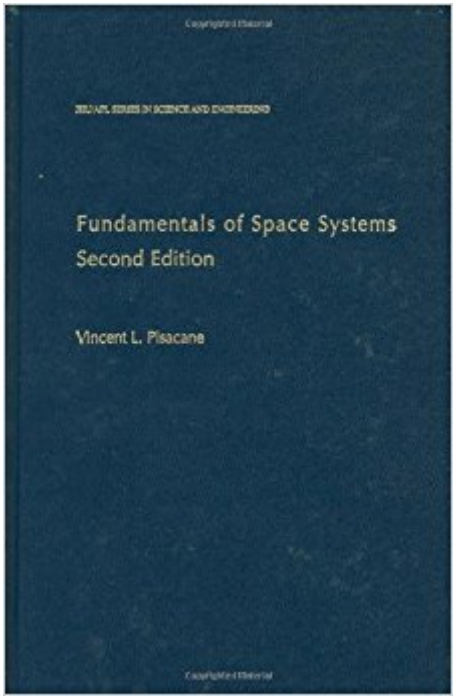
Fundamentals Of Space Systems (Johns Hopkins University Applied Physics Laboratories Series In Science And Engineering)



Synopsis

Fundamentals of Space Systems was developed to satisfy two objectives: the first is to provide a text suitable for use in an advanced undergraduate or beginning graduate course in both space systems engineering and space system design. The second is to be a primer and reference book for space professionals wishing to broaden their capabilities to develop, manage the development, or operate space systems. The authors of the individual chapters are practicing engineers that have had extensive experience in developing sophisticated experimental and operational spacecraft systems in addition to having experience teaching the subject material. The text presents the fundamentals of all the subsystems of a spacecraft missions and includes illustrative examples drawn from actual experience to enhance the learning experience. It includes a chapter on each of the relevant major disciplines and subsystems including space systems engineering, space environment, astrodynamics, propulsion and flight mechanics, attitude determination and control, power systems, thermal control, configuration management and structures, communications, command and telemetry, data processing, embedded flight software, survuvability and reliability, integration and test, mission operations, and the initial conceptual design of a typical small spacecraft mission.

Book Information

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Customer Reviews

Vincent L. Pisacane is at United States Naval Academy.

Excellent reference!

This book is on the design of spacecraft. In order to have the most up to date information available, each chapter is written by an expert in the particular field covered by that chapter. Looking at the brief introduction of the writers shows that most of them have been involved in the design of actual spacecraft for the John Hopkins Applied Physics Laboratory. These people have been actually working on the subjects they discuss.This is the second edition of the book, published in 2005 to reflect the latest changes in the technology and science of spacecraft systems engineering that have occurred since the publication of the first edition.Second an attempt has been made to make the material more suitable for a space systems course as a prerequisite to a senior class project to design and perhaps build and launch a spacecraft or spacecraft instrument.The structure of the book is to break down the spacecraft into a number of sub-systems to a depth that should permit the reader to carry out a conceptual design.This book describes the state of the art as it exists for spacecraft design.

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