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2.4.2 The High-Gain Planar Antenna ArrayReferences; Chapter 3: The Planetary Flybys; 3.1 The Mariner Series; 3.1.1 Mariners 1 and 2; 3.1.2 Mariner 5; 3.1.3 Mariner 10; 3.2 Voyager Mission to the Outer Planets; 3.2.1 Voyager S-/X-Band Antenna Subsystem; 3.2.2 Requirements; 3.2.3 Voyager High-Gain Antenna; 3.2.4 Voyager S-Band Feed and Low-Gain Antenna Design; 3.2.5 Voyager Frequency Selective Surface (FSS) Subreflector; References; Chapter 4: The Mars Missions; 4.1 Overview of Missions to Mars; 4.2 NASA Mars OrbiterdLanders; 4.2.1 Mariners 3 and 4; 4.2.2 Mariners 6 and 7 4.2.3 Mariners 8 and 94.2.4 Viking; 4.2.5 Mars Observer; 4.2.6 Mars Global Surveyor; 4.2.7 Mars Climate Orbiter; 4.2.8 Mars Polar Lander; 4.2.9 Mars Odyssey; 4.3 Mars Rovers; 4.3.1 Mars Pathfinder; 4.3.2 Mars Exploration Rovers; 4.4 Continued Mars Exploration; References; Chapter 5: The Orbiters; 5.1 Magellan to Venus; 5.1.1 The Magellan Spacecraft; 5.1.2 The High-Gain Antenna Subsystem; 5.1.3 The Medium-Gain Antenna; 5.1.4 The Magellan Altimeter Antenna; 5.2 The Galileo Antenna System; 5.2.1 Mission Description; 5.2.2 Requirements; 5.2.3 High-Gain Antenna Trade-off Studies 5.2.4 Post-Challenger Modifications5.2.5 High-Gain Antenna Design Selected; 5.2.6 Radio Frequency System-High-Gain Antenna; 5.2.7 Low-Gain Antenna System; 5.2.8 Conclusions; 5.3 The Cassini High-Gain Antenna Subsystem; 5.3.1 High-Gain Antenna Requirements and Constraints; 5.3.2 Configuration Selection; 5.3.3 Antenna Modeling and Subsystems Design; 5.3.4 Antenna Performance at S-Band; 5.3.5 Antenna Performance at X-Band; 5.3.6 Antenna Performance at Ku-Band; 5.3.7 Antenna Performance at Ka-Band; 5.3.8 Conclusions; References; Chapter 6: Spaceborne SAR Antennas for Earth Science 6.1 Introduction

Sommario/riassunto

JPL spacecraft antennas-from the first Explorer satellite in 1958 to current R & DSpaceborne Antennas for Planetary Exploration covers the development of Jet Propulsion Laboratory (JPL) spacecraft antennas, beginning with the first Explorer satellite in 1958 through current research and development activities aimed at future missions. Readers follow the evolution of all the new designs and technological innovations that were developed to meet the growing demands of deep space exploration.The book focuses on the radio frequency design and performance of antennas, but covers envi
