

Table of Contents

Object Extraction from Raster Imagery

View Alignment of Aerial and Terrestrial Imagery in Urban Environments.....	3
<i>Christopher Jaynes</i>	

Automated Extraction of Linear Features from Aerial Imagery Using Kohonen Learning and GIS Data.....	20
<i>Pete Doucette, Peggy Agouris, Mohamad Musavi, and Anthony Stefanidis</i>	

Reconstruction of Building Models from Maps and Laser Altimeter Data	34
<i>Uwe Stilla and K. Jurkiewicz</i>	

Comparison of the Potential of Different Sensors for an Automatic Approach for Change Detection in GIS Databases	47
<i>Volker Walter</i>	

Geospatial Analysis

Cost-Effective Determination of Biomass from Aerial Images	67
<i>H. Schultz, D. Slaymaker, C. Holmes, F. Stolle, A. Hanson, Ed Riseman, M. Delaney, and M. Powell</i>	

Spatial Pictogram Enhanced Conceptual Data Models and Their Translation to Logical Data Models	77
<i>Shashi Shekhar, Ranga Raju Vatsavai, Sanjay Chawla, and Thomas E. Burk</i>	

Change Detection by Classification of a Multi-temporal Image.....	105
<i>Ben Gorte</i>	

A Probabilistic Approach to Environmental Change Detection with Area-Class Map Data	122
<i>Christopher B. Jones, J. Mark Ware, and David R. Miller</i>	

Formalisms and Modeling

Landscape Editing with Knowledge-Based Measure Deductions for Ecological Planning	139
<i>Jörn Möltgen, Benno Schmidt, and Werner Kuhn</i>	

A Framework for Integrating GIS and Digital Images	153
<i>Zarine Kemp</i>	

On Ontology in Image Analysis.....	168
<i>Thomas Bittner and Stephan Winter</i>	

Relational Algebra for Spatial Data Management.....	192
<i>Nikos A. Lorentzos, Nectaria Tryfona, and J.R. Rios Viqueira</i>	

Data Access

Integrating GIS and Imagery Through XML-Based Information Mediation 211
Amarnath Gupta, Richard Marciano, Ilya Zaslavsky, and Chaitanya Baru

The ATREE: A Data Structure to Support Very Large Scientific Databases 235
Pedja Bogdanovich and Hanan Samet

Improving High-Dimensional Indexing with Heuristics for Content-Based
Image Retrieval..... 249
Yongjuan Fu and Jui-Che Teng

Representation and Interactive Manipulation of Massive CAD Databases 268
Andy Wilson, Dinesh Manocha, and Ming C. Lin

Conquest: CONcurrent QUERies over Space and Time..... 286
Silvia Nittel, Kenneth W. Ng, and Richard R. Muntz

CHOROCHRONOS - Research on Spatio-temporal Database Systems 308
Timos Sellis

Author Index..... 317