

Asunto: GMVA Call for Proposals 3 February 2020

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CALL FOR PROPOSALS

GLOBAL 3mm VLBI ARRAY

Deadline: 3 February 2020

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

3 FEBRUARY 2020 (UT 22:00)

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Successful proposals will be considered for scheduling in GMVA Session II 2020 (8 - 13 October) or in a later session.

- * SEE ALSO THE SECTION BELOW REGARDING PROPOSALS FOR GMVA
- * OBSERVATIONS TOGETHER WITH PHASED-ALMA IN ALMA CYCLE 8

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| ALL PROPOSALS SHOULD BE SUBMITTED USING |
| THE NRAO PROPOSAL SUBMISSION TOOL (PST): |
| <https://my.nrao.edu> |

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In order 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 (except the KVN, which will record in a compatible 1 Gbps mode). All data will be correlated at the Bonn DiFX software correlator.

* The GBT may be included in GMVA observations if a sufficiently compelling justification is given in the proposal but the amount of time available will be reduced compared to earlier observing semesters, and observing blocks greater than 6 hours will be very difficult to schedule.

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

Note that the availability of NOEMA (PLATEAU DE BURE) for GMVA Session II in 2020 and later sessions is not confirmed.

For further details on proposing, including the possibility of additional support observations at 7mm (43 GHz), please consult the administrative and technical information hosted at the MPIfR:

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

PARTICIPATION OF ALMA IN GMVA OBSERVATIONS IN ALMA CYCLE 8

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It is expected that phased ALMA will participate in some GMVA observations during ALMA Cycle 8 (Oct. 2020 - Sept. 2021). Please look for the ALMA Cycle-8 pre-announcement:

<https://almascience.org/news/alma-cycle-8-pre-announcement>

There are likely to be ~43 ALMA antennas available in Cycle-8 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-8 will only be possible in one session. GMVA session dates for 2021 are not yet fixed but Session I 2021, which is traditionally in the period March-May, should provide an opportunity for GMVA+ALMA observing. Currently the dates for GMVA observations together with ALMA in cycle-8 have not yet been fixed.

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* Any new GMVA proposal requesting phased ALMA during Cycle 8 must *
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* be submitted via the NRAO PST at the 3 February 2020 deadline. *
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Proposers should:

- specify "ALMA" in the Other Stations text field in the PST
- select the default GMVA 3mm 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 to ALMA must also be submitted at the deadline for ALMA Cycle 8 proposals in April 2020. The text of this proposal need not be identical to that for the GMVA but the overall scientific justification should be the same.

Note: ALMA is introducing new requirements on how their proposals should be written (check in the corresponding call). For this, all proposers (PI's and Co-I's) must be registered ALMA users.

(see: www.almascience.org)

Resubmission of ALMA Cycle 7 proposals

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The outcome of GMVA+ALMA Cycle 7 observations scheduled in April

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2020 will not be known until after the ALMA Cycle 8 proposal deadline. If the PI wishes to mitigate against the possibility that these observations are not completed successfully, the proposal must be resubmitted to ALMA by the Cycle 8 proposal deadline and undergo a new review. The proposal does not need to be resubmitted to the GMVA in this case. Observations in Cycle 8 will only occur if the April 2020 observations are not completed successfully and the ALMA Cycle 8 proposal is ranked high enough for scheduling.

However, if the PI wishes to obtain a second epoch of GMVA+ALMA observations, even if the April 2020 observations are successful, a new proposal must be submitted to both the GMVA and ALMA by their respective proposal deadlines.

Restrictions on GMVA+ALMA proposals in ALMA Cycle 8

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GMVA observations with ALMA will be limited to a fixed recording mode, which currently provides 4 Gbps on all baselines. The KVN telescopes will not be available in this mode. Only VLBA telescopes will be available at 7mm in this mode.

Direct phasing up of the ALMA array is limited to sources with a correlated flux density of >500 mJy within an unresolved core on ALMA baselines of up to 1 km. Direct phasing-up on the target source ("active" phasing) thus limits the strength of the target.

For weaker sources (<500 mJy), Cycle 8 will introduce the option of "passive" phasing. In this mode, the ALMA array is periodically phased up on a bright calibrator source close in angular distance to the science target. There will be no restrictions on the flux density of science targets using passive phasing (aside from SNR considerations on VLBI baselines). However, the phasing calibrator properties must meet the same criteria as for actively phased observations, and it is recommended that the calibrator lie within an angular separation of no more than 5 degrees from the science target. Proposers must specify any such calibrator in their proposal; consult the ALMA calibrator catalogue: <https://almascience.eso.org/sc/>

In order 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 (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.

There is a cap for VLBI of 5% of ALMA Cycle 8 observing time. As 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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