

SPACE DEBRIS SYMPOSIUM (A6)
Space Debris Removal Issues (5)

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RECENT TECHNOLOGICAL AND RESEARCH ADVANCEMENTS IN THE FIELD OF SPACE
DEBRIS- A TECHNICAL OVERVIEW**Abstract**

Space Debris has become an open challenge to the space scientists which has attracted the brightest minds to try to solve it. The problem has escalated dangerously over the past few years and recent space exercises carried out by the space fairing nations, unexpected events in space have made the current situation alarming. Measures, if not developed and implemented readily will shatter the space “dream” which man has carefully but painstakingly made a reality over the decades. There is an urgent need to develop technologies which can remove the debris and also foster research across disciplines which can help prevent the formation of debris. This is of pivotal importance as many factors like the mission design, safety of the equipment and astronauts in outer space, launch costs etc are directly related to the space junk.

The present study highlights such technologies of “tomorrow” which can handle the situation effectively. May it be a system to remove junk from space directly or reduce the risk of collision in outer space or increase the tracking capacity of the current radar systems or anything else. Equal emphasis will be laid on all the important aspects of the problem such as modeling, measurements, mitigation, protection and re-entry. The present work will try to lay the road ahead for the space community in the event of failing to curb the problem. The role of the major space fairing nations in this regard will also be discussed.