

## Technical Page

Proposal Type: Regular  
 General Category: VLBI  
 Observation Category: Extragalactic  
 Total Time Requested: 60 Hours  
 Minimum Useful Time: one hour

**Proposal Title:** RadioAstron-Arecibo Space VLBI survey of AGN at the highest angular resolutions

*ABSTRACT:*

We request 60 hours of Arecibo time starting from July 2012 for a non-imaging Space VLBI survey for the brightest and most compact AGN jet cores with RadioAstron and Arecibo at L and C bands supplemented by exploratory P-band measurements. The main goal of this project is to determine the correlated flux density, angular size, and brightness temperature of the most compact structure(s) in the AGN radio core located in the jet base. We will probe the inverse-Compton limit and Doppler boosting of AGN cores testing the current widely accepted jet model of synchrotron emitting relativistic electrons, inverse-Compton cooling, and relativistic beaming. This proposal is submitted as part of the RadioAstron early science program to cover its full period until the beginning of 2013 following on the accepted Arecibo proposal V2691.

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### Remote Observing Request

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

### Instrument Setup

L-wide                      C      327

### Atmospheric Observation Instruments:

**Special Equipment or setup:** MK5 VLBI disk recording

## RFI Considerations

### Frequency Ranges Planned