Record Nr. UNINA9910437898703321 Autore Noureldin Aboelmagd Titolo Fundamentals of inertial navigation, satellite-based positioning and their integration / / .Aboelmagd Noureldin, Tashfeen B. Karamat, Jacques Georgy Heidelberg, : Springer, 2012, c2013 Pubbl/distr/stampa **ISBN** 1-283-91049-7 3-642-30466-4 Descrizione fisica 1 online resource (323 p.) Altri autori (Persone) KaramatTashfeen B GeorgyJacques 621.390286 Disciplina 629.453 910.282 Soggetti Artificial satellites in navigation Inertial navigation systems Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references. Nota di contenuto Reference Frames and Earth Geometry -- Global Positioning System --Inertial Navigation System -- Inertial Navigation System Modeling --Modeling INS Errors by Linear State Equations -- Kalman Filter --INS/GPS integration -- Three Dimensional Reduced Inertial Sensor System / GPS Integration for Land-Based Vehicles -- Two Case Studiesfull IMU/GPS and 3D RISS/GPS Integration. Sommario/riassunto Fundamentals of Inertial Navigation, Satellite-based Positioning and their Integration is an introduction to the field of Integrated Navigation Systems. It serves as an excellent reference for working engineers as well as textbook for beginners and students new to the area. The book is easy to read and understand with minimum background knowledge. The authors explain the derivations in great detail. The intermediate steps are thoroughly explained so that a beginner can easily follow the material. The book shows a step-by-step implementation of navigation

algorithms and provides all the necessary details. It provides detailed illustrations for an easy comprehension. The book also demonstrates real field experiments and in-vehicle road test results with professional

discussions and analysis. This work is unique in discussing the different INS/GPS integration schemes in an easy to understand and straightforward way. Those schemes include loosely vs tightly coupled, open loop vs closed loop, and many more.