

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 2019, is

14 March 2019, 17:00 CET (UT + 1 hour)

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

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

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^AT_EX template is provided from the PMS submission page for your convenience. This file may be customized, or the pdf file can be generated 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 and the technical justification (4 pages for a Large Program, see below) (2) up to two pages of figures, tables, and references may be added, but the text may not be mixed with figures, tables, and references, and (3) the font size must be 11pt.

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. Authors that fail to validate their participation will automatically be dropped from the proposal.

PMS will be opened for submission of new proposals about two weeks before the deadline¹. 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 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 30-meter 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 de Données astronomiques de Strasbourg*) to check whether a source has already been observed at the 30-meter telescope or the NOEMA interferometer. We recommend to use the **VizieR Catalogue Service** to query² the header data of IRAM observations obtained since September 2009 for the 30-meter telescope, and since December 1991 for PdBI/NOEMA.

The source areas to be mapped by the guaranteed time large NIKA2 programs are "fenced" against new continuum 2mm/1mm mapping projects at the 30-meter telescope or continuum driven projects at NOEMA. To inform observers, proposal abstracts and a complete source list is available on the **NIKA2 home page**.

We encourage the submission of **Large Observing Programs** (LPs) that require more than 100 hours of observing time and that address strategic scientific issues, using NOEMA or the 30-meter telescope with EMIR or HERA. However, as a significant investment of technical time is still needed for the NOEMA project, restrictions in terms of available observing time for NOEMA LPs will apply for the upcoming summer semester 2019, similar to the previous winter semester 2018/2019.

You may consult the **Large Program Policy** on the IRAM web site for further details.

The 30-meter telescope will be open for 3 mm VLBI proposals. A one antenna participation of NOEMA in the VLBI sessions is foreseen on best effort basis only.

¹PMS remains open at all times for submission of Director Discretionary Time proposals.

²search *IRAM* as catalogue name.

Publications resulting from NOEMA or 30-meter telescope observations should mention this in an acknowledgment “Based on observations carried out under project number XYYZZ [XXX-YY] with the IRAM NOEMA Interferometer [30-meter 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.

C. Kramer & J.M. Winters

The 30-meter Telescope

Proposals for three instruments will be considered for the coming semester:

1. EMIR, offering four bands at 3, 2, 1.3, and 0.9 mm wavelengths in both polarisations,
2. HERA, the 9 pixel dual-polarization heterodyne receiver array operating at 1.3 mm wavelength, and
3. NIKA2, the second generation New-IRAM-KID-Array, working simultaneously at 1.15 and 2 mm with a field-of-view of 6.5’.

The two heterodyne frontends, EMIR and HERA, can be connected to a suite of narrow- and broad-band spectrometers with resolutions ranging from 3.3 kHz to 2 MHz, and bandwidths of up to 32 GHz.

During the summer semester emphasis will be put on observations at the longer wavelengths. Observations at short wavelengths will be scheduled toward the end of the semester in October/November. As in previous semesters, we will offer several weeks of pooled observations in order to optimize the use of the telescope. Proposers are requested to use the EMIR and HERA time estimators which are available online via the [IRAM 30-meter telescope webpage](#).

NIKA2 projects will be observed in one-week blocks of pooled observations. Proposers are requested to use the NIKA2 time estimator python script which is available online via the [NIKA2 home page](#). The online (on-the-fly) data reduction software gives the results of pointing and focus fits, and also a quick view on the science data. For the offline data reduction, the IDL data pipeline is currently the most used tool. This software has been developed by the NIKA2 consortium. For observing programs without any NIKA2 consortium member involved, a friend-of-the-project will be assigned to provide help and advice in using this pipeline. It may take several weeks after a run, during which the calibration scans and in particular the skydips are analyzed, and calibration parameters are derived, before final calibration products become available. NIKA2 1 mm polarimetry is currently being commissioned, and is not yet offered to the community.

A detailed account of the current observatory capabilities is available in a separate document on the [Call for Proposals web page](#).

What is new?

Since October 2018, the 30-meter telescope is connected via a new, dedicated fiber link to IRAM/Granada and the Internet. The link currently works at 1 Gbit/sec, further increasing speed and reliability, especially also for remote observations.

The PIIC-monitor software for NIKA2, developed at IRAM, is now routinely performing the on-the-fly processing, with the aim of a first data assessment. The extension of PIIC to full offline data reduction capabilities is currently under development.

Inside the NIKA2 cryostat, a dichroic mirror splits the two frequencies centered at 150 and 260 GHz. A new dichroic mirror was tested in August 2018. It showed a good, improved performance at 1mm, but failed at 2mm. It was therefore decided to re-install again the previous dichroic. Observations in September 2018 confirmed that these exchanges went well.

The Martin Puplett interferometer PIMP to measure the NIKA2 filter curves at the telescope is currently undergoing refurbishment, also to improve the illumination of the arrays. It is planned to measure new bandpasses in Spring 2019.

