTIAL LOCALIZATION IN ONE DIMENSION	102
VII.1. Informal discussion	103
VII.2. A proof	105
VII.3. Complements	111
REFERENCES	114
Notations	122
Index	123

H. KESTEN : "ASPECTS OF FIRST PASSAGE PERCOLATION"

1. Introduction	126
2. Kingman's subadditive ergodic theorem and the time constant	134
3. The asymptotic shape of $B(t)$ and $\hat{B}(t)$	154
4. Some inequalities	168
5. The rate of convergence to the time constant	180
6. Properties of the time constant μ and the limit set B_0	218
7. The rate of convergence to the time constant revisited : the case $\mu = 0$ (and $d = 2$)	231
8. Asymptotics for large dimensions	239
9. Maximal flows and other open problems	249
References	260
INDEX	263

J.B. WALSH : "AN INTRODUCTION TO STOCHASTIC PARTIAL DIFFERENTIAL EQUATIONS"

INTRODUCTION	266
CHAPTER I	269
White noise and the Brownian sheet	269
Sample function properties	271
Some remarks on the Markov property	276
The propagation of singularities	279
The Brownian sheet and the vibrating string	281
White noise as a distribution	284
CHAPTER II	286
Martingale measures	286
Worthy measures	289
Stochastic integrals	292
Orthogonal measures	298
Nuclear covariance	303
An example	305
CHAPTER III	308
Equations in one space dimension	308
The wave equation	308
An example arising in neurophysiology	311
The linear equation	323
The Barrier problem	326
Higher dimensions	328
CHAPTER IV	330
Distribution-valued processes	330
Regularization	332
Examples	334
CHAPTER V	339
Parabolic equations in R^d	339
An eigenfunction expansion	343
CHAPTER VI	349
Weak convergence	349
Aldous' theorem	354
Mitoma's theorem	358

CHAPTER VII	365
Applications of weak convergence	365
Weak convergence of stochastic integrals	367
An application	373
An extension	376
CHAPTER VIII	385
The Brownian density process	385
The fundamental noises	388
Weak convergence in the Gaussian case	393
A measure diffusion	398
The case $\mu/\lambda \rightarrow \infty$	400
The square of the Brownian density process	407
CHAPTER IX	415
Limits of the Brownian density process	417
Connection with spde's	419
Smoothness	420
The Markov property fo the free field	420
NOTES	423
REFERENCES	432
INDEX	437