Proposal Identification No.: R3105 Date Received: 2016-Jul-22_19:01:15

Technical Page

This proposal has not been submitted before.

Proposal Type:	Short
General Category:	Planetary Radar
Observation Category:	Earth-orbiting objects
Total Time Requested:	4 - 12 Hours
Minimum Useful Time:	1 hr

Proposal Title: S-Band Radar Satellite Tracking Test and Debris Survey

ABSTRACT:

This study attempts to demonstrate the high-precision tracking of known Earth-orbiting artificial satellites using bistatic radar with an array of receivers to measure range, range rate, and angular position. As a secondary objective, this study will attempt to sample the high-altitude orbital debris population using radar detection. High-altitude satellite tracking is now down predominantly by optical observation from terrestrial sites, with access opportunities limited by sky brightness and local weather. Such tracking offers limited precision. A very small number of targets are tracked with higher precision by lidar ranging, but the time required to make each measurement limits the use of this technique. Our intent is to demonstrate the occasional tracking of high-value with existing astronomical systems is technically achievable and offers high precision.

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Remote Observing Request

☐	Observer will travel to AO
☐	Remote Observing
☒	In Absentia (instructions to operator)

Instrument Setup

S-Band radar

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

S-Band radar (2380 MHz)