C. Kramer & M. Sanchez Portal

The NOEMA Interferometer

What's new:

Antenna 10 was successfully commissioned last September and joined the array for science observations in October. During the summer maintenance period we will therefore schedule the 9 antenna D configuration and all 10 antennas will be available for the C configuration this autumn (see below).

Main capabilities for NOEMA offered in the current Call:

Correlator: The wide-band correlator *PolyFiX* processes an instantaneous bandwidth of 31 GHz that is distributed over two 7.744 GHz wide sidebands and two orthogonal linear polarisations for a default channel spacing of 2 MHz. Additionally, a large number of high spectral resolution windows can be defined in each sideband and polarisation, providing in the current implementation step of *PolyFiX*, a fixed channel spacing of 62.5 kHz.

Bands: Bands 1 ($\lambda \approx 3\text{mm}$), 2 ($\lambda \approx 2\text{mm}$) and 3 ($\lambda \approx 1\text{mm}$) will be available for this Call, while band 4 ($\lambda \approx 0.8\text{mm}$) will not be offered. The nominal sky frequency ranges covered by each of the three available bands are specified in Table 3 in the specific document on the **current status of NOEMA**.

Software: The use of the **feb19** version (or later) of GILDAS is mandatory to prepare your proposals, especially its package ASTRO needs to be used to configure the *PolyFiX* spectral setups.

Configurations: During the summer semester we plan to schedule two different configurations; a preliminary configuration schedule is outlined below (see Table 1). The stations used in the two configurations are given in Table 2. Adjustments to this provisional configuration planning will be made according to commissioning requirements in the frame of NOEMA, proposal pressure, weather conditions, and other contingencies.

Table 1: Configuration Schedule for the Summer 2019 period

Conf	Scheduling Priority
D	June – August
C	September – November

Table 2: Configurations of the nine- and ten-antenna arrays

Name	Stations									
9D	W12	W09	W05	E10	E04	N13	N09	N05	N02	—
10C	W23	W20	W09	E23	E18	E10	E03	N20	N17	N11

A detailed description of the current NOEMA capabilities and organizational considerations are given in a separate document on the Call for Proposals pages (or click directly on this link for the pdf document).

J.M. 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 science operations of ALMA, and considering the substantial new investments of the IRAM partners into upgrading the capabilities of the NOEMA interferometer, the following guidelines for allocation of telescope time are to be considered:

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.
2. The proposers should 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.
3. Up to 15% of the available observing time may be invested into projects submitted by PIs affiliated with institutes in non-IRAM partner countries.
4. 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 the IRAM 30-meter telescope while a smaller fraction will be reserved for NOEMA. A significant amount of technical time is still needed to upgrade the observatory to the full NOEMA capabilities.** 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, only programs led by a PI located in one of the IRAM partner countries will be considered.
5. 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 IRAM partners will reserve time for mutually agreed “Observatory Programs”.

Data policy

The IRAM data policy is as follows:

- IRAM organizes storage of raw and online calibrated data for the 30-meter telescope and storage of raw data for PdBI/NOEMA on unlimited time scales.
- Header information of PdBI/NOEMA observations later than December 1991 can be found **here in the CDS** (*Centre de Données astronomiques de Strasbourg*).
- Header information of 30-meter telescope observations later than September 2009 can be found **here in the CDS**.
- Data from all projects are stored in the **IRAM Data Archive**. For PdBI/NOEMA raw data are stored while for the 30-meter telescope the online calibrated data are archived. Programs are distinguished between normal programs and Large Programs.
 - Data from Large Programs are public also in calibrated format after an 18 month proprietary period (counting from the end of the last semester of observations) and are accessible through the **IRAM Large Program Archive**.
 - The data of normal projects can be requested after a three year proprietary period (again counting from the end of the last semester of observations). The detailed procedure is described on the **IRAM Data Archive** web page.

RadioNet Travel Funds

Starting January 1, 2017, observations with the IRAM facilities are supported by RadioNet under Horizon 2020, the European Framework Program for Research and Innovation. Within this program, IRAM is committed to offering Transnational Access (TA) for scientists from all over the world, an initiative aimed at facilitating access to radioastronomical infrastructures and enabling scientists to conduct research at the forefront of technological innovation.

All TA-supported projects that are scheduled at the NOEMA interferometer or at the 30-meter telescope must acknowledge the support from the European Union by including the following sentence in the publications resulting from their observations: *The research leading to these results has received funding from the European Union's Horizon 2020 research and innovation program under grant agreement No 730562 [RadioNet].*

As part of this initiative, travel funds are available to support visits of TA eligible astronomers engaged in research with the IRAM facilities. Travels may be supported to the 30-meter telescope for observations (contact: C. Kramer) and to IRAM Grenoble for the reduction of NOEMA data (contact: J.M. Winters). The [RadioNet home page](#) provides first information. The Principal Investigators of IRAM proposals eligible for TA funding will be informed individually.

C. Kramer & J.M. Winters