

How to use NOEMA

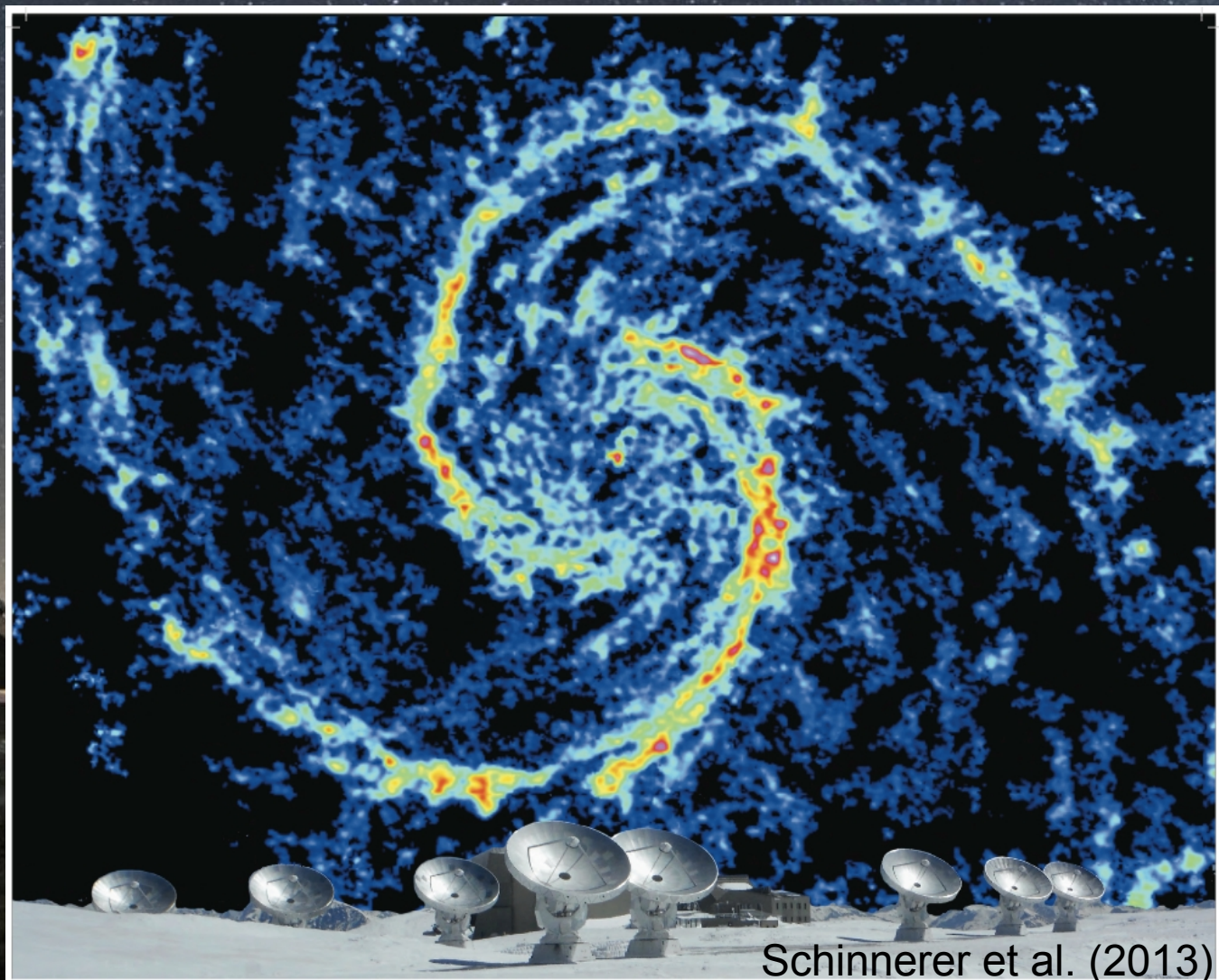
Melanie Krips
IRAM, Grenoble



How to use NOEMA

Motivation

- * LP from 2009!
- * 60 pointings
- * Only 1 line ^{12}CO
- * 5-6 antennas in array at the time
- * 200h of t_{obs} !



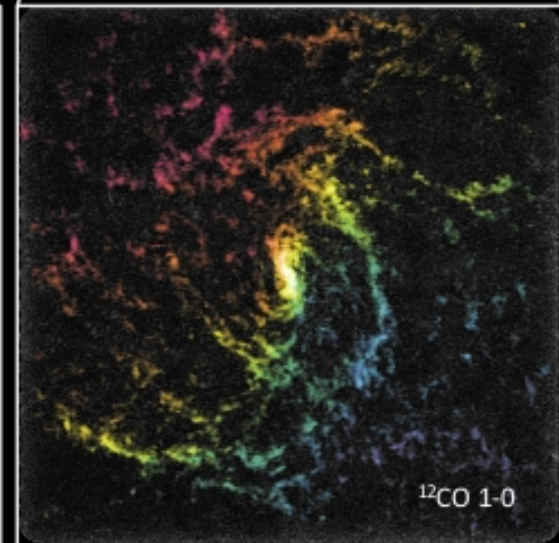
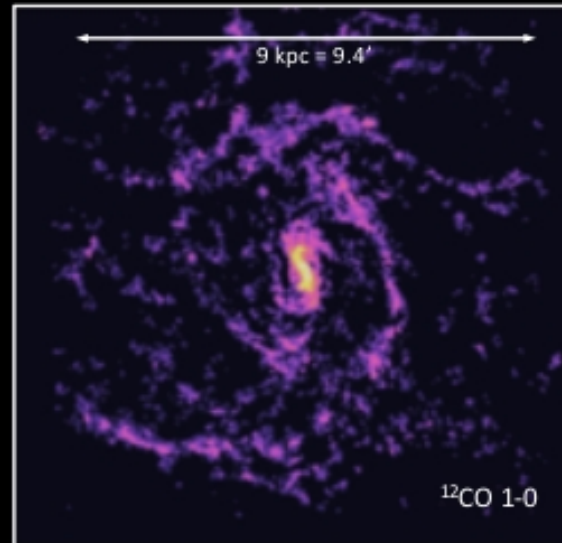
How to use NOEMA

Motivation

- * 2016!
- * >900 pointings
- * only ^{12}CO
- * 6 antennas in array
- * ~50h of t_{obs} !
(not as deep as PAWs!)

Molecular clouds in IC342
PI A.Schruba (MPE)

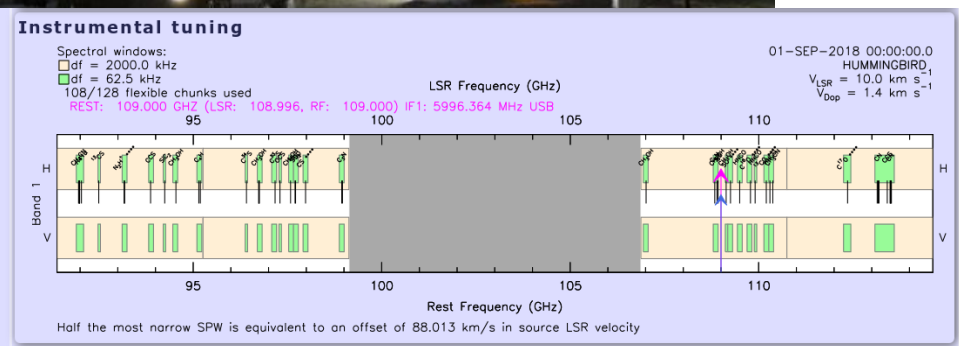
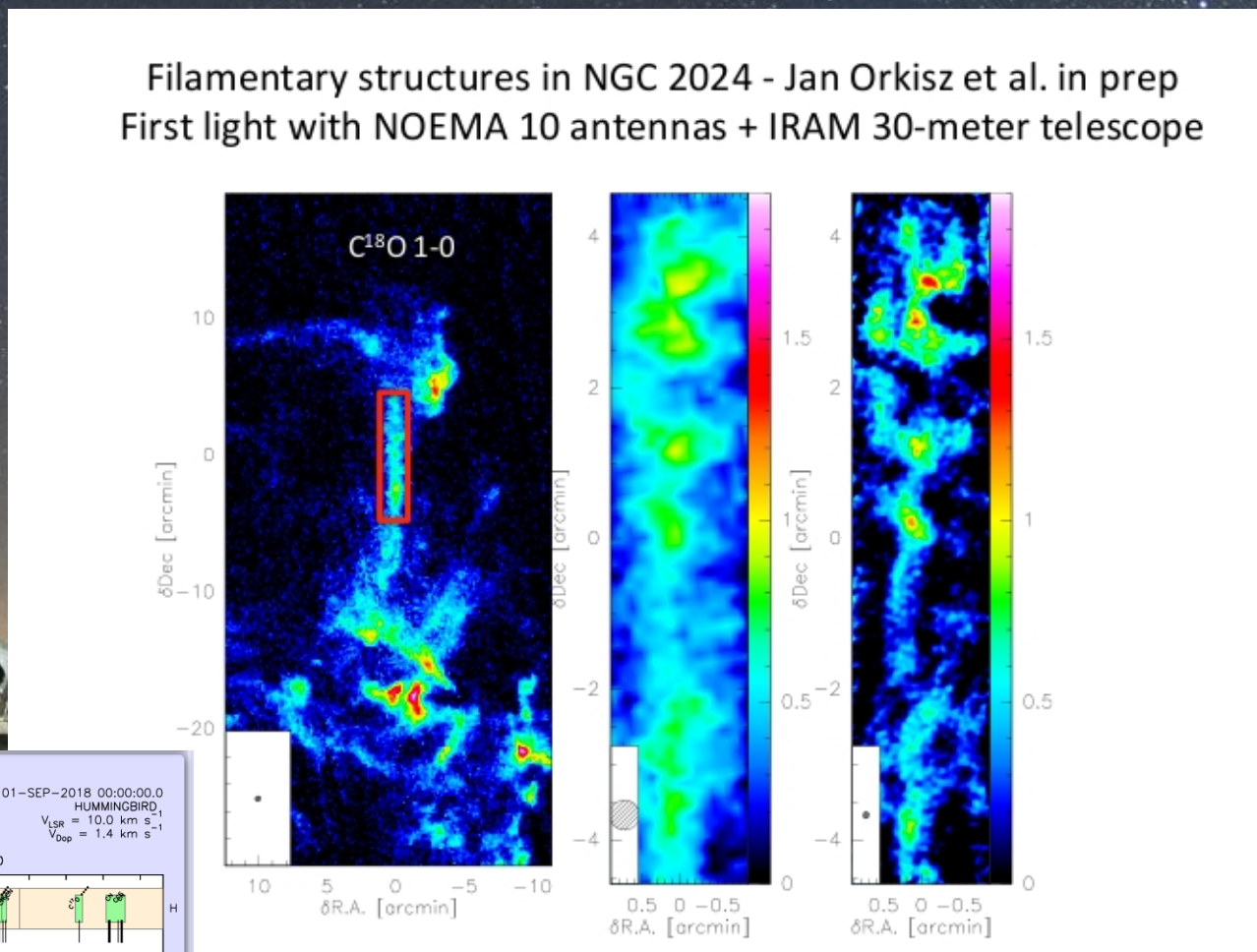
- $D = 3.3 \text{ Mpc}$, $M(\text{gas}) = 10^{10} M_{\odot}$, $\text{SFR} = 1.9 M_{\odot}/\text{yr}$
- NOEMA + IRAM 30m cover 70% of the SF disk
- NOEMA = 1250-field mosaic, 60 pc resolution = $3.8''$
- 1500 molecular clouds with $S/N > 5$



