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Titolo	Handbook of Satellite Orbits : From Kepler to GPS // by Michel Capderou
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ISBN	3-319-03416-2
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (936 p.)
Disciplina	500.5 520 526.1 550
Soggetti	Aerospace engineering Astronautics Geophysics Space sciences Remote sensing Aerospace Technology and Astronautics Geophysics/Geodesy Space Sciences (including Extraterrestrial Physics, Space Exploration and Astronautics) Remote Sensing/Photogrammetry
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 and index.
Nota di contenuto	Geometry of the Ellipse -- Geodesy -- Geopotential -- Keplerian Motion -- Satellite in Keplerian Orbit -- Satellite in Real (Perturbed) Orbit -- Motion of Orbit, Earth and Sun -- Ground Track of a Satellite -- Orbit and Mission -- Orbit Relative to the Sun: Crossing Times and Eclipse -- Orbit Relative to the Earth: Recurrence and Altitude -- View from the Satellite -- Spatiotemporal and Angular Sampling -- Global Positioning (GPS) -- Satellites of Mars -- Satellites of Other Celestial Bodies.
Sommario/riassunto	Fifty years after Sputnik, artificial satellites have become indispensable

monitors in many areas, such as economics, meteorology, telecommunications, navigation and remote sensing. The specific orbits are important for the proper functioning of the satellites. This book discusses the great variety of satellite orbits, both in shape (circular to highly elliptical) and properties (geostationary, Sun-synchronous, etc.). This volume starts with an introduction into geodesy. This is followed by a presentation of the fundamental equations of mechanics to explain and demonstrate the properties for all types of orbits. Numerous examples are included, obtained through IXION software developed by the author. The book also includes an exposition of the historical background that is necessary to help the reader understand the main stages of scientific thought from Kepler to GPS. This book is intended for researchers, teachers and students working in the field of satellite technology. Engineers, geographers and all those involved in space exploration will find this information valuable. Michel Capderou's book is an essential treatise in orbital mechanics for all students, lecturers and practitioners in this field, as well as other aerospace systems engineers. —Charles Elachi, Director, NASA Jet Propulsion Laboratory.
