Announcement of Opportunity

Early Science with the Large Millimeter Telescope Alfonso Serrano

Observing Period 2014-ES2 : 31st January – 30th June 2014

Application Submission Deadline: 13th January 2014

Overview

The Large Millimeter Telescope Alfonso Serrano (LMT) invites members of the Mexican astronomy community and members of the Department of Astronomy at the University of Massachusetts and the Five College Astronomy Department to participate in the second call for Early Science observing proposals (2014-ES2).

This Announcement of Opportunity describes the guidelines for proposers. Further details can be found on the LMT webpage www.lmtgtm.org.

The selection of shared-risk Early Science projects will follow a peer-review process to be organized by the LMT Scientific Committee (LMTSC). Successful proposals will result in a set of approved Scientific Project Teams. The selection criteria for approved scientific projects will be based on the potential of the proposals to satisfy some or all of the following goals:

1. feasible projects that can be completed by the Scientific Project Teams within the current range of uncertainties on the telescope and instrument performances;
2. generate refereed journal publications that demonstrate the scientific impact of the LMT with an emphasis on research topics for which the telescope provides a unique capability with the initial suite of instrumentation (angular resolution, sensitivity, mapping speed, spectral coverage, etc.);
3. scientific analysis and interpretation of the LMT data that can lead directly to publishable results, and do not require additional supporting observations that are currently unavailable;
4. involvement and training of graduate students and postdoctoral researchers, as well as demonstrations of the relevance of these Early Science LMT data to on-going MSc and PhD student research programs;
5. scientific collaboration between the research communities of the LMT partners;
6. provide opportunities and material for immediate educational and public outreach purposes.

Scientific Project Teams with successful proposals that were allocated time, but which were not completed in the previous observing period (2013-ES1), are encouraged to resubmit or modify those proposals. Suitable justification should be given in any cases where repeated observations are requested.

Scientific Project Teams

Proposals for Early Science must identify the full Scientific Project Team that will carry out the observational program. The LMT project will be unable to offer the normal full "observatory-style" support during the current cycle of observations. Therefore each Scientific Project Team must be self-sufficient, and contain team members that are familiar with the operation of the LMT, the use of the scientific instruments and the analysis of the data. The LMTSC strongly suggests that potential leaders of Scientific Project Teams contact the LMT Project Scientists, Miguel Chávez (mchavez@inaoep.mx) and Min Yun (myun@astro.umass.edu), who will facilitate and coordinate the involvement of experienced LMT project personnel within the individual Scientific Project Teams.

Membership of the Scientific Project Teams is open to individuals with affiliation at a Mexican research institution or at the Department of Astronomy at the University of Massachusetts and the Five College Astronomy Department. Scientific collaboration between the partners of the LMT project is strongly encouraged. Inclusion of additional external collaborators should be justified in the proposal and shown to offer an essential capability or unique resource to the project.

Shared Risk Observing

The LMT Project is working to provide community access to the LMT as early as possible. The call for Early Science projects is therefore made with the understanding that all successful proposals and scheduled observations are considered as "shared-risk". During this period of scientific observations, the LMT user-community should be aware that the feasibility of the proposed observations may change due to differences in the instrument sensitivities and the efficiency of the telescope performance compared to those that are advertised in this call. Early Science observations may be rescheduled or cancelled according to the need for additional commissioning and engineering activities.

Schedule for Early Science Observations & Proposal Submission

This Announcement of Opportunity for Early Science observations with the LMT is released on December 14th 2013. The deadline to receive proposals is 11pm CDT (23:00hrs CDT) on January 13th 2014. The provisional schedule for conducting Early Science observations with the

LMT will provide an operational period from January 31st to June 30th 2014, during which observations will be restricted to a nighttime shift of 12-10 hours respectively lasting from approximately 1 hour after sunset to sunrise.

The proposal submission will be made through a simple web-based form. For all details and instructions on how to submit an Early Science proposal to the LMT, visit the LMT website www.lmtgtm.org.

Scientific Instrumentation

Information regarding the first two available scientific instruments (Redshift Search Receiver & AzTEC) for the Early Science observing period, and the tools to calculate the feasibility of the proposed observations (instrument sensitivities, expected weather conditions & atmospheric transparency, integration time calculators etc.), will be provided on the LMT webpage (www.lmtgtm.org). A separate call for VLBI observations may be made at a later date during the observing period 2014-ES2.

Staffing Observations

Observations will be flexibly-scheduled with queue-observing to maximize the efficiency of the overall scientific program. The LMT Project will provide site-staff to perform routine start-up & shut-down procedures, and safety checks at the telescope. These site-staff however will not perform scientific observations on behalf of the Science Project Teams. Therefore Scientific Project Teams with approved observing program are required to provide a minimum of two observers at the telescope, with experience in the operation of the LMT, for each night of observations. A list of experienced observers and contact information may be found at the LMT Early Science website. Training of new observers as part of the LMT science program is strongly encouraged. Further information can be provided by the LMT Project Scientists, Miguel Chávez (mchavez@inaoep.mx) and Min Yun (myun@astro.umass.edu).

Publications and the Public Release of Early Science Data

The primary objective of Early Science observations with the LMT is to generate the first published scientific results that illustrate the competitiveness and uniqueness of the telescope. The LMTSC will assist this effort by coordinating the communication between the individual Scientific Project Teams, and encouraging the sharing of technical details during the data analysis, to enable increased efficiency, reliability and accuracy in the production of the final data products. The LMTSC will review the data products to ensure uniformity and quality before their release. The LMTSC will not evaluate the scientific interpretations of the LMT data. The Early Science data will have a short proprietary period of 6 months, following the completion of the observing program, before they are made available to the wider scientific community. Press

releases to the media involving Early Science LMT data, or the use of LMT data for educational purposes, will be coordinated through the LMT Project office.

Further Information

Questions about the operational policies of Early Science observations with the LMT should be directed to David Hughes (dhughes@inaoep.mx). Specific questions related to the use of the scientific instruments should be sent to Gopal Narayanan (gopal@astro.umass.edu) for queries about the Redshift Search Receiver, or Grant Wilson (wilson@astro.umass.edu) for queries about AzTEC. For general assistance regarding the proposal submission process, contact Victor de la Luz (vdelaluz@inaoep.mx).