

# Call for Proposals on IRAM Telescopes

The deadline for submission of observing proposals on IRAM telescopes, both the NOEMA interferometer and the 30-meter telescope, covering the scheduling period 1 June to 30 November 2015, is

12 March 2015, 17:00 CET (UT + 1 hour)

IRAM proposals should be submitted through the *Proposal Management System* (PMS) at URL:

**<http://pms.iram.fr/pms/>**

PMS provides on-screen instructions to guide the proposal editor through the submission process. The procedure consists in filling in an on-line form with the details of the requested observations (source coordinates, receiver setups, array configuration, etc.), and to upload a single file in pdf format containing the scientific and technical justification. A L<sup>A</sup>T<sub>E</sub>X template is provided from the PMS submission page for your convenience. You may customize this file, or generate the pdf file with another software, but in any case **proposers should respect the following requirements**: (1) A normal proposal may contain up to two pages of text describing the scientific aims (4 pages for a Large Program, see below) (2) you may add up to two pages of figures, tables, and references, and (3) the font size must be 11pt or larger.

For a proposal to be complete, PMS requires that all authors validate their identity (e-mail and affiliation) and their participation to the proposal before the deadline. The editor of the proposal will have to send invitations to all authors through PMS by clicking an *invitation* button. We urge proposal editors to invite the authors through PMS well before the deadline to give them enough time to validate their identity before the deadline.

PMS will be opened for submission of new proposals about three weeks before the deadline<sup>1</sup>. Proposers may modify their proposals in PMS until the deadline, in which case the *submit* button must be activated again after modification of the proposal. Please avoid last minute submissions when the network could be congested. If you experience any difficulty with the submission process in PMS, please contact us at [pms-feedback@iram.fr](mailto:pms-feedback@iram.fr) for help. You may also use this e-mail address for bug reports, general questions and comments.

Detailed information on time estimates, special observing modes, technical information and references for both the NOEMA interferometer and the 30m telescope can be found on the IRAM web site, under the `science users` tab:

<http://www.iram-institute.org/>

Proposers are encouraged to use the CDS (*Centre des Données astronomiques de Strasbourg*) to check whether a source has already been observed at the 30m telescope or the PdB interferometer. We recommend to use the *VizieR Catalogue Service* to query<sup>2</sup> the header data of IRAM observations obtained since September 2009 for the 30m, and since 1990 for the PdBI.

We encourage the submission of **Large Observing Programs** that require more than 100 hours of observing time and that address strategic scientific issues, using either the 30m telescope or the NOEMA interferometer. You may consult the specific requirements at the end of this document and the **Large Program Policy** on the IRAM web site for further details.

Publications resulting from NOEMA or 30m telescope observations should acknowledge this in a footnote “Based on observations carried out under project number XYZZZnnn [XXX-YY] with the IRAM NOEMA Interferometer [30m telescope]. IRAM is supported by INSU/CNRS (France), MPG (Germany) and IGN (Spain)”. IRAM welcomes an acknowledgment to the IRAM staff for help provided during the observations and for data reduction.

*N. Billot & J.M. Winters*

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<sup>1</sup>PMS remains opened at all time for submission of Director Discretionary Time proposals.

<sup>2</sup>search *IRAM* as catalogue name.

# The 30-meter Telescope

Proposals for two instruments will be considered for the coming semester (1 June to 30 November 2015):

1. the **Eight MIxer Receiver** EMIR, consisting of dual-polarization receivers, and operating in the four bands at 3, 2, 1.3, and 0.9 mm wavelengths,
2. and the 9 pixel dual-polarization heterodyne receiver array, HERA, operating at 1.3 mm wavelength.

Both instruments can be connected to a suite of narrow- and broad-band (up to 32 GHz) spectrometers with resolutions ranging from 3.3 kHz to 2 MHz. A detailed account of the current observatory capabilities and other organisational considerations can be found in a separate document on the **Call for Proposals** and the **30m** web pages.

During the summer semester emphasis will be put on observations at the longer wavelengths. Observations at wavelengths shorter than 1.3 mm will be scheduled toward the end of the semester in pools to optimize observations according to weather conditions. Proposers are requested to use the EMIR and HERA time estimators which are available online via the **IRAM 30m webpage**.

## What is new?

We are actively preparing for the installation of the new continuum camera NIKA2 at the telescope. The NIKA team has made great progress with the design and fabrication of the 1000-pixel KID arrays, and the large NIKA2 cryostat has successfully undergone several cooling cycles already. The project schedule is on track, and we plan for an installation during the summer 2015 with a subsequent commissioning phase in autumn/winter 2015.

