Epub free Fundamentals of spacecraft attitude determination and control (Download Only)

Spacecraft Attitude Determination and Control Fundamentals of Spacecraft Attitude Determination and Control Spacecraft Modeling, Attitude Determination, and Control Design and Global Analysis of Spacecraft Attitude Control Systems Spacecraft Attitude Dynamics Spacecraft Dynamics and Control Spacecraft Attitude Determination and Control Spacecraft Attitude Control Fault-Tolerant Attitude Control of Spacecraft Advances in Spacecraft Attitude Control Chaos in Attitude Dynamics of Spacecraft Spacecraft Dynamics and Control Fast Satellite Attitude Maneuver and Control ADCS - Spacecraft Attitude Determination and Control Spacecraft Attitude Dynamics and Control ACS Without an Attitude An Approach to the Design and Implementation of Spacecraft Attitude Control Systems Synergisms for Spacecraft Attitude Control System Attitude Control Subsystem for the Advanced Communications Technology Satellite Spacecraft Attitude, Dynamics and Control A Survey of Attitude Sensors for Spacecraft Space Vehicle Dynamics and Control Distributed Attitude Consensus of Multiple Flexible Spacecraft Response Envelope Spacecraft Dynamics and Control Modern Spacecraft Dynamics and Control Angular Rate Estimation for Multi-Body Spacecraft Attitude Control Spacecraft Attitude Dynamics: Advances in Aeronautical Engineering Flexible Spacecraft Dynamics, Control and Guidance Advances in Estimation, Navigation, and Spacecraft Control COLD-SAT Dynamic Model Control of Spacecraft and Aircraft Attitude Stabilization for CubeSat Fault Tolerant Attitude Estimation for Small Satellites Analysis of Limited Memory Estimators and Their Application to Spacecraft Attitude Determination Four Methods of Attitude Determination for Spin-stabilized Spacecraft with Applications and Comparative Results Selected Papers on Environmental and Attitude Control of Manned Spacecraft Control Allocation for Spacecraft Under Actuator Faults Development of a High-Precision Sensor for the Attitude Determination of the Bifocal Spacecraft Simulator Intelligent Autonomous Control of Spacecraft with Multiple Constraints

Spacecraft Attitude Determination and Control 2012-12-06 roger d werking head attitude determination and control section national aeronautics and space administration goddard space flight center extensiye work has been done for many years in the areas of attitude determination attitude prediction and attitude control during this time it has been difficult to obtain reference material that provided a comprehensive overview of attitude support activities this lack of reference material has made it difficult for those not intimately involved in attitude functions to become acquainted with the ideas and activities which are essential to understanding the various aspects of spacecraft attitude support as a result i felt the need for a document which could be used by a variety of persons to obtain an understanding of the work which has been done in support of spacecraft attitude objectives it is believed that this book prepared by the computer sciences corporation under the able direction of dr james wertz provides this type of reference this book can serve as a reference for individuals involved in mission planning attitude determination and attitude dynamics an introductory textbook for stu dents and professionals starting in this field an information source for experimen ters or others involved in spacecraft related work who need information on spacecraft orientation and how it is determined but who have neither the time nor the resources to pursue the varied literature on this subject and a tool for encouraging those who could expand this discipline to do so because much remains to be done to satisfy future needs

Fundamentals of Spacecraft Attitude Determination and Control 2014-05-31 this book explores topics that are central to the field of spacecraft attitude determination and control the authors provide rigorous theoretical derivations of significant algorithms accompanied by a generous amount of qualitative discussions of the subject matter the book documents the development of the important concepts and methods in a manner accessible to practicing engineers graduate level engineering students and applied mathematicians it includes detailed examples from actual mission designs to help ease the transition from theory to practice and also provides prototype algorithms that are readily available on the author s website subject matter includes both theoretical derivations and practical implementation of spacecraft attitude determination and control systems it provides detailed derivations for attitude kinematics and dynamics and provides detailed description of the most widely used attitude parameterization the quaternion this title also provides a thorough treatise of attitude dynamics including jacobian elliptical functions it is the first known book to provide detailed derivations and explanations of state attitude determination and gives readers real world examples from actual working spacecraft missions the subject matter is chosen to fill the void of existing textbooks and treatises

especially in state and dynamics attitude determination matlab code of all examples will be provided through an external website

