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Nota di contenuto	Cover; Title Page; Copyright Page; CONTENTS; Foreword; Preface; Acknowledgments; Authors; 1 Introduction and Executive Summary; 1.1 Purpose; 1.2 Organization; 1.3 Executive Summary; 1.3.1 Direct, Conventional Transfers; 1.3.2 Low-Energy Transfers; 1.3.3 Summary: Low-Energy Transfers to Lunar Libration Orbits; 1.3.4 Summary: Low-Energy Transfers to Low Lunar Orbits; 1.3.5 Summary: Low-Energy Transfers to the Lunar Surface; 1.4 Background; 1.5 The Lunar Transfer Problem; 1.6 Historical Missions; 1.6.1 Missions Implementing Direct Lunar Transfers 1.6.2 Low-Energy Missions to the Sun-Earth Lagrange Points 1.6.3 Missions Implementing Low-Energy Lunar Transfers; 1.7 Low-Energy Lunar Transfers; 2 Methodology; 2.1 Methodology Introduction; 2.2 Physical Data; 2.3 Time Systems; 2.3.1 Dynamical Time, ET; 2.3.2 International Atomic Time, TAI; 2.3.3 Universal Time, UT; 2.3.4 Coordinated Universal Time, UTC; 2.3.5 Lunar Time; 2.3.6 Local True Solar Time, LTST; 2.3.7 Orbit Local Solar Time, OLST; 2.4 Coordinate Frames; 2.4.1 EME2000; 2.4.2 EMO2000; 2.4.3 Principal Axis Frame; 2.4.4 IAU Frames; 2.4.5 Synodic Frames; 2.5 Models; 2.5.1 CRTBP 2.5.2 Patched Three-Body Model 2.5.3 JPL Ephemeris; 2.6 Low-Energy

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3.4.3 Constructing a Low-Energy Transfer in the Patched Three-Body Model 3.4.4 Constructing a Low-Energy Transfer in the Ephemeris Model of the Solar System; 3.4.5 Families of Low-Energy Transfers; 3.4.6 Monthly Variations in Low-Energy Transfers; 3.4.7 Transfers to Other Three-Body Orbits; 3.5 Three-Body Orbit Transfers; 3.5.1 Transfers from an LL2 Halo Orbit to a Low Lunar Orbit; 4 Transfers to Low Lunar Orbits; 4.1 Executive Summary; 4.2 Introduction; 4.3 Direct Transfers Between Earth and Low Lunar Orbit; 4.4 Low-Energy Transfers Between Earth and Low Lunar Orbit; 4.4.1 Methodology 4.4.2 Example Survey

Sommario/riassunto

Surveys thousands of possible trajectories that may be used to transfer spacecraft between Earth and the moon, including transfers to lunar libration orbits, low lunar orbits, and the lunar surfaceProvides information about the methods, models, and tools used to design low-energy lunar transfersIncludes discussion about the variations of these transfers from one month to the next, and the important operational aspects of implementing a low-energy lunar transferAdditional discussions address navigation, station-keeping, and spacecraft systems issues