How to use NOEMA

Motivation

- * Aug/Sep2018!
- * >100 pointings
- * Many lines!
- * 8-10 antennas in array
- * ~16h of t_{obs} !!!!!!!



Orkisz et al., in prep.

How to use NOEMA

Motivation

- * Early 2000's
- * ~30h tos to detect CO at high- z ($z > 1$)
- * 2017: >10sources in half the time for entire sample!!!

Krips et al. (2005)

How to use NOEMA

This gives you (scientific) ideas?
(If it did not already ;)



How to use NOEMA

This gives you (scientific) ideas?
(If it did not already ;)

GREAT!



How to use NOEMA

Proposal Preparation

Reviewing Process

Observations

Data Reduction

How to use NOEMA

Proposal Preparation

Reviewing Process

Observations

Data Reduction

How to use NOEMA

Get to know NOEMA!

- * When and how to apply for time?
- * What are the technical specifications?
(frequency coverage, angular/spectral resolutions, possible observing modes,...)
- * What proposal categories exist?
- * What weather conditions to expect when?
- * Has my project already been done?
- * Other things to consider?

How to use NOEMA

Get to know NOEMA!

- * When and how to apply for time?
- * What are the technical specifications?
(frequency coverage, angular/spectral resolutions, possible observing modes,...)
- * What proposal categories exist?
- * What weather conditions to expect when?
- * Has my project already been done?
- * Other things to consider?

How to use NOEMA

Can everyone apply?

YES!

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.

Geographic distribution of NOEMA users across the world between 2010 and 2017. During this period, 1790 individual investigators from 43 countries submitted proposals for the NOEMA Interferometer.



How to use NOEMA

When to apply for time?

2 deadlines per year:

* 2nd week of March

Summer

01 June – 30 Nov

* 2nd week of Sep

Winter

01 Dec – 31 May

Proposals - Mozilla Firefox

www.iram-institute.org/EN/content-page-57-7-57-0-0-0.html

Navigation: About us, NOEMA, 30m telescope, Science & technology, International cooperation, Public outreach, **Science users**

Left sidebar: 30m telescope, NOEMA interferometer, ARC NODE, **Proposals**, Call for proposals, Large Program policy, Director's discretionary time proposals, Guidelines for observing time, Data policy, Proposal templates, Preparing proposal submission, Submitting proposals, Program committee recommendations, Large Program Archive, Results, Reports and Archives, News, Events

Main content: **Proposals**

Proposals for observations with the IRAM telescopes may be submitted twice per year through the Proposal Management System PMS. The submission period starts about two weeks before a deadline. Submission deadlines are currently around mid-March and mid-September each year for the summer (01 June - 30 November) and winter (01 December - 31 May) scheduling periods. Exact dates and all other relevant information are given in a separate Call for proposals published on the web by mid-February for the summer deadline and by early-August for the winter deadline. In case of problems, please contact the IRAM scientific secretary Cathy Berjaud. Additional detailed technical information can be found on the web pages for the NOEMA interferometer and for the 30m telescope.

Calendar

Semester: 01 December 2018 - 31 May 2019

Submission deadline	13 September 2018, 17h00 (CEST) [UT + 2hr]
Opening of proposal submission period	CLOSED
Program committee meeting	16/17 October 2018
Publication of PC grades	End of October 2018

Shortly after a submission deadline the scientific secretariat sends acknowledgements of receipt to the principal investigators of all proposals received. These receipts are sent by Email and contain the official registration number of the proposal.

How to use NOEMA

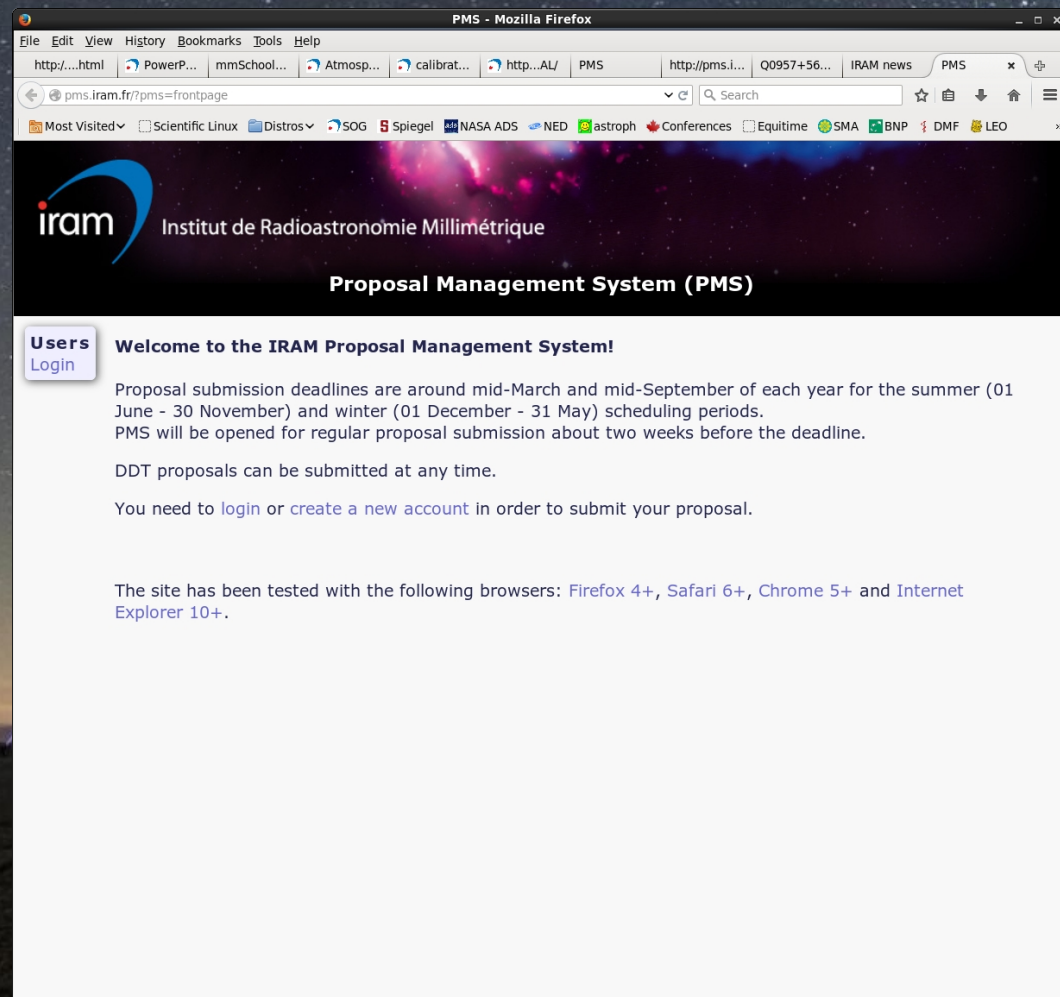
How to apply for time?

Use online proposal system to apply:

* PMS:

<http://pms.iram.fr>

-> see talk by
Ch. Lefevre



PMS - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://pms.iram.fr/pms=frontpage

iram Institut de Radioastronomie Millimétrique

Proposal Management System (PMS)

Users Login

Welcome to the IRAM Proposal Management System!

Proposal submission deadlines are around mid-March and mid-September of each year for the summer (01 June - 30 November) and winter (01 December - 31 May) scheduling periods. PMS will be opened for regular proposal submission about two weeks before the deadline.

DDT proposals can be submitted at any time.

You need to [login](#) or [create a new account](#) in order to submit your proposal.

The site has been tested with the following browsers: [Firefox 4+](#), [Safari 6+](#), [Chrome 5+](#) and [Internet Explorer 10+](#).

