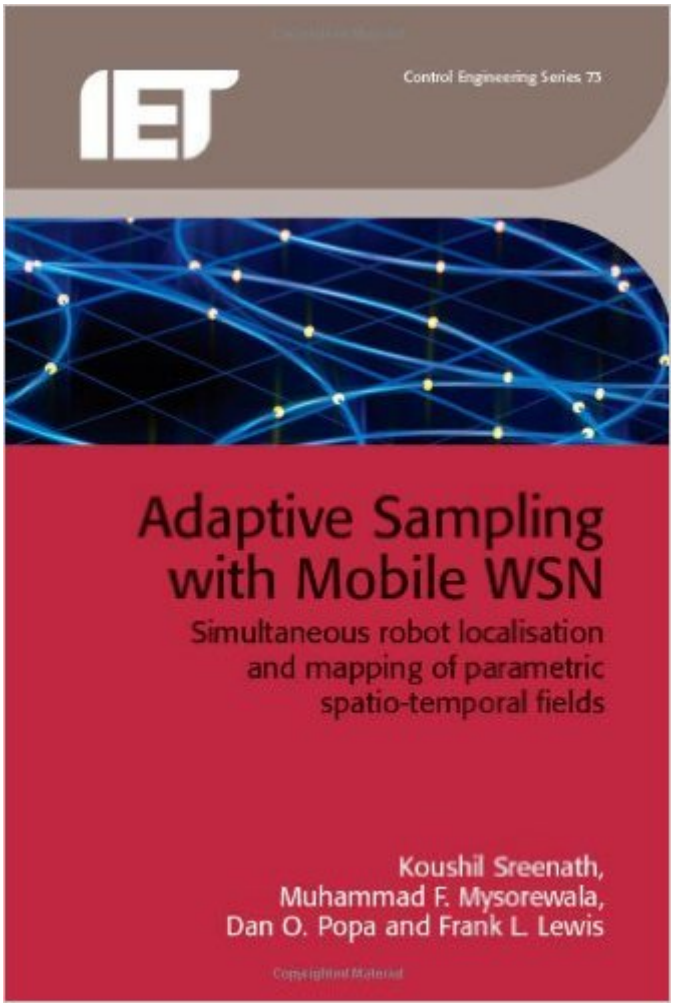
Adaptive Sampling With Mobile WSN: Simultaneous Robot Localisation And Mapping Of Paramagnetic Spatio-Temporal Fields (Iet Control Engineering Series)

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Synopsis

This book presents systematic methods for estimating environmental fields using multiple mobile sensors. Monitoring environmental fields is a complex task and is of great use in many areas, such as for building models of natural phenomenon, e.g. agriculture monitoring, such as monitoring soil temperature to manage frost, wind, water, disease, and pests. Ocean, river and lake monitoring of environmental phenomena, such as salinity in lakes, tracking water temperature, particulate densities and pollutants responsible for sustaining marine colonies, or coral cover of oceanic reefs. Meteorology monitoring, such as tracking of storms, gas plumes, and air quality; forest monitoring for tracking humidity in forests, and prediction and decision making during forest fire fighting, etc. Sampling is a broad methodology for gathering statistical information about a phenomenon. The capabilities and distributed nature of wireless sensor networks provide an attractive sampling approach for estimation of spatiotemporally distributed environmental fields. This is adaptive sampling, where the strategy for 'where to sample next' evolves temporally with past measurements. Thus the sensor network physically adapts with past measurements to enable sampling at locations that give maximal information about the field being estimated. This book presents adaptive sampling strategies with multiple, heterogeneous and mobile sensors. Sensors of this kind present several complexities, some of which like deadlocks and localisation issues are also addressed here.

Book Information

Series: Iet Control Engineering Series (Book 73)
Hardcover: 210 pages
Publisher: The Institution of Engineering and Technology (February 24, 2011)
Language: English
ISBN-10: 184919257X
ISBN-13: 978-1849192576
Product Dimensions: 0.5 x 6.2 x 9.2 inches
Shipping Weight: 1 pounds (View shipping rates and policies)
Average Customer Review: Be the first to review this item
Best Sellers Rank: #11,201,393 in Books (See Top 100 in Books) #80 inÂ Books > Computers & Technology > Programming > Software Design, Testing & Engineering > Localization #4261 inÂ Books > Computers & Technology > Computer Science > Robotics #6846 inÂ Books > Engineering & Transportation > Engineering > Industrial, Manufacturing & Operational Systems >

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Adaptive Sampling with Mobile WSN: Simultaneous Robot Localisation and Mapping of Paramagnetic Spatio-Temporal Fields (Iet Control Engineering Series) Statistics for Spatio-Temporal Data ISO 3951-1:2005, Sampling procedures for inspection by variables - Part 1: Specification for single sampling plans indexed by acceptance quality limit ... quality characteristic and a single AQL ISO 2859-1/Amd1:2011, Sampling procedures for inspection by attributes - Part 1: Sampling plans indexed by acceptable quality level (AQL) for lot-by-lot inspection - Amendment 1 ISO 2859-2:1985, Sampling procedures for inspection by attributes - Part 2 : Sampling plans indexed by limiting quality (LQ) for isolated lot inspection Information Sampling and Adaptive Cognition Mobile Apps Made Simple: The Ultimate Guide to Quickly Creating, Designing and Utilizing Mobile Apps for Your Business - 2nd Edition (mobile application, ... programming, android apps, ios apps) Edinburgh: Mapping the City (Mapping the Cities Series) Adaptive Filtering Prediction and Control (Dover Books on Electrical Engineering) Nonmetalliferous Stratabound Ore Fields (Evolution of Ore Fields Series) Microwave Measurements (Iet Electrical Measurement) The Origins of Simultaneous Interpretation: The Nuremberg Trial Fields Virology (Knipe, Fields Virology)-2 Volume Set by Knipe, David M. Published by Lippincott Williams & Wilkins 6th (sixth), 2-volume set edition (2013) Hardcover Fields Virology (Knipe, Fields Virology) Robust Localization and Mapping for Mobile Robotic Navigation: Theory, Algorithm and Implementation Bayesian Signal Processing: Classical, Modern and Particle Filtering Methods (Adaptive and Cognitive Dynamic Systems: Signal Processing, Learning, Communications and Control) Mobile Design and Development: Practical concepts and techniques for creating mobile sites and web apps (Animal Guide) Mobile App Marketing And Monetization: How To Promote Mobile Apps Like A Pro: Learn to promote and monetize your Android or iPhone app. Get hundreds of thousands of downloads & grow your app business Mobile Computing Principles: Designing and Developing Mobile Applications with UML and XML Introduction to Adaptive Optics (SPIE Tutorial Texts in Optical Engineering Vol. TT41)