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Nota di contenuto	Title Page; Copyright Page; Contents; Brief Introduction; Preface; Chapter 1 Introduction; 1.1 Fundamental Concepts and Principles of Fault-tolerance Techniques ; 1.1.1 Fundamental Concepts; 1.1.2 Reliability Principles; 1.1.2.1 Reliability Metrics; 1.1.2.2 Reliability Model; 1.2 The Space Environment and Its Hazards for the Spacecraft Control Computer; 1.2.1 Introduction to Space Environment; 1.2.1.1 Solar Radiation; 1.2.1.2 Galactic Cosmic Rays (GCRs); 1.2.1.3 Van Allen Radiation Belt; 1.2.1.4 Secondary Radiation; 1.2.1.5 Space Surface Charging and Internal Charging. 1.2.1.6 Summary of Radiation Environment 1.2.1.7 Other Space Environments; 1.2.2 Analysis of Damage Caused by the Space Environment; 1.2.2.1 Total Ionization Dose (TID); 1.2.2.2 Single Event Effect (SEE); 1.2.2.3 Internal/surface Charging Damage Effect; 1.2.2.4 Displacement Damage Effect; 1.2.2.5 Other Damage Effect; 1.3 Development Status and Prospects of Fault Tolerance Techniques; References; Chapter 2 Fault-Tolerance Architectures and Key Techniques ; 2.1 Fault-tolerance Architecture ; 2.1.1 Module-level Redundancy Structures ; 2.1.2 Backup Fault-tolerance Structures. 2.1.2.1 Cold-backup Fault-tolerance Structures 2.1.2.2 Hot-backup Fault-tolerance Structures ; 2.1.3 Triple-modular Redundancy (TMR) Fault-tolerance Structures ; 2.1.4 Other Fault-tolerance Structures ; 2.2 Synchronization Techniques; 2.2.1 Clock

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