How to use NOEMA

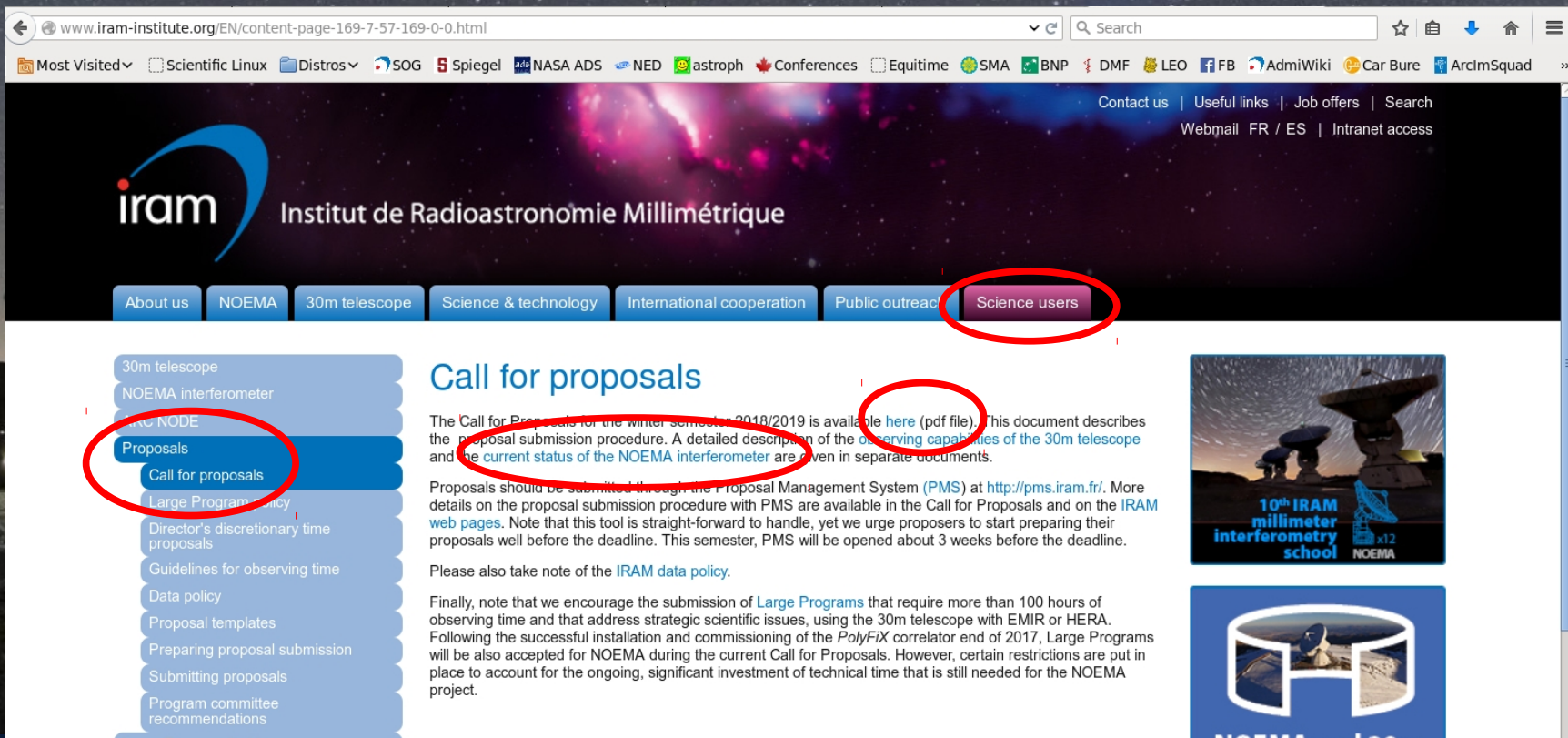
Get to know NOEMA!

- * When and how to apply for time?
- * What are the technical specifications?
(frequency coverage, angular/spectral resolutions, possible observing modes,...)
- * What proposal categories exist?
- * What weather conditions to expect when?
- * Has my project already been done?
- * Other things to consider?

How to use NOEMA

Technical Considerations:

* Read the Call for Proposals and the “Technical Handbook” for NOEMA:



The screenshot shows the IRAM website interface. At the top, there is a navigation bar with the IRAM logo and the text 'Institut de Radioastronomie Millimétrique'. Below this is a horizontal menu with several items: 'About us', 'NOEMA', '30m telescope', 'Science & technology', 'International cooperation', 'Public outreach', and 'Science users'. The 'Science users' item is highlighted with a red circle. On the left side, there is a vertical sidebar menu with items like '30m telescope', 'NOEMA interferometer', 'ARC NODE', 'Proposals', 'Call for proposals', 'Large Programs', 'Director's discretionary time proposals', 'Guidelines for observing time', 'Data policy', 'Proposal templates', 'Preparing proposal submission', 'Submitting proposals', and 'Program committee recommendations'. The 'Proposals' item is highlighted with a red circle. The main content area is titled 'Call for proposals' and contains text about the 'Call for Proposals for the winter semester 2018/2019'. A red circle highlights the phrase 'here (pdf file)' in the text. Another red circle highlights the phrase 'observing capabilities of the 30m telescope and the current status of the NOEMA interferometer'. On the right side, there are two images: one showing a radio telescope dish and another showing a person looking through a telescope.

How to use NOEMA

Technic
* Read
Hand

File Edit View History Bookmarks Tools Help
() - w18.pdf - Mozilla Firefox
http://www.i...-342-0.html x PowerPoint Presentat... x calibration2 - gueth-c... x mmSchool2018 - mmSc... x IRAM-2017-02-imagesC... x () - w18.pdf x
www.iram.fr/GENERAL/calls/w18/w18.pdf
Most Visited Scientific Linux Distros SOG Spiegel NASA ADS NED astroph Conferences Equitime SMA BNP DMF LEO FB AdmiWiki Car Bure ArcImSquad
Page: 1 of 5 Automatic Zoom

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 December 2018 to 31 May 2019, is

13 September 2018, 17:00 CEST (UT + 2 hours)

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 \LaTeX 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 should not be mixed with figures, tables, and references!), and (3) the font size must be at least 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.

How to use NOEMA

Technic
* Read
Hand

File Edit View History Bookmarks Tools Help

http://www.i...-342-0.html x PowerPoint Presentat... x calibration2 - gueth-c... x mmSchool2018 - mmSc... x IRAM-2017-02-imagesC... x () - NOEMACapabili... x

www.iram.fr/GENERAL/calls/w18/NOEMACapabilities.pdf

Most Visited Scientific Linux Distros SOG Spiegel NASA ADS NED astroph Conferences Equitime SMA BNP DMF LEO FB AdmiWiki Car Bure ArcImSquad

Page: 1 of 8 70%

IRAM NOEMA interferometer

Observing Capabilities and Current Status

Melanie Krips
July 30, 2018

This document is updated twice a year to reflect the capabilities of the interferometer at the time of the *Call for Proposals* publication. Non-trivial changes with respect to the previous version are **marked in red**. Note that this document contains active links marked with a **different font** for an easy access to documentation, e.g. on the [IRAM web page](#). The full links are also given on the last page of this document.

Conf	Scheduling Priority	Winter 2018/2019
C		November – December
D		December – January
A		January – February
C		February – March
D		March – May

1 Progress of NOEMA

1.1 NOEMA's 10th antenna

The commissioning of antenna 10 is scheduled for the end of summer 2018. We plan to operate with all 10 antennas during the winter period 2018/2019.

2 Conditions for the next winter session

During the course of the winter semester, we plan to schedule three configurations. The number of antennas is dependent on the availability of antenna 10. A preliminary configuration schedule for the winter period is outlined in Table 1. 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. The configuration schedule given in Table 1 should be taken as a rough guideline, in particular for astronomical targets that cannot be observed during parts of the winter period because of sun avoidance constraints.

The winter semester is preferred for high frequency (1 mm) and high angular resolution observations. Nevertheless, we encourage the submission of proposals that ask for observations at lower frequencies (2 mm & 3 mm) and lower angular resolution for which a significant amount of time can be invested. Observations in band 4 will not be offered this semester.

Unfinished A-rated programs from the current summer semester 2018 will be carried over into the upcoming winter semester. However, B-rated projects (or their sub-parts) from the summer semester 2018 that have not been started by the end of November 2018 will not be carried over and should be re-submitted. Investigators who wish to check the status of their project may consult the [interferometer schedule](#) on the IRAM website. This page is updated daily.

2.1 General Proposal Considerations

Please give high importance to the quality of your proposal. The NOEMA interferometer is a powerful, but complex instrument, and proposal preparation requires special care, especially in light of its new capabilities. In particular, your proposal should not only justify the scientific interest, but also the need for NOEMA. 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 to explain why IRAM interferometer time is needed.

Don't hesitate to contact the NOEMA Science Operations Group (sog@iram.fr) in case of doubts and for

How to use NOEMA

Technic
* Read
Hand

IRAM NOEMA interferometer
Observing Capabilities and Current Status

Melanie Krips
July 30, 2018

This document is updated twice a year to reflect the capabilities of the interferometer at the time of the *Call for Proposals* publication. Non-trivial changes with respect to the previous version are **marked in red**. Note that this document contains active links marked with a **different font** for an easy access to documentation, e.g. on the [IRAM web pages](#). The full links are also given on the last page of this document.

Table 1: Configuration Schedule

Conf	Scheduling	Priority	Winter 2018	2019
C			November – December	
D			December – January	
A			January – February	
E			February – March	
F			March – May	

1 Progress of NOEMA

1.1 NOEMA's 10th antenna
The commissioning of antenna 10 is scheduled for the end of summer 2018. We plan to operate with all 10 antennas during the winter period 2018/2019.

2 Conditions for the next winter session
During the course of the winter semester, we plan to schedule three configurations. The number of antennas is dependent on the availability of antenna 10. A preliminary configuration schedule for the winter period is outlined in Table 1. 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. The configuration schedule given in Table 1 should be taken as a rough guideline, in particular for astronomical targets that cannot be observed during parts of the winter period because of sun avoidance constraints.

The winter semester is preferred for high frequency (1 mm) and high angular resolution observations. Nevertheless, we encourage the submission of proposals that ask for observations at lower frequencies (2 mm & 3 mm) and lower angular resolution

for which a significant amount of time can be invested. Observations in band 4 will not be offered this semester.

Unfinished A-rated programs from the current summer semester 2018 will be carried over into the upcoming winter semester. However, B-rated projects (or their sub-parts) from the summer semester 2018 that have not been started by the end of November 2018 will not be carried over and should be re-submitted. Investigators who wish to check the status of their project may consult the [interferometer schedule](#) on the IRAM website. This page is updated daily.

