Fundamentals of Stochastic Filtering
A. Ram, RNF, London, UK
D. Crisan, Imperial College, London, UK
The objective of stochastic filtering is to determine the best estimate for the state of a stochastic dynamical system from partial observations. The solution of this problem in the linear case is the well known Kalman–Bucy filter which has found widespread practical application. The purpose of this book is to provide a rigorous mathematical treatment of the non-linear stochastic filtering problem using modern methods. Particular emphasis is placed on the theoretical analysis of numerical methods for the solution of the filtering problem via particle methods. The book should provide sufficient background to enable study of the recent literature. While no prior knowledge of stochastic filtering is required, readers are assumed to be familiar with measure-theory, probability theory and the basics of stochastic processes.

2008: Approx. 300 pp. (Stochastic Modelling and Applied Probability, Volume 60)
ISBN 978-0-387-76895-3 ➢ approx. $59.95

Atlas of Functions
K. B. Oldham, J. Myland, Tevat University, Peterborough, ON, Canada; J. Spanier, University of California, Irvine, CA
Appropriate for researchers and students in the science, technology and mathematics disciplines, from mathematics to chemistry, biology, physics and computer science, this book provides comprehensive information on several hundred functions or function families. Beginning with simple integer-valued functions, the book progresses to polynomials, exponential, trigonometric, Bessel, and hypergeometric valued functions, and more. In addition to providing definitions and simple properties for every function, each chapter catalogues interrelationships as well as other characteristics of the function. Many chapters close with a concise exposition on a topic in applied mathematics associated with the particular function or function family. The book is packed with Equator, the Atlas Function Calculator

2nd ed. 2008. Hardcover
ISBN 978-0-387-74759-0 ➢ approx. $2500.00
Prepublication price ➢ $2000.00
Print + eReference Package
ISBN 978-0-387-74760-6 ➢ $3125.00
Prepublication price ➢ $2600.00
Print ➢ $2100.00
Prepublication price ➢ $1750.00
All prepublication prices valid until November 30, 2008

Prepublication price
ISBN 978-0-387-74758-3 ➢ approx. $2500.00

Braid Groups
C. Kassel, V. Turaev, Université Louis Pasteur - CNRS, Strasbourg, France
Motivated by numerous examples and problems, the authors introduce the basic theory of braid groups, highlighting several definitions that show their equivalence; this is followed by a treatment of the relationship between braids, knots and links. Important results then treat the linearity and combinatoriality of the subject. Relevant additional material is included in five large appendices.

2008: Approx. 340 pp. (Graduate Texts in Mathematics, Volume 198)
ISBN 978-0-387-33841-5 ➢ approx. $59.95

Encyclopedia of Optimization
C. A. Floudas, Princeton University, NL, USA; P. M. Pardalos, University of Florida, Gainesville, USA (Eds.)
The Encyclopedia of Optimization introduces the reader to a complete set of topics that show the wide scope of research, richness of ideas, and breadth of applications. This revised and greatly expanded edition of a successful reference work, now in seven volumes, consists of more than 150 completely new entries, with significant attention to new areas of optimization theories and techniques; e.g., in health science and transportation, with such articles as "Algorithms for Genomics," "Optimization and Radiotherapy Treatment Design," and "Crew Scheduling." The first edition (2001) was acclaimed by J. B. Rosen as "an indispensable resource," and by Ding-Zhu Du who announced it as "the standard most important reference in this very dynamic research field.

2nd ed. 2008. Springer Reference
Print (Hardcover), Approx. 4200 p.
ISBN 978-0-387-74757-6 ➢ approx. $3125.00
Prepublication price ➢ $2700.00
eReference
ISBN 978-0-387-74749-7 ➢ approx. $3125.00
Prepublication price ➢ $2700.00
Print ➢ $2100.00
Prepublication price ➢ $1750.00
All prepublication prices valid until November 30, 2008

Easy Ways to Order for the Americas ➢ Write: Springer Order Department, PO Box 2485, Secaucus, NJ 07096-2485, USA
Call: (toll free) ➢ 1-800-SPRINGER ➢ Fax: 1-201-348-4505 ➢ Email: orders-ny@springer.com or SDC-bookorder@springer.com
Write:
Springer Distribution Center GmbH, Haberstrasse 7, 69126 Heidelberg, Germany
Call: ➢ +49 (0) 6221-345-4031 ➢ Fax: ➢ +49 (0) 6221-345-4229 ➢ Email: SDC-bookorder@springer.com
Prices are subject to change without notice. All prices are net prices.

New and Noteworthy from Springer

Braid Groups
C. Kassel, V. Turaev, Université Louis Pasteur - CNRS, Strasbourg, France
Motivated by numerous examples and problems, the authors introduce the basic theory of braid groups, highlighting several definitions that show their equivalence; this is followed by a treatment of the relationship between braids, knots and links. Important results then treat the linearity and combinatoriality of the subject. Relevant additional material is included in five large appendices.

2008: Approx. 340 pp. (Graduate Texts in Mathematics, Volume 198)
ISBN 978-0-387-33841-5 ➢ approx. $59.95