DESCRIPTION

This book addresses a broad range of topics on antennas for space applications. First, it introduces the fundamental methodologies of space antenna design, modelling and analysis as well as the state-of-the-art and anticipated future technological developments. Each of the topics discussed are specialized and contextualized to the space sector. Furthermore, case studies are also provided to demonstrate the design and implementation of antennas in actual applications. Second, the authors present a detailed review of antenna designs for some popular applications such as satellite communications, space-borne synthetic aperture radar (SAR), Global Navigation Satellite Systems (GNSS) receivers, science instruments, radio astronomy, small satellites, and deep-space applications. Finally it presents the reader with a comprehensive path from space antenna development basics to specific individual applications.

Key Features:

• Presents a detailed review of antenna designs for applications such as satellite communications, space-borne SAR, GNSS receivers, science instruments, small satellites, radio astronomy, deep-space applications

• Addresses the space antenna development from different angles, including electromagnetic, thermal and mechanical design strategies required for space qualification

• Includes numerous case studies to demonstrate how to design and implement antennas in practical scenarios

• Offers both an introduction for students in the field and an in-depth reference for antenna engineers who develop space antennas

This book serves as an excellent reference for researchers, professionals and graduate students in the fields of antennas and propagation, electromagnetics, RF/microwave/millimetre wave systems, satellite communications, radars, satellite remote sensing,
satellite navigation and spacecraft system engineering. It also aids engineers technical managers and professionals working on antenna and RF designs. Marketing and business people in satellites, wireless, and electronics area who want to acquire a basic understanding of the technology will also find this book of interest.

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