Analysis of functions on the finite dimensional Euclidean space with respect to the Lebesgue measure is fundamental in mathematics. The extension to infinite dimension is a great challenge due to the lack of Lebesgue measure on infinite dimensional space. Instead the most popular measure used in infinite dimensional space is the Gaussian measure, which has been unified under the terminology of “abstract Wiener space”.

Out of the large amount of work on this topic, this book presents some fundamental results plus recent progress. We shall present some results on the Gaussian space itself such as the Brunn–Minkowski inequality, Small ball estimates, large tail estimates. The majority part of this book is devoted to the analysis of nonlinear functions on the Gaussian space. Derivative, Sobolev spaces are introduced, while the famous Poincaré inequality, logarithmic inequality, hypercontractive inequality, Meyer’s inequality, Littlewood–Paley–Stein–Meyer theory are given in details.

This book includes some basic material that cannot be found elsewhere that the author believes should be an integral part of the subject. For example, the book includes some interesting and important inequalities, the Littlewood–Paley–Stein–Meyer theory, and the Hörmander theorem. The book also includes some recent progress achieved by the author and collaborators on density convergence, numerical solutions, local times.

Readership:
Graduate students and researchers in probability and stochastic processes and functional analysis.

More information available at http://goo.gl/dTkWJ3
ANALYSIS ON GAUSSIAN SPACES

by Yaozhong Hu
University of Kansas, USA

CONTENT

Introduction
Garsia–Rodemich–Rumsey Inequality
Analysis with Respect to Gaussian Measure in Rd
Gaussian Measures on Banach Space
Nonlinear Functionals on Abstract Wiener Space
Analysis of Nonlinear Wiener Functionals
Some Inequalities
Convergence in Density
Local Time and (Self-) Intersection Local Time
Stochastic Differential Equation
Numerical Approximation of Stochastic Differential Equation

ORDER FORM

Please complete the form and send it to any of our offices below.
Alternatively, you can order via our online bookshop at www.worldscientific.com

TITLE SELECTION

<table>
<thead>
<tr>
<th>TITLE(S)</th>
<th>ISBN</th>
<th>QTY</th>
<th>PRICE (US$/£)</th>
</tr>
</thead>
</table>

MODE OF DELIVERY

Air Mail ❑ Surface Mail ❑

METHOD OF PAYMENT

Cheque/Bank draft enclosed for US$/£

Charge my ❑ VISA ❑ MC ❑ Amex

Card No: _________________________ CVV: ________
Exp. Date: ______________________

Please bill my company / institution: ________________________________

Signature ____________________________ Tel: ________________________

Printed in June 2016 New Jersey • London • Singapore • Beijing • Shanghai • Tianjin • Sydney • Hong Kong • Taipei • Chennai • Tokyo • Munich

SL_QW_06_16_39_BL.indd   2
21/6/16   5:17 PM