As preparatory work, the optics in the receiver cabin must be upgraded to be able to feed the wide field-of-view of the camera. This is a major upgrade as many mirrors and their mounts will be replaced, which will affect all receivers in the cabin. This upgrade should however be transparent to the observers. It will take place in spring 2015 during an extended maintenance period including a thorough commissioning phase.

These activities will require the removal of GISMO and NIKA from the receiver cabin after the spring pool runs. Note that after the installation of the voluminous NIKA2 cryostat, there will be no room left in the receiver cabin for installing back GISMO or NIKA.

*N. Billot & C. Kramer*

# The NOEMA Interferometer

With the inauguration of the seventh antenna in September 2014, the Plateau de Bure observatory has started its transformation into NOEMA, the NOrthern Extended Millimeter Array. With the upcoming summer semester, the name of the interferometer has therefore officially changed and the current document is the first Call for Proposals at NOEMA.

## Conditions for the next summer period

Commissioning of antenna 7 started on February 5th and the antenna should soon become available for regular observations. In this Call for Proposals for the summer semester, proposers are therefore asked to assume that six antennas will be available during the antenna maintenance period and seven antennas at the end of the semester, when the C configuration will be scheduled. We plan to start the regular antenna maintenance around mid of May and to schedule essentially the 7D6 configuration (see below) between June and October. At the end of the summer semester, seven antennas will be available for regular science observations.

Each NOEMA antenna is currently equipped with dual polarization receivers operating in the 3 mm, 2 mm, 1.3 mm, and 0.8 mm atmospheric windows. The frequency ranges are 80 GHz to 116 GHz for band 1, 129 GHz to 177 GHz for band 2, 201 to 267 GHz for band 3, and 277 to 371 GHz for band 4. At any given time, one frequency band can be observed, with the two orthogonal polarizations available. Each polarization delivers a 3.6 GHz bandwidth which coincide in the sky frequency scale.

The wide-band correlator WideX gives access to the two 3.6 GHz wide IF bands simultaneously providing a fixed spectral resolution of 1.95 MHz over the full bandwidth for up to eight antennas. The narrow-band correlator accepts two signals of 1 GHz bandwidth, that must be selected within the 3.6 GHz delivered by the receiver. Spectral resolutions range from 40 kHz to 2.5 MHz in eight independent spectral units. The narrow-band correlator can process the signals of up to six antennas. Therefore, 6-antenna subsets of each of the 7-antenna configurations have been defined for high spectral resolution work (see table below).

We strongly encourage observers to submit proposals that can be executed during summer operating conditions. To keep the procedure as simple as possible, we ask you to put emphasis on:

- observations requesting the use of the 2 mm and 3 mm receivers
- circumpolar sources or sources transiting at night between June and September,
- observations that qualify for the 7D, 7D6, 7C, and 7C6 configurations

We tentatively plan to schedule an extended A-configuration for a few days in August, including stations E68, N46 and W27, to exploit the potential of self-calibration for high-resolution and high-dynamic range imaging in conditions of poor phase stability. These observations would be executed on a **best effort basis**. If you are interested, please submit a proposal dedicated to A configuration observations in the proposal category "Special" and focus on: i) observing in band 1, band 2, or band 3, ii) source declinations above  $-10^\circ$  and sources visible in August, iii) compact, strong sources (size  $< 1$  arcsec, flux  $> 0.4 - 0.5$  Jy) and iv) request not more than one track with 4 hr of on-source time.

Name	Stations						
7D	W08	W05	E04	N11	N07	N02	E10
7D6	W08	W05	E04	N11	N07	N02	—
7C	W12	W09	E18	E12	E04	N17	N11
7C6	W12	W09	—	E12	E04	N17	N11
7A6	W27	W10	E68	E24	—	N46	N29

A detailed description of the current NOEMA capabilities and organisational considerations are given in a separate document on the [Call for Proposals](#) pages and on the [NOEMA Documentation web pages](#).

