

1. Record Nr.	UNINA9910813726403321
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Titolo	Principles of GNSS, inertial, and multisensor integrated navigation systems / / Paul D. Groves
Pubbl/distr/stampa	Boston : , : Artech House, , [2013] [Piscataqay, New Jersey] : , : IEEE Xplore, , [2013]
ISBN	1-5231-1752-4 1-60807-006-9
Edizione	[Second edition.]
Descrizione fisica	1 online resource (800 p.)
Collana	GNSS technology and application series
Disciplina	629.045
Soggetti	Global Positioning System Artificial satellites in navigation Inertial navigation systems Navigation - Technological innovations
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
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Sommario/riassunto

This newly revised and greatly expanded edition of the popular Artech House book Principles of GNSS, Inertial, and Multisensor Integrated Navigation Systems offers you a current and comprehensive understanding of satellite navigation, inertial navigation, terrestrial radio navigation, dead reckoning, and environmental feature matching . It provides both an introduction to navigation systems and an in-depth treatment of INS/GNSS and multisensor integration. The second edition offers a wealth of added and updated material, including a brand new chapter on the principles of radio positioning and a chapter devoted to important applications in the field. Other updates include expanded treatments of map matching, image-based navigation, attitude determination, acoustic positioning, pedestrian navigation, advanced GNSS techniques, and several terrestrial and short-range radio positioning technologies. The book shows you how satellite, inertial, and other navigation technologies work, and focuses on processing chains and error sources. In addition, you get a clear introduction to coordinate frames, multi-frame kinematics, Earth models, gravity, Kalman filtering, and nonlinear filtering. Providing solutions to common integration problems, the book describes and compares different integration architectures, and explains how to model different error sources. You get a broad and penetrating overview of current technology and are brought up to speed with the latest developments in the field, including context-dependent and cooperative positioning.