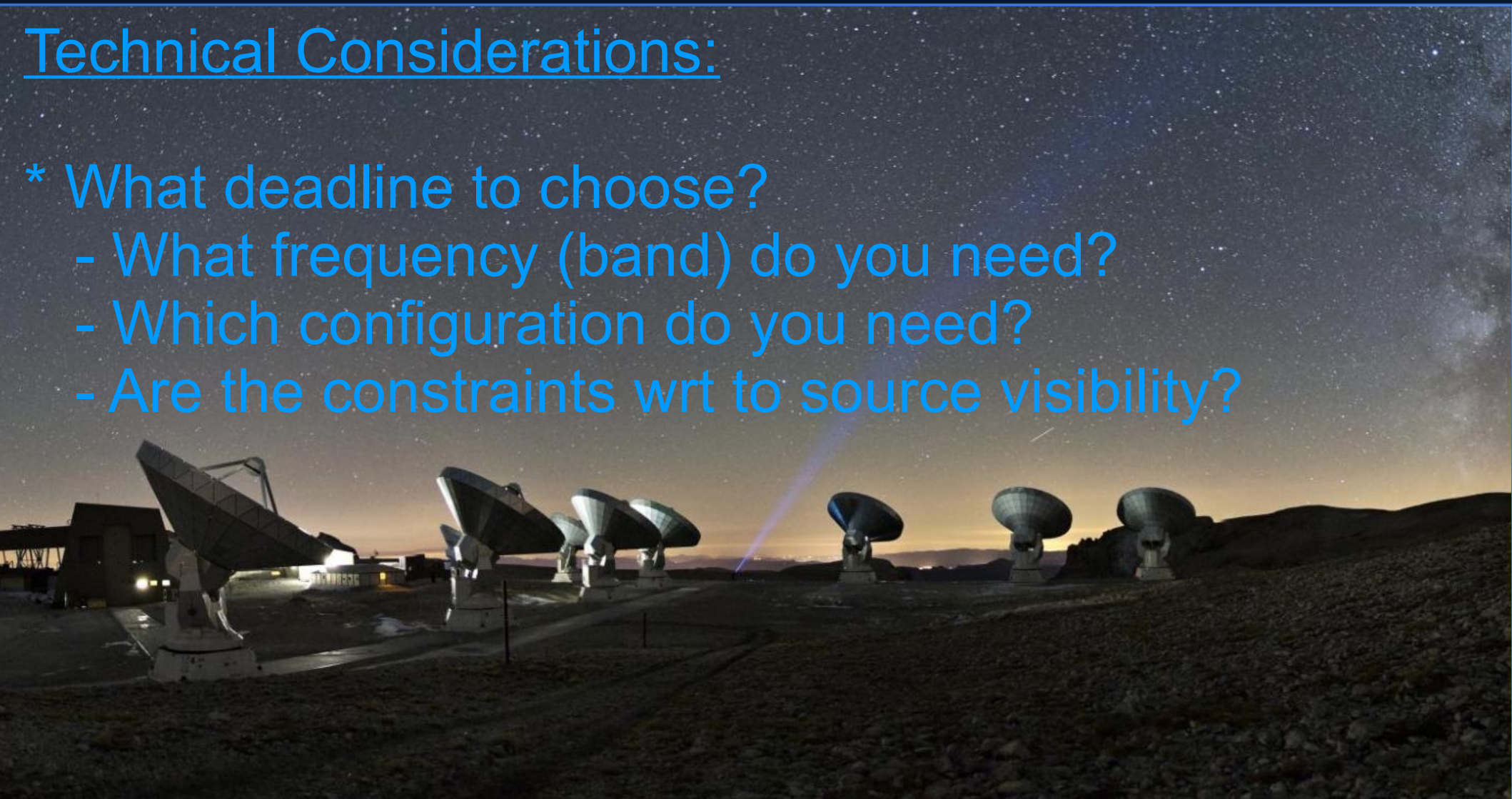
2.1 General Proposal Considerations
Please give high importance to the quality of your proposal. The NOEMA interferometer is a powerful, but complex instrument, and proposal preparation requires special care, especially in light of its new capabilities. In particular, your proposal should not only justify the scientific interest, but also the need for NOEMA. 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 to explain why IRAM interferometer time is needed.

Don't hesitate to contact the NOEMA Science Operations Group (sog@iram.fr) in case of doubts and for

How to use NOEMA

Technical Considerations:

- * What deadline to choose?
 - What frequency (band) do you need?
 - Which configuration do you need?
 - Are the constraints wrt to source visibility?



How to use NOEMA

Frequency Coverage/bands offered:

* 3 bands offered: 3mm, 2mm & 1mm
(band 4 currently not available)

Table 3: Receiver characteristics

	Band 1	Band 2	Band 3
F_{LO1} range/[GHz]*	82.0–108.256	138.616–171.256	207.744–264.384
F_{sky} range/[GHz]*	70.4–119.872	127.000–182.872	196.128–276.000
$T_{\text{rec}}/[K]**$	25–45	35–55	40–70
$G_{\text{im}}/[dB]$	-15-...-10	-15...-10	-15 ... -10

* Guaranteed LO1 frequency ranges per offered band. The LO1 frequency is the center frequency between the USB and LSB that can both be simultaneously observed in one tuning (see Fig 1). The center frequency of the USB (LSB) is separated by $+(-)7.744$ GHz from the LO1 frequency. With an effective width of 7.744 GHz per sideband the lowest and highest sky frequencies that can be covered per tuning are hence $F_{\text{sky}}=F_{\text{LO1}}\pm 11.616$ GHz. The lowest and highest LO1 frequencies per band define the F_{sky} ranges that are guaranteed for this call.

** for LSB and USB.

How to use NOEMA

Frequency Coverage/bands offered:

* 3 bands offered: 3mm, 2mm & 1mm
(band 4 currently not available)

Table 3: Receiver characteristics

	Band 1	Band 2	Band 3
F_{LO1} range/[GHz]*	82.0–108.256	138.616–171.256	207.744–264.384
F_{sky} range/[GHz]*	70.4–119.872	127.000–182.872	196.128–276.000
T_{rec} /[K]**	25–45	35–55	40–70
G_{im} /[dB]	-15-...-10	-15...-10	-15 ... -10

* Guaranteed LO1 frequency ranges per offered band. The LO1 frequency is the center frequency between the USB and LSB that can both be simultaneously observed in one tuning (see Fig 1). The center frequency of the USB (LSB) is separated by $+(-)7.744$ GHz from the LO1 frequency. With an effective width of 7.744 GHz per sideband the lowest and highest sky frequencies that can be covered per tuning are hence $F_{\text{sky}}=F_{\text{LO1}}\pm 11.616$ GHz. The lowest and highest LO1 frequencies per band define the F_{sky} ranges that are guaranteed for this call.

** for LSB and USB.

How to use NOEMA

Frequency Coverage/bands offered:

* 2 sidebands covering each 7.744GHz in 2 polars

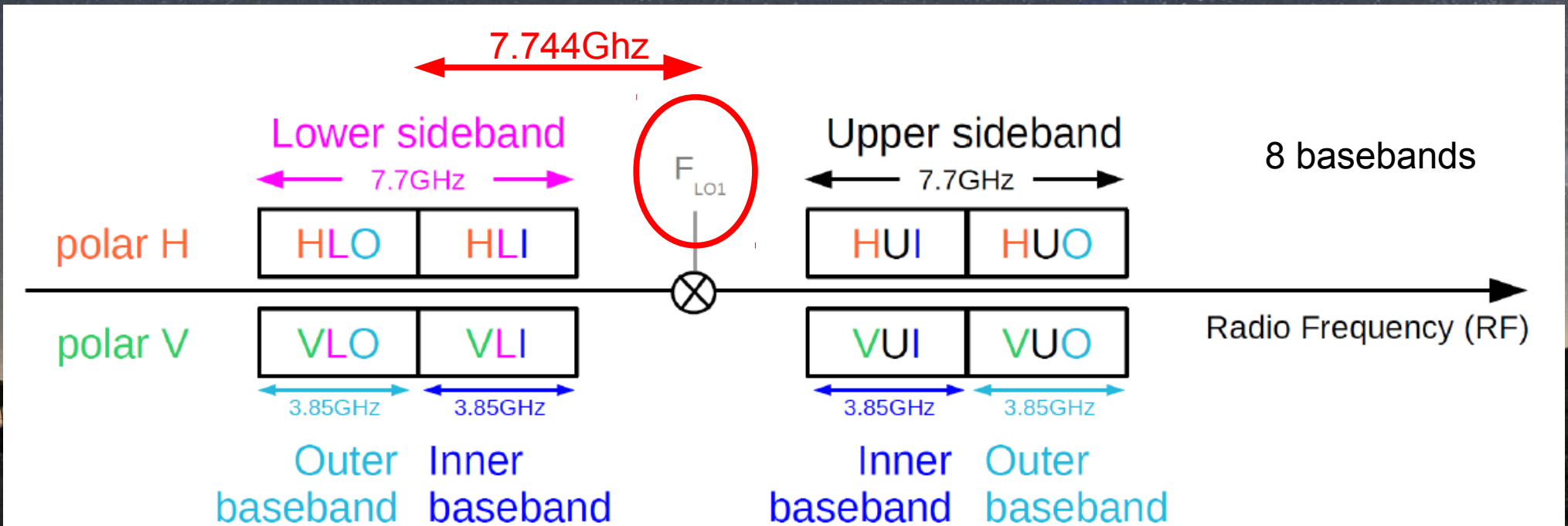


Figure 1: Basebands fed to the correlator

How to use NOEMA

Frequency Coverage/bands offered:

