

### Technical Page

Proposal Type: Regular  
 General Category: Astronomy  
 Sub-Category: Spectroscopy  
 Observation Category: Solar System  
 Total Time Requested: 17 Hours

**Proposal Title:** OH Observations of 73P/Schwassmann-Wachmann 3 in spring of 2006

*ABSTRACT:*

We propose to observe 73P/Schwassmann-Wachmann 3 during the spring of 2006. This comet will make a very close approach to the Earth (0.07 AU), and will produce strong 18-cm OH spectral lines. In 2001, the comet nucleus split into several pieces, three of which may have survived. This is a unique opportunity to look at several different pieces of the same nucleus, compare their gas production rates and correlate these with the sizes we expect to obtain from radar imaging of the nucleus fragments. Crovisier et al. (1996) reported an increase in the OH production rate 45 days before the estimated splitting event. If this behavior is typical, monitoring the OH production rate will allow us to possibly anticipate additional splitting events. Although splitting is common for cometary nuclei, we have very little data on the actual mechanisms. We are therefore asking for 9 days to look at this comet with Arecibo and measure the OH in the nucleus and surrounding coma. These observations will be coordinated with the radar observations. Complementary observations at the Greenbank 100m telescope are planned when the fragments are out of the Arecibo declination range.

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

**Service Observing Request**

**Remote Observing Request**

- None
- All of the observing run.
- Part of the observing run.
- Queue Observing

- No
- Maybe
- Yes

**Instrument Setup**

L-wide

**Atmospheric Observation Instruments:**

**Special Equipment or setup:** none

## RFI Considerations

### Frequency Ranges Planned

1666