

and examples in chapter 10 New examples and homework problems

Exposes the behind-the-scenes events of the U.S. and Soviet space programs, describing key personalities, technologies, successes, and failures encountered along the way

A world list of books in the English language.

Apollo in Perspective: Spaceflight Then and Now takes a retrospective look at the Apollo space program and the technology that was used to land a man on the Moon. Using simple illustrations and school-level mathematics, Jonathan Allday explains the basic physics and technology of spaceflight and conveys the huge technological strides that were made and the dedication of the people working on the program. Physics topics covered include the laws of motion, rocketry, how to maneuver in orbit, and more. Informal and engaging, the book also discusses the designs of the Apollo Command, Service and Lunar modules and how these changed as the plans for the manned mission evolved.

Guidance systems, computers, and engines all had to be developed for the first time. With Apollo as background, the book proceeds to look at the space shuttle, the technology being developed for its replacement, the International Space Station, and the possibilities for a manned Mars mission. The book concludes with an exploration of the far future, including Mars colonies and journeys to other stars.

NOTE: NO FURTHER DISCOUNT FOR THIS PRINT PRODUCT- OVERTOCK SALE -- Significantly reduced list price Wings in Orbit is an authoritative documentation of the many accomplishments of the NASA Space Shuttle Program. Starting with a foreword written by astronauts John Young and Robert Crippen, this compelling book provides accurate, authentic and easily understood accounts from NASA's best subject matter experts and external resources. The book captures the passion of those who devoted their energies to the Program's success for more than three decades. It focuses on their science and engineering accomplishments, the rich history of the program and the shuttle as an icon in U.S. history. No other book on the market has accumulated as many experts and resources on this subject nor broken it down in such easy to understand language with compelling imagery. With the Shuttle Program coming to a close, consumers will be inclined to purchase this book as it provides comprehensive information on this historic program as it ends its 30 year run. The promotions for this book will definitely benefit from the publicity of this historic event. Other related products: NASA's Contributions to Aeronautics, Vols. 1-2 is available here: <https://bookstore.gpo.gov/products/sku/033-000-01334-5> Leadership in Space: Selected Speeches of NASA Administrator Michael Griffin, May 2005-October 2008 is available here: <https://bookstore.gpo.gov/products/sku/033-000-01314-1> Dressing for Altitude: U.S. Aviation Pressure Suits, Wiley Post to Space Shuttle --ePub format is available for purchase through the Apple iBookstore-- Please use ISBN: 9780160915604 to search for this title in their platform. Revolutionary Atmosphere: The Story of the Altitude Wind Tunnel and the Space Power Chambers is available here: <https://bookstore.gpo.gov/products/sku/033-000-01342-6> Other products produced by NASA can be found here: <https://bookstore.gpo.gov/agency/550>

This new series offers the most comprehensive views of key areas in the world of science. Each set explores all facets of the topic, offering not only descriptive and analytical information, but also cultural and ethical issues, and career opportunities in many fields of science.

Essential Spaceflight Dynamics and Magnetospherics describes, in the first instance, some of the key aspects of celestial mechanics and spaceflight dynamics. It begins with classical two and three body problems illustrative of the aesthetic aspects of applying analytical methods of investigation to celestial mechanics. Then, osculating orbital elements are introduced as well as analysis techniques sufficient to evaluate the influence of various disturbing forces on spacecraft. Next a theory of manoeuvres is outlined and the methodology of making interplanetary trajectory corrections. Ideas involving various approaches to orbital element determinations using measured data are also considered. The forces applied to a spacecraft can result in the development of torques that influence attitude motion and the effects of the most important of these are described in terms of equilibrium positions, periodic motions, steady-state and transient motions. Also considered is the problem of attitude control of a spacecraft using active and/or passive methods of orientation and stabilization. In addition, a more advanced treatment of the development of attitude control systems is provided.

This book is designed for publication straight after the launch of China's first manned spacecraft. The precursor mission, Shenzhou, flew unmanned in November 1999, in line with the predictions of The Chinese Space Programme: From Conception to Future Capabilities (1998) the first edition of this retitled book. China's Space Program: From Conception to Manned Spaceflight builds on the 1998 title to take account of the first manned flight in October 2003. It also brings the reader up to date with other developments in the Chinese space programme over from 1998 to the manned flight and looks forward to China's future plans and ambitions.

Assesses alternatives for a next-generation intercontinental ballistic missile (ICBM) across a broad set of potential characteristics and situations and weighs them against the costs of those alternatives.

The book addresses the overall integrated design aspects of a space transportation system involving several disciplines like propulsion, vehicle structures, aerodynamics, flight mechanics, navigation, guidance and control systems, stage auxiliary systems, thermal systems etc. and discusses the system approach for design, trade off analysis, system life cycle considerations, important aspects in mission management, the risk assessment, etc. There are several books authored to describe the design aspects of various areas, viz., propulsion, aerodynamics, structures, control, etc., but there is no book which presents space transportation system (STS) design in an integrated manner. This book attempts to fill this gap by addressing systems approach for STS design, highlighting the integrated design aspects, interactions between various subsystems and interdependencies. The main focus is towards the complex integrated design to arrive at an optimum, robust and cost effective space transportation system. The orbital mechanics of satellites including different coordinate frames, orbital perturbations and orbital transfers are explained. For launching the satellites to meet specific mission requirements, viz., payload/orbit, design considerations, giving step by step procedure are briefed. The selection methodology for launch vehicle configuration, its optimum staging and the factors which influence the vehicle performance are summarized. The influence of external, internal and dynamic operating environments experienced by the vehicle subsystems and the remedial measures needed are highlighted. The mission design strategies and their influence on the vehicle design process are elaborated. The various critical aspects of STS subsystems like flight mechanics, propulsion, structures and materials, thermal systems, stage auxiliary systems, navigation, guidance and control and the interdependencies and interactions between them are covered. The design guidelines, complexity of the flight environment and the reentry dynamics for the reentry missions are included. The book is not targeted as a design tool for any particular discipline or subsystem. Some of the design related equations or expressions are not attempted to derive from the first principle as this is beyond the scope of this book. However, the important analytical expressions, graphs and sketches which are essential to provide in-depth understanding for the design process as well as to understand the interactions between different subsystems are appropriately included.

Design optics and technology for large spaceborne astronomical telescopes.

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