* 2 sidebands covering each 7.744GHz in 2 polars

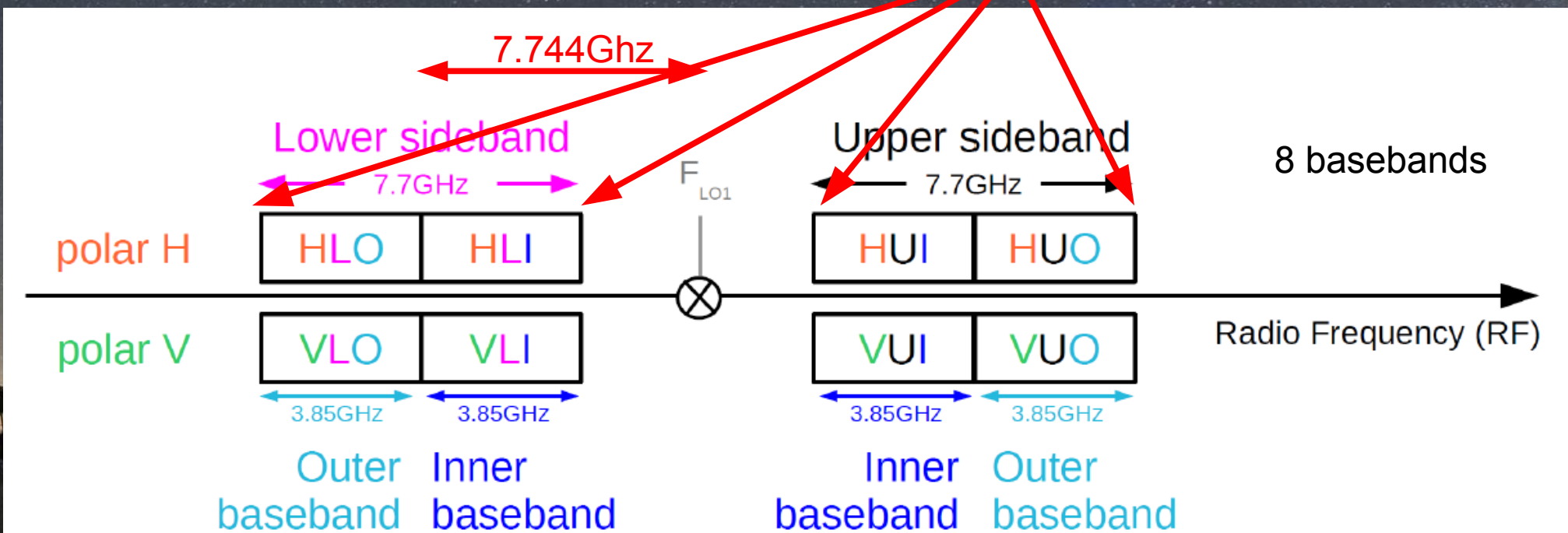


Figure 1: Basebands fed to the correlator

How to use NOEMA

Frequency Coverage/bands offered:

* 3 bands offered: 3mm, 2mm & 1mm
(band 4 currently not available)

Table 3: Receiver characteristics

	3mm	2mm	1mm
	Band 1	Band 2	Band 3
F_{LO1} range/[GHz]*	82.0–108.256	138.616–171.256	207.744–264.284
F_{sky} range/[GHz]*	70.4–119.872	127.000–182.872	196.128–276.000
T_{rec}/[K]**	25–45	35–55	40–70
G_{im} /[dB]	-15...-10	-15...-10	-15 ... -10

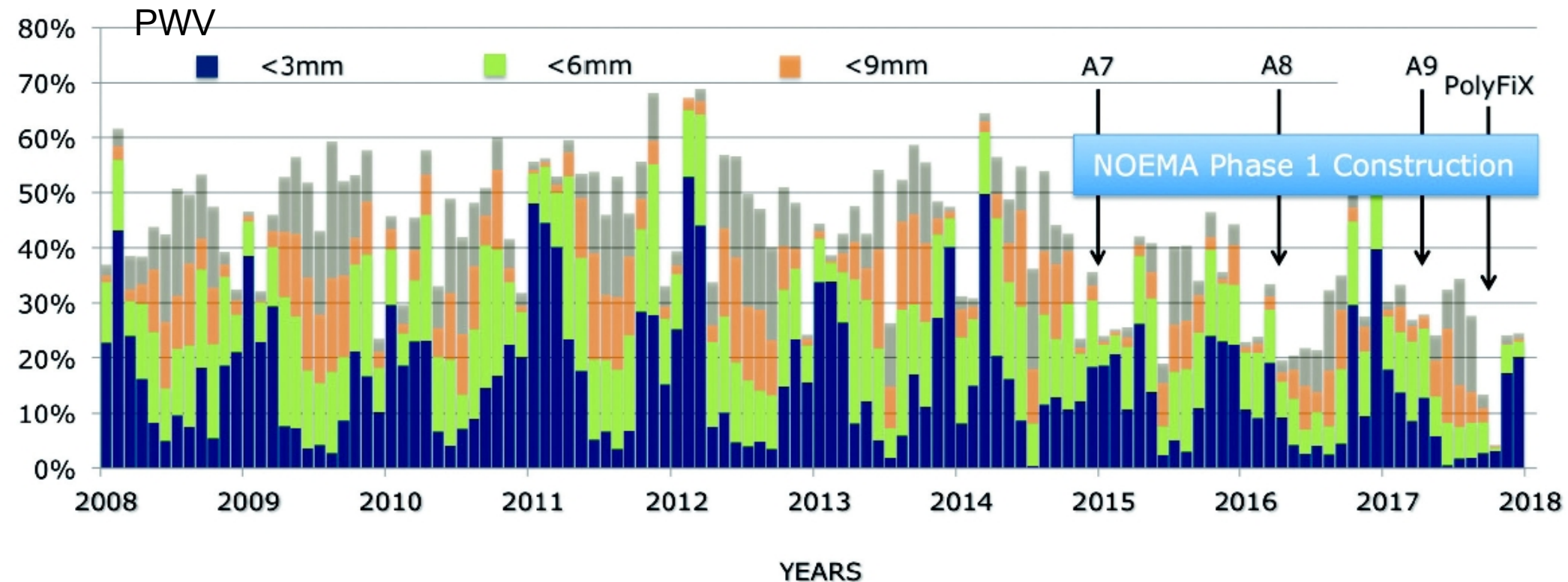
* Guaranteed LO1 frequency ranges per offered band. The LO1 frequency is the center frequency between the USB and LSB that can both be simultaneously observed in one tuning (see Fig 1). The center frequency of the USB (LSB) is separated by $+(-)7.744$ GHz from the LO1 frequency. With an effective width of 7.744 GHz per sideband the lowest and highest sky frequencies that can be covered per tuning are hence $F_{sky}=F_{LO1}\pm 11.616$ GHz. The lowest and highest LO1 frequencies per band define the F_{sky} ranges that are guaranteed for this call.

** for LSB and USB.

How to use NOEMA

When to observe what band:

NOEMA correlation time and atmospheric water vapor statistics during on sky operation over the last ten years.

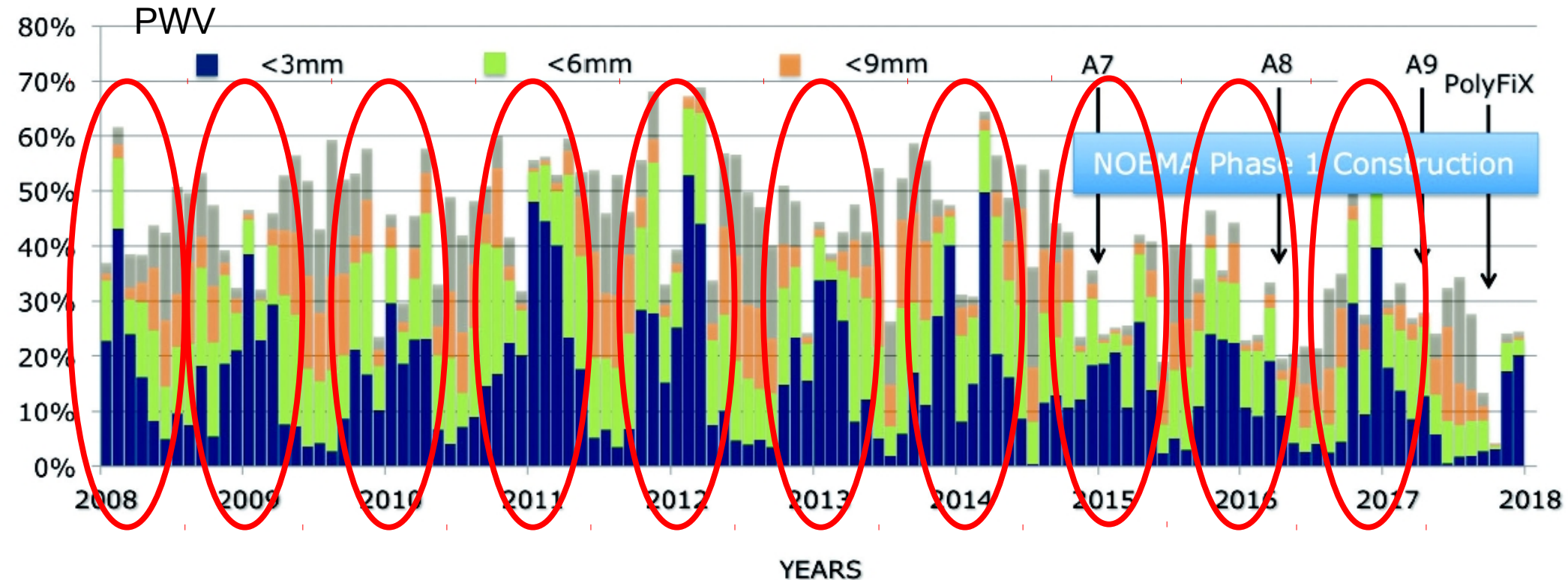


How to use NOEMA

When to observe what band:

Winter semester has the best weather conditions (lowest pwv)!

NOEMA correlation time and atmospheric water vapor statistics during on sky operation over the last ten years.