Spacecraft Modeling, Attitude Determination, and Control 2019-02-06 this book discusses all spacecraft attitude control related topics spacecraft including attitude measurements actuator and disturbance torques modeling spacecraft attitude determination and estimation and spacecraft attitude controls unlike other books addressing these topics this book focuses on quaternion based methods because of its many merits the book lays a brief but necessary background on rotation sequence representations and frequently used reference frames that form the foundation of spacecraft attitude description it then discusses the fundamentals of attitude determination using vector measurements various efficient including very recently developed attitude determination algorithms and the instruments and methods of popular vector measurements with available attitude measurements attitude control designs for inertial point and nadir pointing are presented in terms of required torques which are independent of actuators in use given the required control torques some actuators are not able to generate the accurate control torques therefore spacecraft attitude control design methods with achievable torques for these actuators for example magnetic torque bars and control moment gyros are provided some rigorous controllability results are provided the book also includes attitude control in some special maneuvers such as orbital raising docking and rendezvous that are normally not discussed in similar books almost all design methods are based on state spaced modern control approaches such as linear quadratic optimal control robust pole assignment control model predictive control and gain scheduling control applications of these methods to spacecraft attitude control problems are provided appendices are provided for readers who are not familiar with these topics

Design and Global Analysis of Spacecraft Attitude Control Systems 1971 comprehensive coverage includes environmental torques energy dissipation motion equations for four archetypical systems orientation parameters illustrations of key concepts with on orbit flight data and typical engineering hardware 1986 edition

Spacecraft Attitude Dynamics 2012-05-23 provides the basics of spacecraft orbital dynamics plus attitude dynamics and control using vectrix notation spacecraft dynamics and control an introduction presents the fundamentals of classical control in the context of spacecraft attitude control this approach is particularly beneficial for the training of students in both of the subjects of classical control as well as its application to spacecraft attitude control by using a physical system a spacecraft that the reader can visualize rather than arbitrary transfer functions it is easier to grasp the motivation for

why topics in control theory are important as well as the theory behind them the entire treatment of both orbital and attitude dynamics makes use of vectrix notation which is a tool that allows the user to write down any vector equation of motion without consideration of a reference frame this is particularly suited to the treatment of multiple reference frames vectrix notation also makes a very clear distinction between a physical vector and its coordinate representation in a reference frame this is very important in spacecraft dynamics and control problems where often multiple coordinate representations are used in different reference frames for the same physical vector provides an accessible practical aid for teaching and self study with a layout enabling a fundamental understanding of the subject fills a gap in the existing literature by providing an analytical toolbox offering the reader a lasting rigorous methodology for approaching vector mechanics a key element vital to new graduates and practicing engineers alike delivers an outstanding resource for aerospace engineering students and all those involved in the technical aspects of design and engineering in the space sector contains numerous illustrations to accompany the written text problems are included to apply and extend the material in each chapter essential reading for graduate level aerospace engineering students aerospace professionals researchers and engineers

