Special Issue

Development of Novel Orbital Debris Protection Systems

Message from the Guest Editor

Orbital debris presents a serious threat to active satellites. Due to the extremely high impact velocities involved, even a single collision can be detrimental to a spacecraft's functional systems and subsystems. Since the launch of the first Sputnik in 1957, the accumulation of space debris in low Earth orbit (LEO) has steadily increased, raising the risk of impacts with larger orbital debris particles and necessitating enhanced protection for present and future spacecraft. The rapid development of new materials and numerical simulation techniques provides new opportunities for advanced protection systems that can address the worsening orbital debris situation. This Special Issue aims to highlight the development of novel orbital debris protection systems for space missions. Original contributions are invited to address topics on effective protective measures for spacecraft to withstand hypervelocity impacts from orbital debris, including, but not limited to, concepts; design solutions; and physical and numerical hypervelocity impact testing, analysis, and implementation for specific missions.

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