How to use NOEMA

When to observe what band:

Band3 (1mm): $\text{pwv} < 5\text{mm}$

Band2 (2mm): $\text{pwv} < 7\text{mm}$

Band1 (3mm): $\text{pwv} < 15\text{mm}$

How to use NOEMA

When to observe what band:

Band3 (1mm): $\text{pwv} < 5\text{mm}$

Band2 (2mm): $\text{pwv} < 7\text{mm}$

Band1 (3mm): $\text{pwv} < 15\text{mm}$

WINTER!
(Sep - Apr)

SUMMER!
(May - Aug)

How to use NOEMA

Offered Configurations:

* In total 3 configurations available: D, C and A

WINTER

10D	W12	W08	W05	E10	E04	N17	N13	N09	N05	N02
10C	W23	W20	W09	E23	E18	E10	E03	N20	N17	N11
10A	W27	W23	W08	E68	E24	E16	E03	N46	N29	N20

Conf	Scheduling Priority Winter 2018/2019
C	November – December
D	December – January
A	January – February
C	February – March
D	March – May

SUMMER

Name	Stations									
8D	W12	W08	W05	E10	E04	N13	N09	N02	–	
9C	W20	W12	W09	E16	E10	E03	N29	N20	N11	

Conf	Scheduling Priority Summer 2018
D	June – August
C	September – November

How to use NOEMA

Offered Configurations:

* In total 3 configurations available: D, C and A

WINTER

10D	W12	W08	W05	E10	E04	N17	N13	N09	N05	N02
10C	W23	W20	W09	E23	E18	E10	E03	N20	N17	N11
10A	W27	W23	W08	E68	E24	E16	E03	N46	N29	N20

Conf	Scheduling Priority Winter 2018/2019
C	November – December
D	December – January
A	January – February
C	February – March
D	March – May

SUMMER

Name	Stations									
8D	W12	W08	W05	E10	E04	N13	N09	N02	–	
9C	W20	W12	W09	E16	E10	E03	N29	N20	N11	

Conf	Scheduling Priority Summer 2018
D	June – August
C	September – November

How to use NOEMA

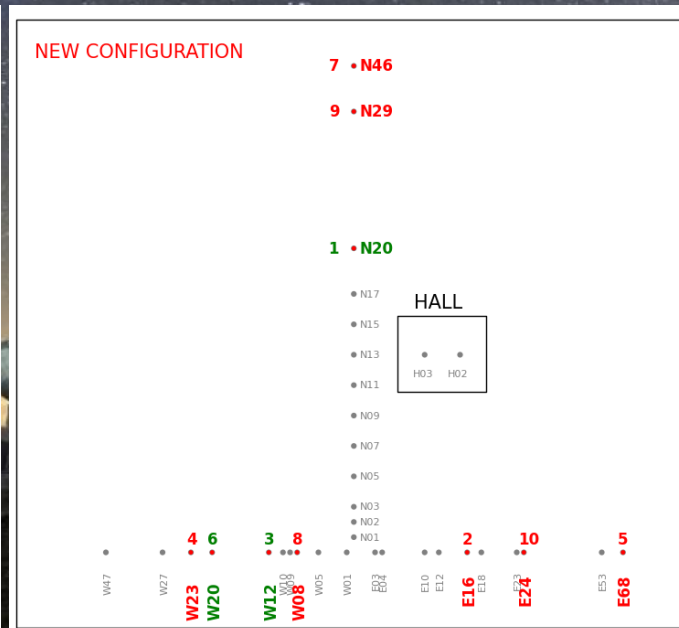
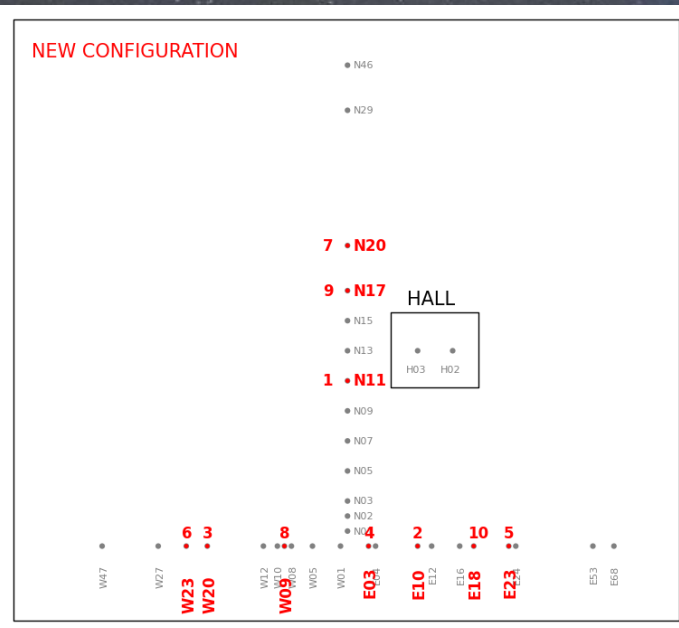
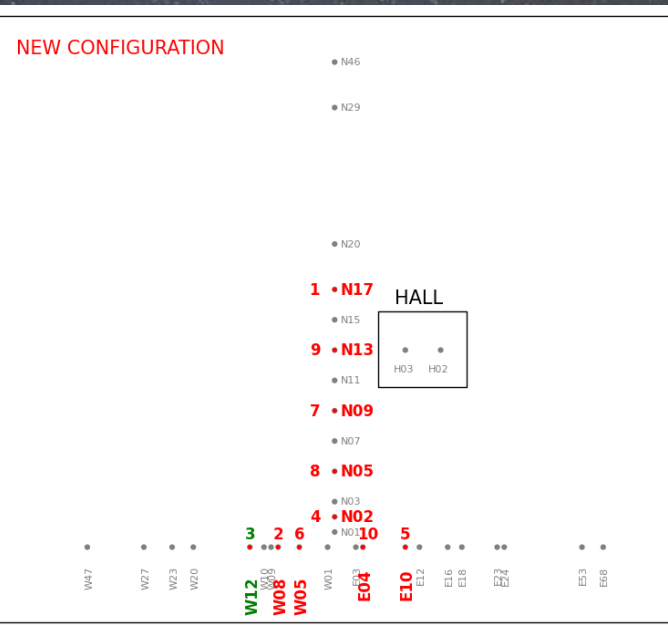
Offered Configurations:

* In total 3 configurations available: D, C and A

Configuration D

Configuration C

Configuration A



Increasing baseline length (b_{\max} from ~80m to ~800m)

How to use NOEMA

Offered Configurations:

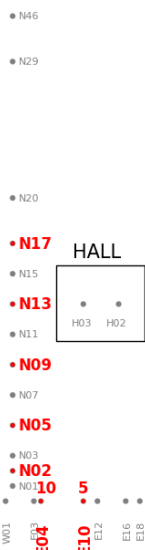
* In total 3 configurations available: D, C and A

Configuration D

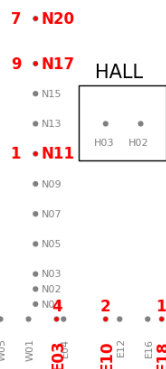
Configuration C

Configuration A

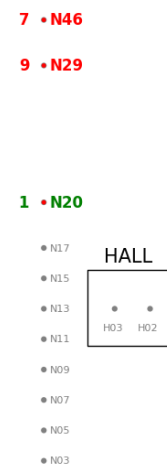
NEW CONFIGURATION



NEW CONFIGURATION



NEW CONFIGURATION



Angular resolution@100GHz

10	D	W12	W08	W05	E10	E04	N17	N13	N09	N05	N02
	C	W23	W20	W09	E23	E18	E10	E03	N20	N17	N11
	A	W27	W23	W08	E68	E24	E16	E03	N46	N29	N20

3.86	3.3
2.01	1.75
1.14	1.00

How to use NOEMA

Offered Configurations:

- * In total 3 configurations available: D, C and A
- * Short Spacings needed from the 30m?



How to use NOEMA

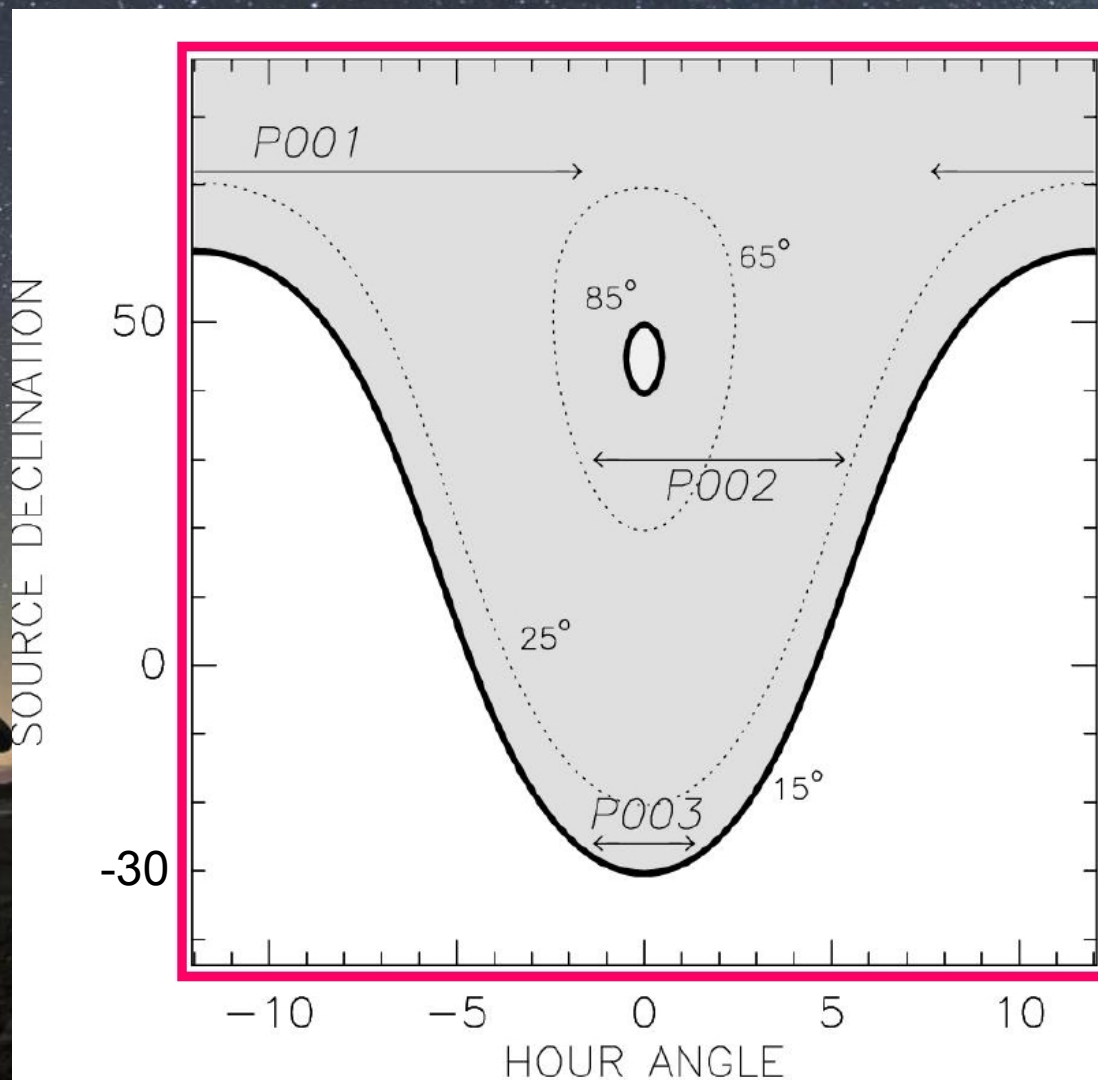
Your source:

