

Technical Page

This proposal has been submitted before.

The previous proposal number is S3043 and S3099.

Proposal Type: Urgent
 General Category: Astronomy
 Observation Category: Satellite Surveillance
 Total Time Requested: 15 Hours
 Minimum Useful Time: 2.5 hours

Proposal Title: Ground-Based Surveillance of GEO Satellites

ABSTRACT:

Ground-based surveillance of GEO satellites is desirable for Space Situational Awareness. Arecibo data enabled GPS arc detection but GEO satellites are presently beyond the main beam pointing capability. The 305 m telescope must point within 19.7 degrees of the zenith, and at Arecibo, GEO satellites have a zenith distance of >21.5 degrees. However, the farout sidelobes at 327 MHz may allow arc detection even at this large zenith angle. It is the purpose of this observing request to propose simultaneous observations of GEO satellites with a very large optical telescope and with the sidelobes of the Arecibo 305 m telescope. The large optical telescope is the 6.5 m telescope (MMT) on Mt. Hopkins, run by the University of Arizona. This telescope has about 3.4 times the light gathering capability of the SOR 3.5 m telescope previously used in Satellite Arc Detection and should therefore be able to see arcs on satellites at GEO.

Name	Institution	E-mail	Phone	Student
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Remote Observing Request

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

Instrument Setup

430 G L-wide 327

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned