

Technical Page

Proposal Type: Long-term
 General Category: Astronomy
 Sub-Category: Galactic
 Sub-Category: Galactic
 Observation Category:
 Total Time Requested: 60 Hours

Proposal Title: Light travel-time dimensions for $|b| > 10$ deg OH/IR Stars

ABSTRACT:

The new transient-shell paradigm for circumstellar shells has some wrinkles. While both the 1612 MHz emission-life of a shell and the extra luminosity generated by a helium shell-flash have a >500 yr duration, the light travel-time size of WX Psc is about 770 yr. It has strong water masers. These are generated in the zone of the shell where currently active acceleration of dust by radiation pressure injects thermal energy. The duration of its heavy mass-loss episode is thus seemingly longer than stellar evolution codes predict. This proposal seeks both to confirm the light travel-time dimensions of WX Psc, and to obtain sizes for 6-10 other objects to directly calibrate the dependence of the 1612 MHz shell- size on expansion velocity and mass-loss rate.

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I NA want to do remote observing.

Instrument Setup

L-wide

Atmospheric Optical Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

not given