- * Source position in the sky (RA, Declination)
- LST range
- Sun avoidance



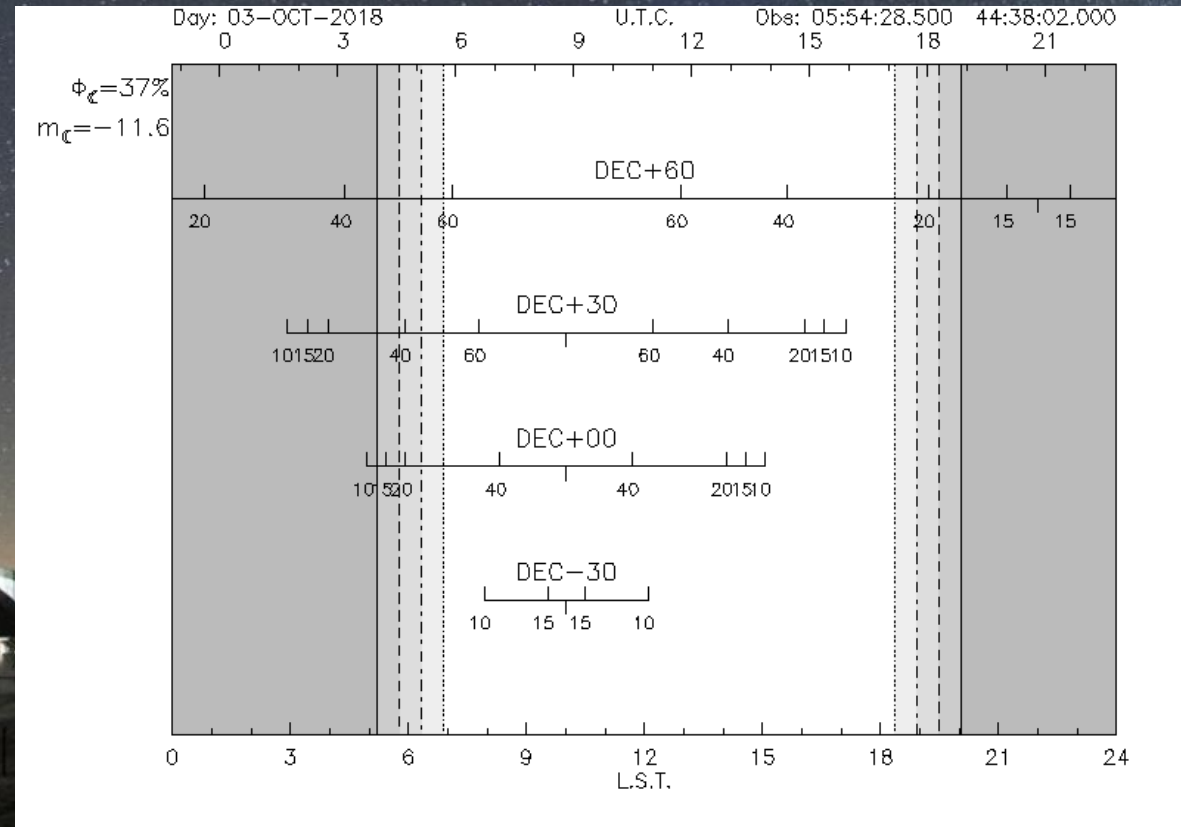
How to use NOEMA

Your source:
* Declination
 $\delta > -30\text{deg}$



How to use NOEMA

Your source:
* Declination
 $\delta > -30\text{deg}$

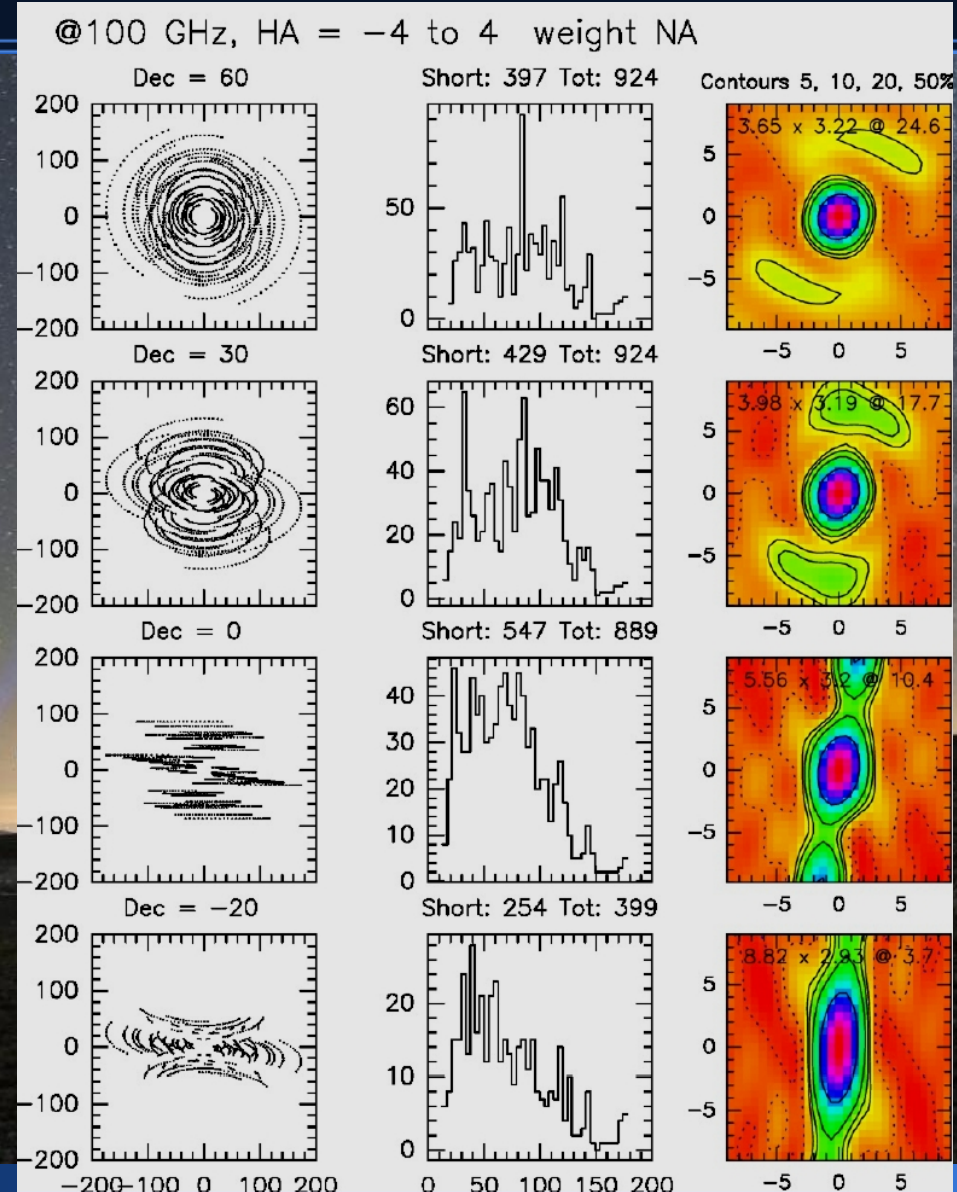


How to use NOEMA

Your source:

* Declination $\delta > -30\text{deg}$

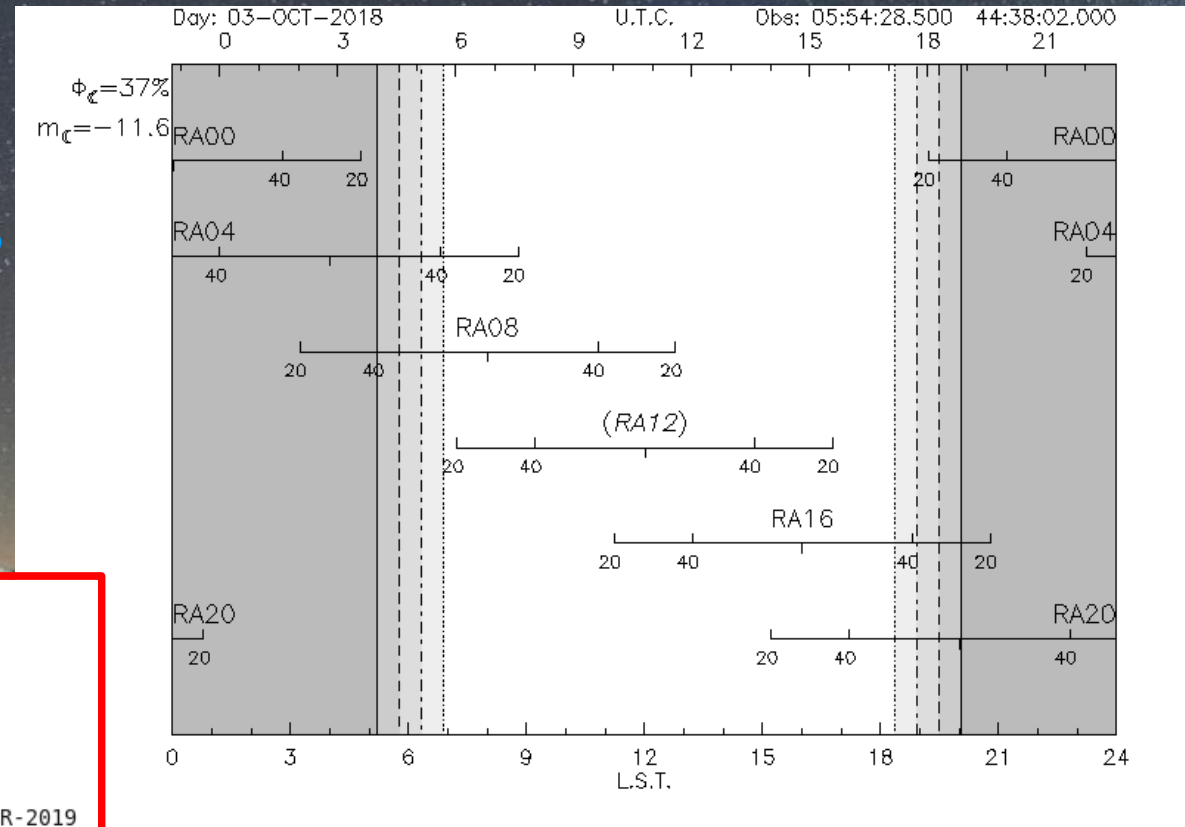
uv-coverage depends on δ !



