Proposal Identification No.: P2951 Date Received: 2014-Aug-28_09:52:00

Technical Page

This proposal has not been submitted before.

Proposal Type:	Regular
General Category:	Pulsars
Observation Category:	Galactic
Total Time Requested:	24 Hours
Minimum Useful Time:	1h

Proposal Title: Radioastron-Arecibo observations: Study of Local Scattering Material

ABSTRACT:

We propose VLBI observations of strong nearby pulsars with the Arecibo and RadioAstron in P-band to study scattering material close to the Earth. This material appears to be fundamentally different from the diffuse interstellar medium (ISM) and it is responsible for the intra-day variability of quasars at centimeter wavelengths. This local medium is likely important in the scattering of nearby pulsars. Our goal is to determine the distribution and spectrum of this local scattering material.

Name	Institution	E-mail	Phone	Student
Tatiana V Smirnova	Lebedev Physical Institute	tania@prao.ru	+74967318044	no

Remote Observing Request

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

Instrument Setup

327

Atmospheric Observation Instruments:

Special Equipment or setup: We request the P-band receivers (dual circular pol) for compatibility with the spacecraft receivers. We will use 16-MHz bandpass (316-332 MHz) upper sidebands only for every polarizations at P-band(Radioastron intrinsic configuration). Data correlation will be conducted at the ASC Correlator in Moscow. Bit Rate will be 128 Mbits/sec. We will use 16-MHz bandpass (316-332 MHz) upper sidebands only for every polarizations at P-band (Radioastron intrinsic configuration).

Transmission of data via internet to the ASC in Moscow. Analysis via structure and coherence functions; see for example (Smirnova et al. 2014, published in ApJ)

RFI Considerations

Frequency Ranges Planned

316-332