Proposal Identification No.: A2329 Date Received: 2007-May-30_06:16:37

Technical Page

Proposal Type:	Regular
General Category:	Astronomy
Sub-Category:	Spectroscopy
Observation Category:	Galactic
Total Time Requested:	9 Hours
Minimum Useful Time:	30 min between 19:30 and 20:30

Proposal Title: Smiths Cloud: A High-Velocity Cloud Entering the Galactic Plane

ABSTRACT:

Smith's Cloud has been knonw since its discovery in 1963 as a large (10 degree across) elongated HI feature in the inner Galaxy of unknown origin. It is usually considered a high-velocity cloud, but sometimes as part of a spiral arm or material ejected from a star-forming region. We have recently obtained new HI observations of the Cloud with the Green Bank Telescope which show clear signs of its interaction with the Galactic disk and give a distance estimate of 12 kpc. It appears to be a high-velocity cloud entering the Galactic disk. The area where it interacts with ambient gas is unresolved with the 9' beam of the GBT and we would like to observe it with the higher resolution of Arecibo. The experiment should give us detailed information on the shock front, the extent of the shredding of Smith's Cloud by the Galaxy, and possibly even the orbit of the cloud.

Name	Institution	E-mail	Phone	Student
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Remote Observing Request

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

Instrument Setup

ALFA

Atmospheric Observation Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned