DESCRIPTION

A comprehensive overview of high precision surveying, including recent developments in geomatics and their applications

This book covers advanced precision surveying techniques, their proper use in engineering and geoscience projects, and their importance in the detailed analysis and evaluation of surveying projects. The early chapters review the fundamentals of precision surveying: the types of surveys; survey observations; standards and specifications; and accuracy assessments for angle, distance and position difference measurement systems. The book also covers network design and 3-D coordinating systems before discussing specialized topics such as structural and ground deformation monitoring techniques and analysis, mining surveys, tunneling surveys, and alignment surveys.

Precision Surveying: The Principles and Geomatics Practice:

• Covers structural and ground deformation monitoring analysis, advanced techniques in mining and tunneling surveys, and high precision alignment of engineering structures

• Discusses the standards and specifications available for geomatics projects, including their representations, interpretations, relationships with quality assurance/quality control measures, and their use in geomatics projects

• Describes network design and simulation, including error analysis and budgeting
• Explains the main properties of high-precision surveys with regard to basic survey procedures and different traditional measurement techniques

• Analyzes survey observables such as angle, distance, elevation difference and coordinate difference measurements, and the relevant equipment, including the testing and utilization of the equipment

• Provides several case studies and real world examples

*Precision Surveying: The Principles and Geomatics Practice* is written for upper undergraduate students and graduate students in the fields of surveying and geomatics. This textbook is also a resource for geomatics researchers, geomatics software developers, and practicing surveyors and engineers interested in precision surveys.

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### ABOUT THE AUTHOR

**John O. Ogundare, PhD,** has over thirty years of experience in the field of geomatics. He has been working as instructor of geomatics technology for over twenty years at the British Columbia Institute of Technology (BCIT), Canada. Dr. Ogundare has served as a consultant to the Canada Council of Land Surveyors (CCLS) in 2007 and 2009, and is a representative of the Canadian Board of Examiners for Professional Surveyors (CBEPS) Board of Directors and the CBEPS Exemptions and Accreditation Committee. Dr. Ogundare has been a special examiner for CBEPS on Coordinate systems, Map projections, and Cartography for over eight years.

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