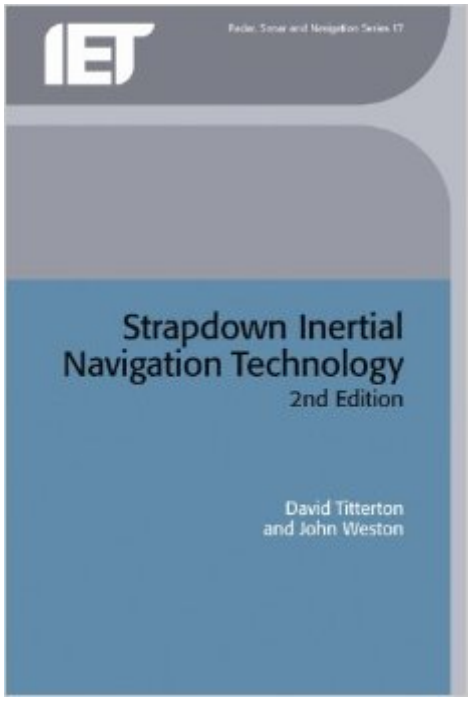
Strapdown Inertial Navigation Technology (IEE Radar, Sonar, Navigation And Avionics Series)



Synopsis

Inertial navigation is widely used for the guidance of aircraft, missiles ships and land vehicles, as well as in a number of novel applications such as surveying underground pipelines in drilling operations. This book discusses the physical principles of inertial navigation, the associated growth of errors and their compensation. It draws current technological developments, provides an indication of potential future trends and covers a broad range of applications. New chapters on MEMS (microelectromechanical systems) technology and inertial system applications are included.

Book Information

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Average Customer Review: 4.8 out of 5 starsÂ Â See all reviewsÂ (5 customer reviews)

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Customer Reviews

This book has the most comprehensive breakdown and analysis of the principles and modeling of accelerometer and gyro technologies I’ve seen in a book yet, though there are already some very good books on stable platform products. There’s also a wealth of information on various coordinate systems used in the vicinity of Earth. While an entire chapter is devoted to MEMS, it would seem that the mechanization material (as well as alignment) is geared towards higher-end devices, in that many MEMS units I’ve encountered cannot readily identify any component of Earth’s rotation, making much of the math superfluous for my application. There is a chapter near the end that deals briefly with aiding, but don’t count on that being enough. A number of real-world periodic motions, both short-term (coning, sculling) and long-term (Schuler, Foucault), are identified, and the references to literature at the end of each section are invaluable in digging deeper. Kalman filtering

is relegated to an appendix, but that is fine, as this book is significantly more oriented to applications; pick up a copy of Gelb if you need an intro to estimation.

A good introduction from the ground up. Concepts were easily conveyed to the reader. I'm much more comfortable with strapdown systems after reading this book.

An excellent text that has helped me work through some challenges with a legacy inertial navigation system in one of our underwater systems and provided a better overall understanding of the topic area, including advances in inertial sensor technology.

Despite covering a wide range of complex subjects, the explanations in this book are clear. This book played a key role in my understanding of INS systems, and I highly recommend it to others.

Strapdown Inertial Nav. is an excellent book for those who would like to understand the technology or learn how to process inertial sensor data.

50 cuentos para sonar / 50 Bedtime Stories (Spanish Edition)