*Jan Martin WINTERS*

# Guidelines for Observing Time at the IRAM Facilities

Considering the much increased time requests for the IRAM telescopes over the last few years, taking into account the beginning of science operations of ALMA, and considering the substantial new investments of the IRAM partners into upgrading the Plateau de Bure interferometer into NOEMA, the IRAM Council has decided the following guidelines for allocation of telescope time:

1. In deciding on proposal rankings the Program Committee is requested to take into account the publication record and impact of the proposers with previous IRAM telescope time allocations. The proposers should also note in their application whether the same or a similar proposal was or is intended to be submitted to ALMA, in which case a special justification is required why IRAM telescope time is needed.
2. Up to 15% of the available observing time may be invested into projects submitted by PIs affiliated with institutes in non IRAM partner countries.
3. The fraction of time for Large Programs (a detailed description is given on the [IRAM website](#)) can be expanded to a total of about 50% of the scheduled telescope time on either of the IRAM telescopes. In order to ensure proper management of these programs in close interaction with the IRAM observatory, including the provision of suitable archive data products for the general scientific community, preference will be given to programs led by a PI located in one of the IRAM partner countries.
4. Once accepted, PIs of Large Programs cannot submit other proposals (as PI) during the active time of the Large Program.

Finally, we inform that the Partners will reserve time for mutually agreed “Observatory Programs” once the NOEMA upgrade is sufficiently advanced.

## Travel funds for European astronomers

Observations using IRAM telescopes continue to be supported by RadioNet under the European Framework Programme 7. A budget is available for travel by European astronomers through the Trans National Access (TNA) Programme.

As before, travel may be supported to the 30m telescope for observations (contact: N. Billot) and to Grenoble for reduction of interferometer data (contact: R. Neri). Detailed information about the eligibility, policies, and travel claims can be found on the RadioNet home page at <http://www.radionet-eu.org>. The Principal Investigators of IRAM proposals eligible for TNA funding will be informed individually.

All TNA-eligible projects that are scheduled at the NOEMA Interferometer or at the 30m telescope should acknowledge the support from the European Commission by including the following sentence in the publications resulting from their observations at IRAM facilities: “The research leading to these results has received funding from the European Commission Seventh Framework Programme (FP/2007-2013) under grant agreement No 283393 (RadioNet3).”

*R. Neri & N. Billot*

# Large Observing Programs

IRAM offers the possibility to apply for observing time in the framework of a *Large Program* for the 30-meter telescope and the NOEMA interferometer.

A Large Program should require more than 100 hours of observing time, spread over a maximum of three years, i.e. 6 contiguous semesters, or longer for programs requesting more than 1000 hours. IRAM will accept a limited number of Large Programs to be carried out per semester and instrument (30-meter and NOEMA interferometer), allocating a maximum of 50% of observing time to such projects.

The Large Program should address strategic scientific issues leading to a breakthrough in the field. Large Programs should be coherent science projects, not reproducible by a combination of smaller normal proposals.

The Large Program proposals should contain a solid management plan ensuring an efficient turnover, including data reduction, analysis, and organization of the efforts.

Because of the large investment in observing time, but also of the inherent support from IRAM, it is advised that Large Programs involve one or more IRAM internal collaborators.

During the execution period of the Large Programs (ideally before mid-term), the team leading the Large Program should report to IRAM about the preliminary results and possible technical difficulties, so that IRAM could assess the progress made, assist with any problems encountered in the course of the observations, and, if needed, adjust the program scheduling.

The proprietary period ends 18 months after the end of the last scheduling semester in which the Large Program was observed. The raw data and processed data then enter the public domain. An extension of this proprietary period may be granted in exceptional cases only. A corresponding request will have to be submitted to the IRAM director.

Finally, it should be noted that following the guidelines decided by the IRAM Council, PIs of accepted Large Programs cannot submit other proposals (as PI) during the active time of the Large Program.

Because of the scope of the Large Programs and the need to explain the organization of the project, Large Program proposals will have a maximum length of 4 pages (plus up to 2 pages of figures, tables, or references). Large observing program proposals should be submitted using PMS; just check the “Large Program” bullet on the proposal submission main page. The following sections should be included: i) Scientific Rationale, ii) Immediate Objective, iii) Feasibility and Technical Justification, and iv) Organizational Issues. For the NOEMA interferometer, the latter section must include a consideration of sun avoidance constraints and configuration scheduling.

The scientific evaluation of the Large Program proposals will be done by the Program Committee at large (all 12 members, except if there is a direct implication of one of the members in the proposal). External reviewers will be asked to evaluate Large Programs, if needed.

Note that a Large Program will either be accepted in its entirety or rejected, there will be no B-rating (“backup status”) nor a partial acceptance/rejection of the proposal.

For the summer semester 2015, the call for Large Programs will be open for the 30m telescope and the NOEMA interferometer. For the 30m telescope, Large Programs may consider using HERA and EMIR.