

High velocity microparticles in space: influence mechanisms and mitigating effects of electromagnetic irradiation

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Abstrak

This book describes for readers the protection of electronic hardware in space vehicles from the negative effects of space dust and electromagnetic irradiation. The authors explain the mechanisms of space dust (high velocity particles in space), the effects on the on-board electronic hardware of space vehicles, and development of protection methods from these influences on humans, equipment and microcircuits. Coverage includes hard-to-find technical information on the design of special boosters for accelerating microparticles to space velocities, techniques for conducting experiments on Earth, data processing, and practical examples. The authors also discuss fabrication technologies and composition of special, radio absorbent materials for protecting space vehicles from the electromagnetic irradiation.

Provides a single-source reference on the effects on space vehicles of space dust and electromagnetic irradiation;

Discusses the design of special boosters for acceleration of micro-particles to space velocities, for experimentation and testing on Earth;

Includes information about fabrication technologies and composition of special, radio absorbent materials for protecting space vehicles from the electromagnetic irradiation.