

1. Record Nr.	UNINA9910438060503321
Autore	Liu Yanzhu
Titolo	Chaos in attitude dynamics of spacecraft / / by Yanzhu Liu, Liqun Chen
Pubbl/distr/stampa	Beijing, : Tsinghua University Press Berlin ; ; New York, : Springer, c2013
ISBN	3-642-30080-4
Edizione	[1st ed. 2013.]
Descrizione fisica	1 online resource (174 p.)
Collana	Tsinghua University Lecture Notes
Altri autori (Persone)	ChenLiqun
Disciplina	629.4742
Soggetti	Space vehicles - Attitude control systems Space vehicles - Dynamics Astrodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Primer on Spacecraft Dynamics -- A Survey of Chaos Theory -- Chaos in Planar Attitude Motion of Spacecraft -- Chaos in Spatial Attitude Motion of Spacecraft -- Control of Chaotic Attitude Motion.
Sommario/riassunto	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.