Spacecraft Dynamics and Control 2012-12-05 spacecraft attitude control a linear matrix inequality approach solves problemsfor spacecraft attitude control systems using convex optimization and specifi cally through a linear matrix inequality lmi approach high precision pointing and improvedrobustness in the face of external disturbances and other uncertainties are requirementsfor the current generation of spacecraft this book presents an lmi approach to spacecraftattitude control and shows that all uncertainties in the maneuvering process can besolved numerically it explains how a model like state space can be developed through amathematical presentation of attitude control systems allowing the controller in question tobe applied universally the authors describe a wide variety of novel and robust controllers applicable both to spacecraft attitude control and easily extendable to second ordersystems spacecraft attitude control provides its readers with an accessible introductionto spacecraft attitude control and robust systems giving an extensive survey of currentresearch and helping researchers improve robust control performance considers the control requirements of modern spacecraft presents rigid and flexible spacecraft control systems with inherent uncertainties mathematically leading to a model like state space develops a variety of novel and robust controllers directly applicable to spacecraft control as well as extendable to other second order systems includes a systematic survey of recent research in spacecraft attitude control

Spacecraft Attitude Determination and Control 1978 fault tolerant attitude control of spacecraft presents the fundamentals of spacecraft fault tolerant attitude control systems along with the most recent research and advanced nonlinear control techniques this book gives researchers a self contained guide to the complex tasks of envisaging designing implementing and experimenting by presenting designs for integrated modeling dynamics fault tolerant attitude control and fault reconstruction for spacecraft specifically the book gives a full literature review and presents preliminaries and mathematical models robust fault tolerant attitude control fault tolerant attitude control with actuator saturation velocity free fault tolerant attitude control finite time fault tolerant attitude tracking control and active fault tolerant attitude contour finally the book looks at the future of this interesting topic offering readers a one stop solution for those working on fault tolerant attitude control for spacecraft presents the fundamentals of fault tolerant attitude control systems for spacecraft in one practical solution gives the latest research and thinking on nonlinear attitude control fault tolerant control and reliable attitude control brings together concepts in fault control theory fault diagnosis and attitude control for spacecraft covers advances in theory technological aspects and applications in spacecraft presents detailed numerical and simulation results to assist engineers offers a clear systematic reference on fault tolerant control and attitude control for spacecraft

Spacecraft Attitude Control 2022-01-31 spacecraft attitude maneuvers comply with euler s moment equations a set of three nonlinear coupled differential equations nonlinearities complicate the mathematical treatment of the seemingly simple action of rotating and these complications lead to a robust lineage of research this book is meant for basic scientifically inclined readers and commences with a chapter on the basics of spaceflight and leverages this remediation to reveal very advanced topics to new spaceflight enthusiasts the topics learned from reading this text will prepare students and faculties to investigate interesting spaceflight problems in an era where cube satellites have made such investigations attainable by even small universities it is the fondest hope of the editor and authors that readers enjoy this book

Fault-Tolerant Attitude Control of Spacecraft 2021-06-09 attitude dynamics is the theoretical basis of attitude control of spacecrafts in aerospace engineering with the development of nonlinear dynamics chaos in spacecraft attitude dynamics has drawn great attention since the 1990 s the problem of the predictability and controllability of the chaotic attitude motion of a spacecraft has a practical significance in astronautic science this book aims to summarize basic concepts main approaches and recent progress in this area it focuses on the research work of the author and other chinese scientists

