

# Contents

Preface	
S. Albeverio and M. Röckner	
Dirichlet forms, quantum fields and stochastic quantization	1
L. Andersson	
Functional integration and geometric quantization	22
E. Carlen	
Functional calculus and a closer look at quantum fields	45
M.-F. Chen	
Probability metrics and coupling methods	55
A.-B. Cruzeiro	
Invariant measures for Euler and Navier-Stokes systems	73
R.L. Hudson and P. Krée	
Quantum stochastic calculus for Hilbert Schmidt processes	83
P. Krée	
Dimension free stochastic calculus in the distribution sense	94
S. Kusuoka	
On the foundations of Wiener-Riemannian manifolds	130
P. McGill	
Computing the overshoot of a Lévy process	165
A. Truman and R. Durrant	
Planetary diffusions in stochastic mechanics	197
R. von Vintschger	
A duality equation for diffusions on an abstract Wiener space	215
J.-C. Zambrini	
Probability and analysis in quantum physics	223
T. Zastawniak	
Path integrals for the Dirac equation - some recent developments in mathematical theory	243
Index	265