



National Centre for Radio Astrophysics
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Announcement of Opportunity: Cycle 31

(October 2016 – March 2017)

Observations with the Giant Metrewave Radio Telescope (GMRT)

Khodad, India

Proposal Deadline : Friday, July 15, 2016, 17:00 IST

The National Centre for Radio Astrophysics (NCRA) invites proposals for observations with the GMRT for Observation Cycle 31 (October 2016 to March 2017). The deadline for receiving these proposals is 17:00 IST (UTC+5.5 hrs), Friday, July 15, 2016. The proposals will be reviewed and evaluated by the GMRT Time Allocation Committee (GTAC), which will make recommendations for allocation of observing time for each proposal.

Current technical details about the GMRT, such as modes of operation, available frequency bands and usable bandwidths, system parameters and expected performance, as well as facilities for absentee observing for users, can be found in the GMRT Specifications and Status document at <http://www.ncra.tifr.res.in/ncra/gmrt/gtac>.

The GMRT is currently in an active phase of the ongoing upgrade, which requires additional day time slots. In order to meet these requirements, while maintaining smooth running of approved science observations, the observatory has been operating in a new model since Cycle 23, wherein the full cycle is run with upgrade activities during day times of week days and science observations during night times and through the week-ends. We plan to continue this scheme in Cycle 31 also, as more sub-systems get upgraded. Thus in Cycle 31, which will run for five and a half months, daytime hours from Monday to Friday will not be available for science observations.

This model of operations will result in certain LST ranges having less slots available for scheduling during Cycle 31, and we request users to bear this in mind when preparing their observing proposals. The available IST/LST slots in Cycle 31 can be seen in a dummy schedule at <http://www.ncra.tifr.res.in/ncra/gmrt/gtac>. As can be noted, there are fewer time slots available for scheduling in the LST range 16 to 24 hrs. The observatory will strive to maintain the target of 26 working antennas for every GTAC approved observation. For some of the frequency bands e.g. 235 MHz, the number of available antennas will be significantly less, due to the upgrade activities. Some of the existing observation modes and flexibilities of settings for observations may be partially affected by the changes due to the upgrade. Further details on such matters can be found in the GMRT Specifications & Status document at <http://www.ncra.tifr.res.in/ncra/gmrt/gtac>.

Cycle 31 will see the release of the next phase of the upgraded GMRT (uGMRT), available for users on a “shared risk basis”. This means that (a) all features and modes of the released system may not be fully tested and guaranteed for performing as per the specs, and the user shares the risk of failure and/or underperformance of some parts of the system, and should be ready to use the system on an “as is, where is” basis for their observations; (b) as a corollary of the above, no make-up time will be allotted for under-performance of the system; (c) the users are expected to provide feedback about the performance of the system, from their observations, and be part of the testing and debugging exercise; (d) to facilitate the above, it is strongly encouraged for users to be present at the GMRT for the duration of the observations (and they are further encouraged to spend some time at GMRT/NCRA afterwards, during

the preliminary data analysis phase, for sharing their experiences with GMRT/NCRA staff members); (e) the total number of hours allotted under this scheme during cycle 31, will be capped to be not more than 50 percent of the total time allotted by GTAC for the cycle; (f) all proposals under this scheme will also be evaluated by the GTAC, following the regular procedure. The proposers are expected to provide sufficient evidence about their expertise to handle the uGMRT data.

*The detailed specifications of the uGMRT systems that will be available under this scheme can be found in the current version of the GMRT Specifications and Status document at <http://www.ncra.tifr.res.in/ncra/gmrt/gtac>. Users should note that uGMRT proposals can use the appropriate combination of the new and legacy systems for meeting the science and testing goals. On the contrary, for regular proposals submitted for the legacy GMRT systems, users will **not** have access to the uGMRT signals and data products, and should plan their proposals accordingly.*

All proposals, whether for the existing, legacy GMRT system or for the uGMRT system being released in shared risk mode, are to be submitted online via the NCRA Archive and Proposal Management System (NAPS), available at <https://naps.ncra.tifr.res.in>, which provides password authenticated, web browser based interface for proposal submission. Note that the proposal may be submitted only by the PI. All co-Is also need to be registered users of the system. All users since Cycle 15 are registered users. For any unresolvable problems with the NAPS interface, please contact the help desk at proposal@ncra.tifr.res.in.

Proposals will be processed by GTAC with external refereeing as needed and the proposers intimated of the time allocation. GTAC may seek inputs from the GMRT Observatory on technical issues, for both the legacy systems and the uGMRT systems. Proposals requiring more than 100 hours of observing time will be treated as “large proposals”. They will be reviewed in a manner appropriate for each one of them and, if necessary, the time allocation will be split over several cycles. After a proposal has been allotted time and scheduled, queries regarding travel logistics can be addressed to Secretary for Operations (secr-ops@ncra.tifr.res.in). Queries related to the observing schedule should be sent to gmrtschedule@ncra.tifr.res.in, and to gmrtoperations@ncra.tifr.res.in for other aspects of the observations.

In addition to regular GTAC proposals, users can also avail of Director’s Discretionary Time (DDT) facility, as relevant. DDT time is meant for (i) pilot observations / feasibility studies which might lead to future GTAC proposals and confirmatory observations, as well as for (ii) Target of Opportunity (TOO) observations, primarily intended for short lived or time dependent astronomical phenomena. Both types of time allocation are subject to availability of time and convincing scientific goals, and are cleared by the Centre Director, NCRA. Requests for these should also be submitted via NAPS, using the option for DDT proposals. Such observations will be scheduled in the empty “white” slots in the GMRT schedule, without affecting the scheduled GTAC observations, as far as possible.

From Cycle 27 onwards, the GMRT supports absentee observing for the standard interferometric mode with the existing legacy system. Users who would like to avail of this facility should mention this in their proposal cover sheet and send email to gmrtoperations@ncra.tifr.res.in with a copy to secr-ops@ncra.tifr.res.in. A set of tools available to users for help with their observations can be found at <http://www.gmrt.ncra.tifr.res.in/~astrosupp>. Users are responsible for preparing and sending their set up, command files and source list at least 10 days before their observations. Post observations, the data will be made available for download from NAPS, after an interval of one day. NCRA continues to encourage first time users to be present for observations and spend a few days of extra time to become familiar with the recommended observing/editing/calibration procedures. There is a possibility of downtime due to power outages, wind (particularly during May-August), ionospheric activity, RFI etc. There is some limited scope for making up for time lost due to the above. In case of such requirements, users should send an email requesting compensatory telescope time and giving details of the problems to gmrtoperations@ncra.tifr.res.in. Please note that absentee observing is not applicable for the uGMRT related proposals, for which the users are expected to be present at the observatory for their observations.

Data Release: Data from all standard observations with the GMRT will be made public 18 months after the date of observation. For TOO / DDT observations, the corresponding period is 3 months. The status and details of all the observations since 2002 can be obtained from <https://naps.ncra.tifr.res.in/goa>.

**Centre Director
NCRA-TIFR**