

CALL FOR PROPOSALS

GLOBAL 3mm VLBI ARRAY

Deadline: 1 February 2021

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

1 FEBRUARY 2021 (UT 22:00)

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Successful proposals will be considered for scheduling in GMVA  
Session II 2021 (30 September - 4 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 |
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| THE NRAO PROPOSAL SUBMISSION TOOL (PST): |
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| 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.

ALMA, the KVN and the Greenland Telescope (GLT) can be selected using the "Other Stations" text field in the PST. Rules for requesting the participation of the Mexican LMT in GMVA observations are given in a separate section below.

Note that the availability of NOEMA (PLATEAU DE BURE) for GMVA Session II in 2021 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>

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PARTICIPATION OF ALMA IN GMVA OBSERVATIONS IN ALMA CYCLE 8  
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Due to the Corona virus pandemic, ALMA was unable to observe together with the GMVA for observations scheduled for GMVA Session I in 2020 (ALMA Cycle 7). These observations are now re-scheduled for GMVA Session I in 2021.

ALMA is expected to re-issue a call for proposals for Cycle 8 in March 2021. Successful proposals will be scheduled in GMVA Session I 2022. New GMVA+ALMA proposals for ALMA Cycle 8 must be submitted by the GMVA February 2021 deadline, and separately to ALMA by the ALMA 2021 deadline.

GMVA+ALMA proposals which were already submitted to the GMVA in February 2020 for ALMA Cycle 8 have been reviewed by the GMVA observatories (but not by ALMA) and will be held over (with their grades) for possible scheduling in GMVA Session I 2022. A separate proposal to ALMA for these projects needs to be submitted following the (new) ALMA Call for Cycle 8 proposals in March 2021. See Cycle 8 pre-announcement at:

<https://almascience.nrao.edu/news/alma-cycle-8-2021-pre-announcement>

Proposers may, instead, submit a revised version of their GMVA+ALMA proposal to the GMVA by the February 2021 deadline, which will then be re-evaluated by the GMVA observatories. Proposers should give the code number of the earlier proposal which is superseded.

Proposals which have already been submitted will, of course, compete with any new GMVA+ALMA proposals submitted at the February 2021 deadline.

#### 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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PARTICIPATION OF THE LMT IN GMVA OBSERVATIONS

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The Mexican LARGE MILLIMETER TELESCOPE ALFONSO SERRANO (LMT) may be available to participate in some GMVA observations.

For this a SEPARATE PROPOSAL must be submitted to the LMT with a P.I. from the LMT community, as described under <http://lmtgtm.org/proposal-submission-process/>

Time is allocated to the community as follows:

- Mexico 68.25%
- Uni. Massachusetts Amherst 15%
- USA (rest) 15%
- Spain 1.75% (15h per session)

The P.I. of this LMT proposal need not be the leader (i.e., P.I.) of the GMVA proposal, but must agree to take responsibility for all necessary arrangements for observing at the LMT, and must be identified in the GMVA proposal.

The proposal should emphasize the value and importance of adding the LMT to the GMVA observations.

NOTE that the LMT proposal deadline for observations in both  
GMVA Session II 2021  
AND GMVA Session I 2022  
is in April/May 2021 (i.e. before the August 2021 GMVA proposal  
deadline).

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