B. D. Hennig, University of Sheffield, UK

Rediscovering the World
Map Transformations of Human and Physical Space

‘We need new maps’ is the central claim made in this book. In a world increasingly influenced by human action and interaction, we still rely heavily on mapping techniques that were invented to discover unknown places and explore our physical environment. Although the traditional concept of a map is currently being revised in digital environments, the underlying mapping approaches are not capable of making the complexity of human-environment relationships fully comprehensible. Starting from how people can be put on the map in new ways, this book outlines the development of a novel technique that stretches a map according to quantitative data, such as population. The new maps are called gridded cartograms as the method is based on a grid onto which a density-equalising cartogram technique is applied. The underlying grid ensures the preservation of an accurate geographic reference to the real world.

Features
- Outstanding doctoral thesis nominated for a Springer Theses Prize by the University of Sheffield, United Kingdom
- Contains a large number of innovative, full-color maps that change our understanding of the world
- This thesis has won the 2012 Germany Study Award by the Körber-Stiftung

Contents
Introduction.- Cartography and globalization.- Creating gridded cartograms.- The human shape of the planet.- Towards a gridded cartogram.- Applications for gridded cartograms.

Fields of interest
Geographical Information Systems/Cartography; Computer Imaging, Vision, Pattern Recognition and Graphics

Target groups
Research

Product category
Monograph

Due December 2012
2013.XXI, 251 p. 57 illus. (Lecture Notes in Mobility) Hardcover
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ISBN 978-3-642-34734-4

X. Luo, KIT, Karlsruhe, Germany

GPS Stochastic Modelling
Signal Quality Measures and ARMA Processes

Global Navigation Satellite Systems (GNSS), such as GPS, have become an efficient, reliable and standard tool for a wide range of applications. However, when processing GNSS data, the stochastic model characterising the precision of observations and the correlations between them is usually simplified and incomplete, leading to overly optimistic accuracy estimates.

Features
- Outstanding doctoral thesis nominated for a Springer Theses Prize by Karlsruhe Institute of Technology, Germany
- This work is a key step towards a realistic GNSS stochastic model, and provides good examples of statistical verification and physical interpretation of results
- This thesis gives an up-to-date overview of the GNSS error effects and a comprehensive description of the mathematical models
- Various statistical tests and methods of time series analysis are included, which can be applied in other research fields

Contents

Fields of interest
Remote Sensing/Photogrammetry; Mathematical Applications in the Physical Sciences; Signal, Image and Speech Processing

Target groups
Research

Product category
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S. Zlatanova, Delft University of Technology, Netherlands; R. Peters, Public safety & Health Region Kennemerla, Haarlem, Netherlands; A. Dilo, H. Scholten, University of Twente, Enschede, Netherlands (Eds)

Intelligent Systems for Crisis Management

Geo-information for Disaster Management (Gi4DM) 2012

Contents

Field of interest
Geographical Information Systems/Cartography

Target groups
Research

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Monograph

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