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Record Nr. UNINA9911019797003321 Autore Menk Frederick W Titolo Magnetoseismology: ground-based remote sensing of Earth's magnetosphere / / Frederick W. Menk and Colin L. Waters Weinheim,: Wiley-VCH, c2013 Pubbl/distr/stampa **ISBN** 9783527652075 3527652078 9783527652051 3527652051 9783527652082 3527652086 Descrizione fisica 1 online resource (281 p.) Altri autori (Persone) WatersColin L Disciplina 538.766 Soggetti Magnetosphere Magnetospheric physics Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Includes bibliographical references and index. Nota di bibliografia Nota di contenuto Magnetoseismology: Ground-based remote sensing of the Earth's magnetosphere; Contents; Preface; Color Plates; 1 Introduction; 1.1 Purpose of This Book; 1.2 The Solar Wind; 1.3 Fluctuations in the Solar Wind; 1.4 Early Observations of Geomagnetic Variations; 1.5 Properties of Geomagnetic Variations; 2 The Magnetosphere and Ionosphere; 2.1 The Geomagnetic Field; 2.2 Structure of Earth's Magnetosphere; 2.3 Magnetospheric Current Systems; 2.3.1 Magnetopause Current; 2.3.2 Tail Current and Reconnection; 2.3.3 Ring Current; 2.3.4 Field-Aligned Currents; 2.3.5 Ionospheric Currents 2.4 The Radiation Belts2.5 The Inner Magnetosphere; 2.6 Formation and Properties of the Ionosphere; 2.7 Geomagnetic Disturbances; 2.8 Space Weather Effects; 3 ULF Plasma Waves in the Magnetosphere; 3.1 Basic Properties of a Plasma; 3.2 Particle Motions; 3.2.1 Motions of Isolated Charged Particles; 3.2.2 First Adiabatic Invariant; 3.2.3 Second Adiabatic Invariant; 3.2.4 Third Adiabatic Invariant; 3.3 Low-Frequency

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Sommario/riassunto

This book provides a comprehensive account of magnetoseismology the tool to monitor space weather. Written by researcher on the forefront of this field, it conveys the physics behind the phenomena and the methods to detect and investigate them, the relevance to communication, power supply and many other critical systems. In addition, it provides computational codes for analysis and evaluation.