

Zimbra

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**[IVSmail] GMVA Call for Proposals 31 January 2024**

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**From :** Eduardo Ros <eros@mpifr-bonn.mpg.de>

Mon, 08 Jan, 2024 10:00

**Subject :** [IVSmail] GMVA Call for Proposals 31 January 2024**To :** vlbi@nrao.edu, evntech@jive.eu, gmvatech@lists.mpifr-bonn.mpg.de,  
vlbiobs@atnf.csiro.au, merlin-announcements@jb.man.ac.uk,  
ivsmail@lists.nasa.gov**Reply To :** Eduardo Ros <eros@mpifr-bonn.mpg.de>

CALL FOR PROPOSALS

GLOBAL 3mm VLBI ARRAY

Deadline: 31 January 2024

VLBI proposals for observing at 3mm wavelength (86 GHz) using:  
the VLBA, GBT\*, EFFELSBERG, PICO VELETA, NOEMA, ONSALA,  
METSAEHOVI, YEBES and KVN telescopes should be submitted by

31 JANUARY 2024 (UT 22:00)

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Successful proposals will be considered for scheduling in GMVA  
Session II 2024 (10–15 October) or in a later session.

- \* SEE ALSO THE SECTION BELOW REGARDING PROPOSALS FOR GMVA
- \* OBSERVATIONS TOGETHER WITH PHASED-ALMA IN ALMA CYCLE 11

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| ALL PROPOSALS SHOULD BE SUBMITTED USING
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| THE NRAO PROPOSAL SUBMISSION TOOL (PST):
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| https://my.nrao.edu
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To maximize the sensitivity for continuum observations the GMVA will record at the highest bitrate which instrumentation and resources permit. Currently, all telescopes will record at 4 Gbps. All data will be correlated at the Bonn DiFX software correlator.

\* If a proposal provides a sufficiently compelling justification, GMVA observations may include the GBT. However, compared to earlier observing semesters, the amount of available time will be reduced, and scheduling observing blocks greater than 6 hours will be very difficult. The 3-mm receiver at the GBT will not be available for

the 2024/II session, so that approved proposals that include GBT observations will be carried over to 2025/I.

ALMA and the KVN can be selected using the "Other Stations" text field in the PST.

The GMVA may include the Greenland Telescope (GLT) in its observations, if requested in the 'Other Stations' field and if feasible.

For further details on the proposal preparation, including the possibility of observations at 7mm (43 GHz; either as dedicated joint observations with ALMA/Band 1, see ALMA section below, or as interleaved scans for a subset of antennas during the 3mm observations), please consult the administrative and technical information hosted at the MPIfR:

<http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm>

Additional information is available at the VLBA, HSA, and GMVA proposal Guide of the NRAO under:

<https://science.nrao.edu/observing/call-for-proposals/2024b/vlba-proposal-guide>

Detailed sensitivity calculations can also be performed using the GMVA sensitivity calculator, which can be found next to the EVN sensitivity calculator on the GMVA website under the Sensitivities panel here:

<http://www3.mpifr-bonn.mpg.de/div/vlbi/globalmm/sensi.html>

Depending on antenna selection, the typical imaging sensitivities range between 0.08 - 0.5 mJy/hour (3 sigma).

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#### PARTICIPATION OF ALMA IN GMVA OBSERVATIONS IN ALMA CYCLE 11

It is expected that phased ALMA will participate in some GMVA observations during ALMA Cycle 11 (Oct. 2024 - Sept. 2025).

There are likely to be ~43 ALMA antennas available in Cycle-11 but the phased sum used for VLBI will be formed only from those that lie within a circle of radius 0.5 km (or less, depending on atmospheric conditions).

Observations together with ALMA in Cycle-11 will only be possible in Session 2025/I, most likely to be scheduled on April 24-29.

ALMA will support 3mm and 7mm observations in Cycle 11. Additionally, spectral line VLBI will be supported at both wavelengths, allowing for the proposal of GMVA + ALMA spectral line observations.

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* Any new GMVA proposal requesting phased ALMA during Cycle 11 must *
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* be submitted via the NRAO PST at the 31 January 2024 deadline. *
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Proposers should:

- specify "ALMA" in the Other Stations text field in the PST

- select the default GMVA observing mode of 4 Gbps, dual polarization.

- specify the amount of time and GST range(s) needed for ALMA separately, either in Session Constraints or Comments or in the Technical Justification.

A separate proposal must also be submitted to ALMA by the deadline for ALMA Cycle 11 proposals, which is likely to be in late April 2024. While the text of this proposal does not need to be identical to that of the GMVA, the overall scientific justification should remain the same. Please note that the ALMA proposal must be anonymised due to its dual-anonymous refereeing procedure.

#### Restrictions on GMVA+ALMA proposals in ALMA Cycle 11

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GMVA observations with ALMA will be limited to a fixed recording mode, which currently provides 4 Gbps on all baselines.

Direct phasing of the ALMA array is limited to targets with a 7mm and 3mm correlated flux density  $>0.35\text{Jy}$  and  $>0.5\text{Jy}$ , respectively. Direct phasing-up on the target source ("active" phasing) thus limits the strength of the target.

For weaker sources with a flux density of less than 350 mJy or 500 mJy, ALMA offers the option of 'passive' phasing. In this mode, the ALMA array is periodically phased up on a bright calibrator source that is close in angular distance to the science target. For science targets, passive phasing is used, except for SNR considerations on VLBI baselines. However, the phasing calibrator must still meet the same criteria as for actively phased observations. It is recommended that the phasing calibrator is located within a certain angular separation, which should not exceed 6 degrees (3mm) or 10 degrees (7mm). Tests are currently being carried out at ALMA to improve the phasing. Please check the ALMA website for any updates on these figures (flux density limit and distance limit).

Proposers must specify any such calibrator in their proposal; consult the ALMA calibrator catalogue: <https://almascience.eso.org/sc/>

To make a clean linear-to-circular polarisation transformation of ALMA recordings, any target source must be observed for a duration of at least 3h at a given frequency (breaks for calibrators permitted) to sample a range of parallactic angles.

Large Programs (>50 hours of observing time) are not permitted because phased ALMA is a non-standard mode.

No long-term programs may be proposed, and no proposals will be carried over into the next cycle.

Please note that full-track 7mm observations with ALMA are made on a best-effort basis and the GMVA cannot support the addition of antennas other than those that are signatories to the GMVA Memorandum of Understanding. Media, planning and scheduling coordination of any other antenna is the responsibility of the PI proposing the observation.

As the time for GMVA observations will thus be scarce, proposals should include a quantitative justification as to why ALMA is essential for the goals of the project.

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Best wishes,

Eduardo Ros  
European GMVA Scheduler

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IVSmail mailing list -- [ivsmail@lists.nasa.gov](mailto:ivsmail@lists.nasa.gov)  
To unsubscribe send an email to [ivsmail-leave@lists.nasa.gov](mailto:ivsmail-leave@lists.nasa.gov)

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