

Technical Page

This proposal has not been submitted before.

Proposal Type: Urgent
 General Category: VLBI
 Sub-Category: Continuum
 Observation Category: Extragalactic
 Total Time Requested: 2.25 hours
 Minimum Useful Time: 1.25 hours

Proposal Title: Zooming into the brightest known quasar in the distant Universe

ABSTRACT:

We propose a RadioAstron VLBI observation of the brightest among most distant $z > 3$ sources identified in the RadioAstron AGN Survey, B0201+113 at $z = 3.639$. The extraordinary RadioAstron resolution enables us to investigate the most compact and "ultra-bright" structural components. The project will tackle the combination of brightness temperatures, rest-frame frequencies (which are $(1+z)$ times higher than the receiving ones) and angular resolution unachievable by any other than RadioAstron means at present and at least for several decades to come. The ultra-sensitive Arecibo-RadioAstron baseline will guarantee achieving the project goal; the Arecibo-less VLBI network does not warrant this. Very restrictive RadioAstron functional constraints enable observations of B0201+113 with the required baselines over the coming 1.5 years only over several 10-hour-long intervals in the fall of 2017. The requested time slot has become known after the RadioAstron orbit correction in July 2017.

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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: none

RFI Considerations

Frequency Ranges Planned