

SPACE DEBRIS SYMPOSIUM (A6)
Measurements (1)

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CONFIGURATION AND DESIGN OPTIONS TO MONITOR GSO SPACE DEBRIS BY MULTI
OBJECT TRACKING RADAR OFISRO**Abstract**

Space Debris tracking and prediction of close approach to the Low Earth Orbit (LEO) satellites has become an important task today to plan collision avoidance manoeuvres for these satellites. ISRO has a number of remote sensing satellites in Low Earth Orbit, which face sometimes the danger of close approach by the Space Debris. Hence, Indian Space Research Organization has planned to establish a Multi Object Tracking Radar (MOTR) to monitor and track the space objects. MOTR is designed with a maximum tracking range of 1000 Km for 0.25 m targets and a peak power of 820 KW. Further, it can detect and track space debris objects of 30cm x 30cm (0.1 m RCS) in 600 to 800 km Low Earth Orbits.

Monitoring of Space debris in GSO is also another important requirement. It is essential to monitor the objects in the drift orbit because these objects become important for potential accidents with active GSO satellites. The main objective is to enhance the basic capability of MOTR to track moderately sized space objects in GSO.

The efforts are on to theoretically plan and prepare the improvements in MOTR to track GSO space debris. This paper addresses the basic capabilities of MOTR wrt LEO space debris tracking. The theoretical studies being carried to enhance the utilization of MOTR towards space debris tracking in GSO will be detailed. A conceptual augmentation to make it a bistatic Radar with an improved receive capability will also be explained.