Random Processes. Filtering, Estimation, and Detection

Description: An understanding of random processes is crucial to many engineering fields including communication theory, computer vision, and digital signal processing in electrical and computer engineering, and vibrational theory and stress analysis in mechanical engineering. The filtering, estimation, and detection of random processes in noisy environments are critical tasks necessary in the analysis and design of new communications systems and useful signal processing algorithms. Random Processes: Filtering, Estimation, and Detection clearly explains the basics of probability and random processes and details modern detection and estimation theory to accomplish these tasks.

In this book, Lonnie Ludeman, an award–winning authority in digital signal processing, joins the fundamentals of random processes with the standard techniques of linear and nonlinear systems analysis and hypothesis testing to give signal estimation techniques, specify optimum estimation procedures, provide optimum decision rules for classification purposes, and describe performance evaluation definitions and procedures for the resulting methods. The text covers four main, interrelated topics:

- Probability and characterizations of random variables and random processes
- Linear and nonlinear systems with random excitations
- Optimum estimation theory including both the Wiener and Kalman Filters
- Detection theory for both discrete and continuous time measurements

Lucid, thorough, and well–stocked with numerous examples and practice problems that emphasize the concepts discussed,

Random Processes: Filtering, Estimation, and Detection is an understandable and useful text ideal as both a self–study guide for professionals in the field and as a core text for graduate students.

Contents:

Preface xv
1 Experiments and Probability 1
2 Random Variables 37
3 Estimation of Random Variables 133
4 Random Processes 179
5 Linear Systems: Random Processes 247
6 Nonlinear Systems: Random Processes 295
7 Optimum Linear Filters: The Wiener Approach 335
8 Optimum Linear Systems: The Kalman Approach 383
9 Detection Theory: Discrete Observation 423
10 Detection Theory: Continuous Observation 511
Appendixes
Index 599

Ordering:

Order Online - http://www.researchandmarkets.com/reports/2181053/
Order by Fax - using the form below
Order by Post - print the order form below and send to
Fax Order Form
To place an order via fax simply print this form, fill in the information below and fax the completed form to 646-607-1907 (from USA) or +353-1-481-1716 (from Rest of World). If you have any questions please visit
http://www.researchandmarkets.com/contact/

Order Information
Please verify that the product information is correct.

Product Name: Random Processes. Filtering, Estimation, and Detection
Web Address: http://www.researchandmarkets.com/reports/2181053/
Office Code: SCDKNU3D

Product Format
Please select the product format and quantity you require:

| Quantity | Hard Copy (Hard Back): | USD 195 + USD 29 Shipping/Handling |

* Shipping/Handling is only charged once per order.

Contact Information
Please enter all the information below in BLOCK CAPITALS

Title: Mr □ Mrs □ Dr □ Miss □ Ms □ Prof □
First Name: ___________________________ Last Name: ___________________________
Email Address: * ___________________________
Job Title: ___________________________
Organisation: ___________________________
Address: ___________________________
City: ___________________________
Postal / Zip Code: ___________________________
Country: ___________________________
Phone Number: ___________________________
Fax Number: ___________________________

* Please refrain from using free email accounts when ordering (e.g. Yahoo, Hotmail, AOL)
Payment Information

Please indicate the payment method you would like to use by selecting the appropriate box.

☐ Pay by credit card: You will receive an email with a link to a secure webpage to enter your credit card details.

☐ Pay by check: Please post the check, accompanied by this form, to:
Research and Markets,
Guinness Center,
Taylors Lane,
Dublin 8,
Ireland.

☐ Pay by wire transfer: Please transfer funds to:
Account number 833 130 83
Sort code 98-53-30
Swift code ULSBIE2D
IBAN number IE78ULSB98533083313083
Bank Address Ulster Bank,
27-35 Main Street,
Blackrock,
Co. Dublin,
Ireland.

If you have a Marketing Code please enter it below:

Marketing Code: _________________________

Please note that by ordering from Research and Markets you are agreeing to our Terms and Conditions at http://www.researchandmarkets.com/info/terms.asp

Please fax this form to:
(646) 607-1907 or (646) 964-6609 - From USA
+353-1-481-1716 or +353-1-653-1571 - From Rest of World