in this field providing new methods and viewpoints in the investigation of spacecraft attitude motion as well as new mathematical models with definite engineering backgrounds for further analysis professor yanzhu liu was the director of the institute of engineering mechanics shanghai jiao tong university china dr liqun chen is a professor at the department of mechanics shanghai university china
Advances in Spacecraft Attitude Control 2020-01-15 this 1997 book explains basic theory of spacecraft dynamics and control and the practical aspects of controlling a satellite
Chaos in Attitude Dynamics of Spacecraft 2013-04-13 fast satellite attitude maneuver and control introduces the concept of agile satellites and corresponding fast maneuver attitude control systems systematically and comprehensively presenting recent research results of fast maneuver attitude control for agile satellites by using advanced nonlinear control techniques this reference book focuses on modeling and attitude control considering different actuator combinations actuator installation deviation actuator fault and flexible appendage coupling effect for agile satellites the book provides a unified platform for understanding and applicability of agile satellites fast maneuverer and stabilization control for different purposes it will be an excellent resource for researchers working on spacecraft design nonlinear control systems vehicle systems and complex control systems unifies existing and emerging concepts concerning nonlinear control theory fault tolerant and attitude control for agile satellites provides a series of the latest results including but not limited to fast maneuverer and stabilization control hybrid actuator control nonlinear attitude control fault tolerant control and active vibration suppression towards agile satellites comprehensively captures recent advances of theory technological aspects and applications of fast maneuverer and stabilization control in agile satellites addresses research problems in each chapter along with numerical and simulation results that reflect engineering practice and demonstrate the focus of developed analysis and synthesis approaches contains comprehensive up to date references which play an indicative role for further study
Spacecraft Dynamics and Control 1997 adcs spacecraft attitude determination and control provides a complete introduction to spacecraft control the book covers all elements of attitude control system design including kinematics dynamics orbits disturbances actuators sensors and mission operations essential hardware details are provided for star cameras reaction wheels sun sensors and other key components the book explores how to design a control system for a spacecraft control theory and actuator and sensor details examples are drawn from the author s 40 years of industrial experience with spacecraft such as ggs gps iir mars observer and commercial communications satellites and includes historical background and real life examples features critical details on hardware and the space

environment combines theory and ready to implement practical algorithms includes matlab code for all examples provides plots and figures generated with the included code

Fast Satellite Attitude Maneuver and Control 2022-08-02 written for aerospace engineering courses of senior undergraduate or graduate level this work presents basic concepts methods and mathematical developments in spacecraft attitude dynamics and control topics covered include rigid body dynamics environmental effects and linear control theory

ADCS - Spacecraft Attitude Determination and Control 2023-04-27 this book de emphasizes the formal mathematical description of spacecraft on board attitude and orbit applications in favor of a more qualitative concept oriented presentation of these topics the information presented in this book was originally given as a set of lectures in 1999 and 2000 instigated by a nasa flight software branch chief at goddard space flight center the branch chief later suggested this book it provides an approachable insight into the area and is not intended as an essential reference work acs without an attitude is intended for programmers and testers new to the field who are seeking a commonsense understanding of the subject matter they are coding and testing in the hope that they will reduce their risk of introducing or missing the key software bug that causes an abrupt termination in their spacecraft s mission in addition the book will provide managers and others working with spacecraft with a basic understanding of this subject

Spacecraft Attitude Dynamics and Control 1991 over 39 years and a long list of missions the guidance navigation and control gn c groups at the goddard space flight center have gradually developed approaches to the design and implementation of successful spacecraft attitude control systems with the recent creation of the guidance navigation and control center at goddard there is a desire to document some of these design practices to help to ensure their consistent application in the future in this paper we will discuss the beginnings of this effort drawing primarily on the experience of one of the past attitude control system acs groups at goddard what was formerly known as code 712 the guidance navigation and control branch we will discuss the analysis and design methods and criteria used including guidelines for linear and nonlinear analysis as well as the use of low and high fidelity simulation for system design and verification of performance descriptions of typical acs sensor and actuator hardware will be shown and typical sensor actuator suites for a variety of mission types detailed a description of the software and hardware test effort will be given along with an attempt to make some qualitative estimates on how much effort is involved the spacecraft and gn c subsystem review cycles will be discussed giving an outline of what design reviews are typically held and what

information should be presented at each stage finally we will point out some of the lessons learned at goddard odonnell james r jr and mangus david j goddard space flight center aas 98 309

ACS Without an Attitude 2017-05-03 a textbook that incorporates the latest methods used for the analysis of spacecraft orbital attitude and structural dynamics and control spacecraft dynamics is treated as a dynamic system with emphasis on practical applications typical examples of which are the analysis and redesign of the pointing control system of the hubble space telescope and the analysis of an active vibrations control for the cofs control of flexible structures mast flight system in addition to the three subjects mentioned above dynamic systems modeling analysis and control are also discussed annotation copyrighted by book news inc portland or

