

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Solar System
 Total Time Requested: 54 Hours
 Minimum Useful Time: 2 hours

Proposal Title: Radio Spectroscopy of three comets March-May 2013

ABSTRACT:

We propose to observe OH in three comets March-May 2013. C/2011 L4 Panstarrs, C/2012 L2 LINEAR and C/2012 F6 Lemmon are observable from Arecibo, and we plan to measure the water production rate and outflow velocity using the OH line at 1667 MHz. Comets can change rapidly with time, so monitoring the water production is important to understand individual comets, and to detect trends that might allow us to distinguish comets that formed in the Kuiper belt from those that formed in the Jupiter or Saturn region. C/2011 L4 Panstarrs will be very bright and close to the sun, so we plan to also try to detect formaldehyde and other molecular lines at higher frequencies.

Name	Institution	E-mail	Phone	Student
Ellen Howell	Arecibo Observatory	ehowell@naic.edu	787 878-2612 x282	no

Remote Observing Request

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

Instrument Setup

L-wide C

Atmospheric Observation Instruments:

Special Equipment or setup: We need L-wide for OH. For Comet Panstarrs a few days will be spent looking for other molecular lines with C-band near 5 GHz.

RFI Considerations

Frequency Ranges Planned

1667

5000