An Approach to the Design and Implementation of Spacecraft Attitude Control Systems 2018-08-16 this book mainly presents the authors recent studies on the distributed attitude consensus of multiple flexible spacecraft modified rodrigues parameters and rotation matrix are used to represent spacecraft attitude several distributed adaptive controllers are presented with theoretical analyses numerical simulations and experimental verifications the authors intend to provide a manual that allows researchers engineers and students in the field of aerospace engineering and mechanics to learn a theoretical and practical approach to the design of attitude consensus algorithms

Synergisms for Spacecraft Attitude Control System 2003 this book presents up to date concepts and design methods relating to space dynamics and control including spacecraft attitude control orbit control and guidance navigation and control gnc summarizing the research advances in control theory and methods and engineering practice from beijing institute of control engineering over the years the control schemes and systems based on these achievements have been successfully applied to remote sensing satellites communication satellites navigation satellites new technology test satellites shenzhou manned spacecraft tianzhou freight spacecraft tiangong 1 2 space laboratories chang e lunar explorers and many other missions further the research serves as a guide for follow up engineering developments in manned lunar engineering deep space exploration and on orbit service missions

Attitude Control Subsystem for the Advanced Communications Technology Satellite 1996 topics include orbital and attitude maneuvers orbit establishment and orbit transfer plane rotation interplanetary transfer and hyperbolic passage lunar transfer reorientation with constant momentum attitude determination more answers to selected exercises 1976 edition

Spacecraft Attitude, Dynamics and Control 2001-12 spacecraft with high performance attitude control systems requirements have traditionally relied on imperfect mechanical gyroscopes for primary attitude

determination gyro bias errors are corrected with a kalman filter algorithm that uses updates from precise attitude sensors like star trackers gyroscopes however have a tendency to degrade or fail on orbit becoming a life limiting factor for many satellites when errors become erratic pointing accuracy may be lost during short star gaps unpredictable gyro degradations have impacted nasa spacecraft missions such as skylab and hubble space telescope as well as several dod and esa satellites an alternative source of angular rate information is a software implemented real time dynamic model inputs to the model from internal sensors and known spacecraft parameters enable the tracking of total system angular momentum from which body rates can be determined with this technique the kalman filter algorithm provides error corrections to the dynamic model the accuracy of internal sensors and input parameters determine the effectiveness of this angular rate estimation technique this thesis presents the background for understanding and implementation of this technique into a representative attitude determination system the system is incorporated into an attitude simulation model developed in simulink to evaluate the effects of dynamic modeling errors and sensor inaccuracies results are presented that indicate that real time dynamic modeling is an effective method of angular rate determination for maneuvering multi body spacecraft attitude control systems

A Survey of Attitude Sensors for Spacecraft 1967 dynamics is the study of the relationship between motion and the forces that affect motion astrodynamics is a sub discipline of dynamics and studies objects in interplanetary or interstellar space celestial mechanics and attitude dynamics are the two major divisions of astrodynamics attitude dynamics is the study of controlling the positioning of an aerospace vehicle with respect to an inertial frame of reference or another entity adjusting vehicle attitude requires sensors actuators and algorithms there are a number of reasons due to which the attitude of a spacecraft must be stabilized and controlled a few of them are accurately pointing the high gain antenna towards the earth and using the heating and cooling effects of sunlight and shadow for thermal control this book strives to provide a fair idea about this discipline and to help develop a better understanding of the latest advances within this field there has been rapid progress in spacecraft attitude dynamics and its applications are finding their way across multiple industries this book aims to equip students and experts with the advanced topics and upcoming concepts in this area

Space Vehicle Dynamics and Control 1998 this book is an up to date compendium on spacecraft attitude and orbit control aoc that offers a systematic and complete treatment of the subject with the aim of imparting the theoretical and practical knowledge that is required by designers engineers and researchers after an introduction on the kinematics of the flexible and agile space vehicles the modern

architecture and functions of an aoc system are described and the main aoc modes reviewed with possible design solutions and examples the dynamics of the flexible body in space are then considered using an original lagrangian approach suitable for the control applications of large space flexible structures subsequent chapters address optimal control theory attitude control methods and orbit control applications including the optimal orbital transfer with finite and infinite thrust the theory is integrated with a description of current propulsion systems with the focus especially on the new electric propulsion systems and state of the art sensors and actuators

Distributed Attitude Consensus of Multiple Flexible Spacecraft 2022-09-17 this book presents selected papers of the itzhack y bar itzhack memorial sympo sium on estimation navigation and spacecraft control itzhack y bar itzhack professor emeritus of aerospace engineering at the technion israel institute of technology was a prominent and world renowned member of the applied estimation navigation and spacecraft attitude determination communities he touched the lives of many he had a love for life an incredible sense of humor and wisdom that he shared freely with everyone he met to honor professor bar itzhack s memory as well as his numerous seminal professional achievements an international symposium was held in haifa israel on october 14 17 2012 under the auspices of the faculty of aerospace engineering at the technion and the israeli association for automatic control the book contains 27 selected revised and edited contributed chapters written by eminent international experts the book is organized in three parts 1 estimation 2 navigation and 3 spacecraft guidance navigation and control the volume was prepared as a reference for research scientists and practicing engineers from academy and industry in the fields of estimation navigation and spacecraft gn c

Response Envelope 1968 here a leading researcher provides a comprehensive treatment of the design of automatic control logic for spacecraft and aircraft in this book arthur bryson describes the linear quadratic regulator lqr method of feedback control synthesis which coordinates multiple controls producing graceful maneuvers comparable to those of an expert pilot the first half of the work is about attitude control of rigid and flexible spacecraft using momentum wheels spin fixed thrusters and gimbaled engines guidance for nearly circular orbits is discussed the second half is about aircraft attitude and flight path control this section discusses autopilot designs for cruise climb descent coordinated turns and automatic landing one chapter deals with controlling helicopters near hover and another offers an introduction to the stabilization of aeroelastic instabilities throughout the book there is a strong emphasis on the mathematical modeling necessary for designing a good feedback control system the appendixes summarize analysis of linear dynamic systems synthesis of analog and digital

feedback control simulation and modeling of flexible vehicles
Spacecraft Dynamics and Control 2021-07-13 this book explores cubesat technology and develops a nonlinear mathematical model of a spacecraft with the assumption that the satellite is a rigid body it places emphasis on the cubesat subsystem orbit dynamics and perturbations the satellite attitude dynamic and modeling and components of attitude determination and the control subsystem the book focuses on the attitude stabilization methods of spacecraft and presents gravity gradient stabilization aerodynamic stabilization and permanent magnets stabilization as passive stabilization methods and spin stabilization and three axis stabilization as active stabilization methods it also discusses the need to develop a control system design and describes the design of three controller configurations namely the proportional integral derivative controller pid the linear quadratic regulator lqr and the fuzzy logic controller flc and how they can be used to design the attitude control of cubesat three axis stabilization furthermore it presents the design of a suitable attitude stabilization system by combining gravity gradient stabilization with magnetic torquing and the design of magnetic coils which can be added in order to improve the accuracy of attitude stabilization the book then investigates simulates and compares possible controller configurations that can be used to control the currents of magnetic coils when magnetic coils behave as the actuator of the system
Modern Spacecraft Dynamics and Control 2020-11-18 small satellites use commercial off the shelf sensors and actuators for attitude determination and control adc to reduce the cost these sensors and actuators are usually not as robust as the available more expensive space proven equipment as a result the adc system of small satellites is more vulnerable to any fault compared to a system for larger competitors this book aims to present useful solutions for fault tolerance in adc systems of small satellites the contents of the book can be divided into two categories fault tolerant attitude filtering algorithms for small satellites and sensor calibration methods to compensate the sensor errors matlab will be used to demonstrate simulations presents fault tolerant attitude estimation algorithms for small satellites with an emphasis on algorithms practicability and applicability incorporates fundamental knowledge about the attitude determination methods at large discusses comprehensive information about attitude sensors for small satellites reviews calibration algorithms for small satellite magnetometers with simulated examples supports theory with matlab simulation results which can be easily understood by individuals without a comprehensive background in this field covers up to date discussions for small satellite attitude systems design dr chingiz hajiyev is a professor at the faculty of aeronautics and astronautics istanbul technical university istanbul turkey dr halil ersin soken is an assistant professor at the

aerospace engineering department middle east technical university ankara turkey
Angular Rate Estimation for Multi-Body Spacecraft Attitude Control 2001-06-01 this book provides a systematical and comprehensive description of some facets of modeling designing analyzing and exploring the control allocation and fault tolerant control problems for over actuated spacecraft attitude control system under actuator failures system uncertainties and disturbances the book intends to provide a unified platform for understanding and applicability of the fault tolerant attitude control and control allocation for different purposes in aerospace engineering and some related fields and it is particularly suited for readers who are interested to learn solutions in spacecraft attitude control system design and related engineering applications
Spacecraft Attitude Dynamics: Advances in Aeronautical Engineering 2022-09-13 the bifocal relay mirror spacecraft attitude control simulator is under development in the spacecraft research and design center of the naval postgraduate school nps the objective of this test bed is to provide on the ground simulation of the dynamics and control of spacecraft for high precision acquisition tracking and pointing applications associated with space based laser relay the required initial attitude determination accuracy for the bifocal relay mirror test bed is 10 micron radians normally in laboratories where very high initial attitude knowledge is required actual space qualified star trackers are incorporated into the test bed design this is not possible at nps as the laboratory does not have a skylight to allow visual access to the stars and the photosensitive nature of many of the experiments would make such an opening inconvenient since it is critical to the operation of the test bed to provide accurate attitude knowledge a substitute system was required the present thesis documents the development of a new attitude sensor capable of providing attitude information within the required 10 micron radians within a field of view of the order of 1 degree the concepts leading up to the final design the testing and selection of the equipment used in the final configuration and a detailed explanation of how the final system calibration was performed are discussed in detail in this paper 3 tables 38 figures 17 refs
Flexible Spacecraft Dynamics, Control and Guidance 2015-10-27 this book explores the intelligent autonomous control problems for spacecraft with multiple constraints such as pointing path constraints linear angular velocity constraints performance constraints etc it provides an almost self contained presentation of dynamics modeling controller design and analysis as well as simulation studies the book aims to offer a valuable guide for researchers and aerospace engineers to address the theoretical and technical difficulties in different applications ranging from spacecraft attitude reorientation and

tracking to spacecraft proximity operations and is mainly intended for technical and engineering staff engaged in spacecraft dyanmics and control areas

Advances in Estimation, Navigation, and Spacecraft Control 2015-01-02

COLD-SAT Dynamic Model 1992

Control of Spacecraft and Aircraft 2015-11-03

Attitude Stabilization for CubeSat 2018-11-14

Fault Tolerant Attitude Estimation for Small Satellites 2020-12-22

Analysis of Limited Memory Estimators and Their Application to Spacecraft Attitude Determination 1970

Four Methods of Attitude Determination for Spin-stabilized Spacecraft with Applications and Comparative Results 1975

Selected Papers on Environmental and Attitude Control of Manned Spacecraft 1966

Control Allocation for Spacecraft Under Actuator Faults 2021-03-13

Development of a High-Precision Sensor for the Attitude Determination of the Bifocal Spacecraft Simulator 2004-06

Intelligent Autonomous Control of Spacecraft with Multiple Constraints 2023-05-02

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