How to use NOEMA

Your source:

- * Declination $\delta > -30\text{deg}$
uv-coverage depends on δ !
- * Sun Avoidance/Az:
Is source visible?



```

ASTRO> cata az.sou
I-CATALOG, New source catalog is az.sou
ASTRO> time
ASTRO> obs noema
I-OBSERVATORY, Selected NOEMA observatory
I-OBSERVATORY, NOEMA status is set to year 2017
  >> NOEMA receivers with Polyfix backend
ASTRO> hori /sou /night
RA00      Sun distance 169.1  Avoidance 21-FEB-2019 to 26-APR-2019
RA04      Sun distance 129.2  Avoidance 19-APR-2019 to 23-JUN-2019
RA08      Sun distance  70.3  Avoidance 20-JUN-2019 to 25-AUG-2019
RA12      Sun distance  16.7  Avoidance 17-AUG-2018 to 21-OCT-2018
RA16      Sun distance  52.5  Avoidance 05-NOV-2018 to 01-DEC-2018
RA20      Sun distance 111.2  Avoidance 12-JAN-2019 to 07-FEB-2019
ASTRO> 
    
```

How to use NOEMA

Your source:

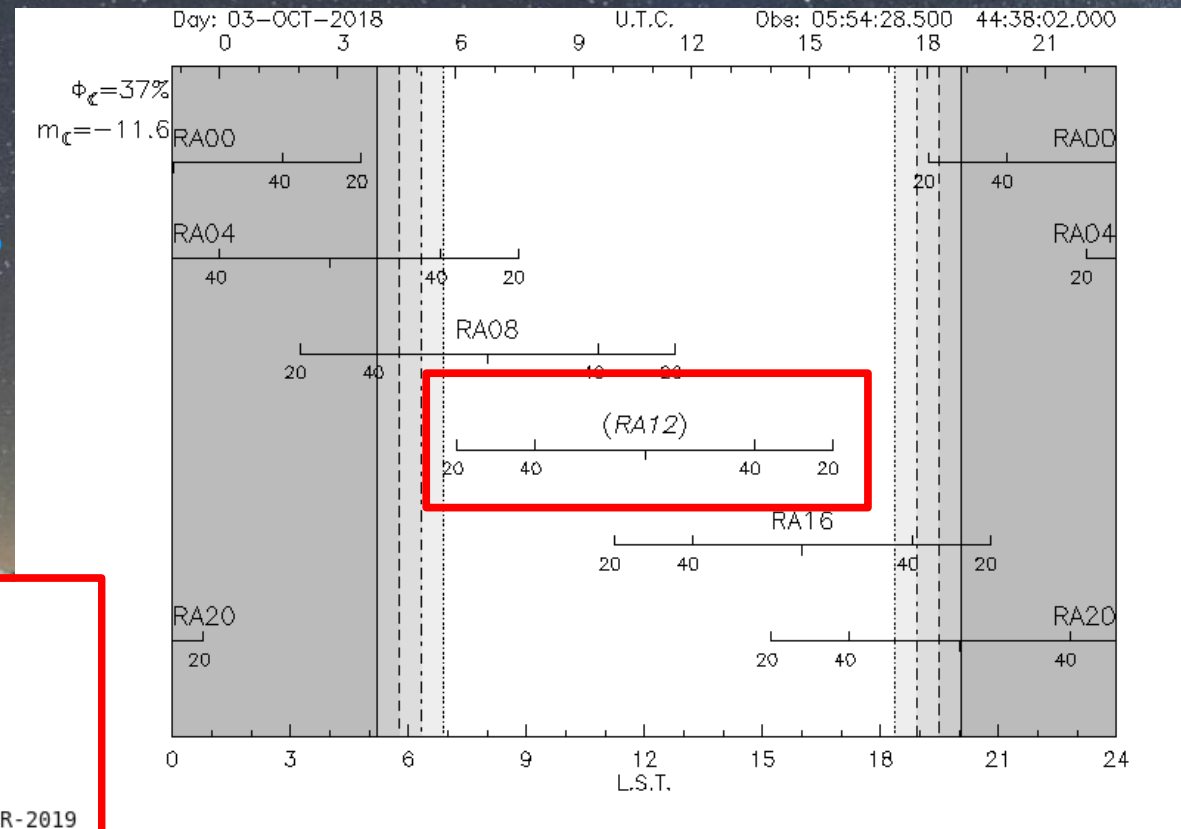
* Declination

$\delta > -30\text{deg}$

uv-coverage depends on δ !

* Sun Avoidance/Az:

Is source visible?

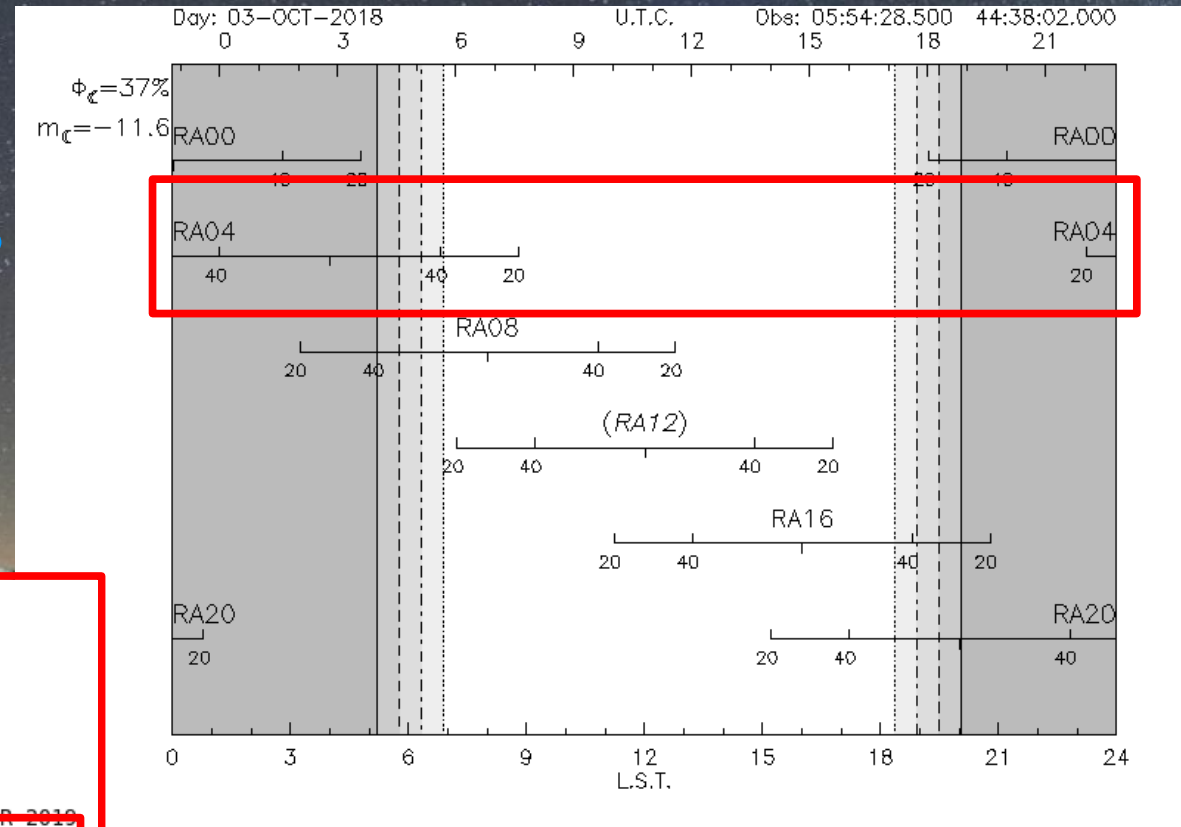


```
ASTRO> cata az.sou  
I-CATALOG, New source catalog is az.sou  
ASTRO> time  
ASTRO> obs noema  
I-OBSERVATORY, Selected NOEMA observatory  
I-OBSERVATORY, NOEMA status is set to year 2017  
  >> NOEMA receivers with Polyfix backend  
ASTRO> hori /sou /night  
RA00      Sun distance 169.1  Avoidance 21-FEB-2019 to 26-APR-2019  
RA04      Sun distance 129.2  Avoidance 19-APR-2019 to 23-JUN-2019  
RA08      Sun distance 78.3   Avoidance 20-JUN-2019 to 25-AUG-2019  
RA12      Sun distance 16.7   Avoidance 17-AUG-2018 to 21-OCT-2018  
RA16      Sun distance 52.5   Avoidance 05-NOV-2018 to 01-DEC-2018  
RA20      Sun distance 111.2  Avoidance 12-JAN-2019 to 07-FEB-2019  
ASTRO> □
```


How to use NOEMA

Your source:

- * Declination $\delta > -30\text{deg}$
uv-coverage depends on δ !
- * Sun Avoidance/Az:
Is source visible?



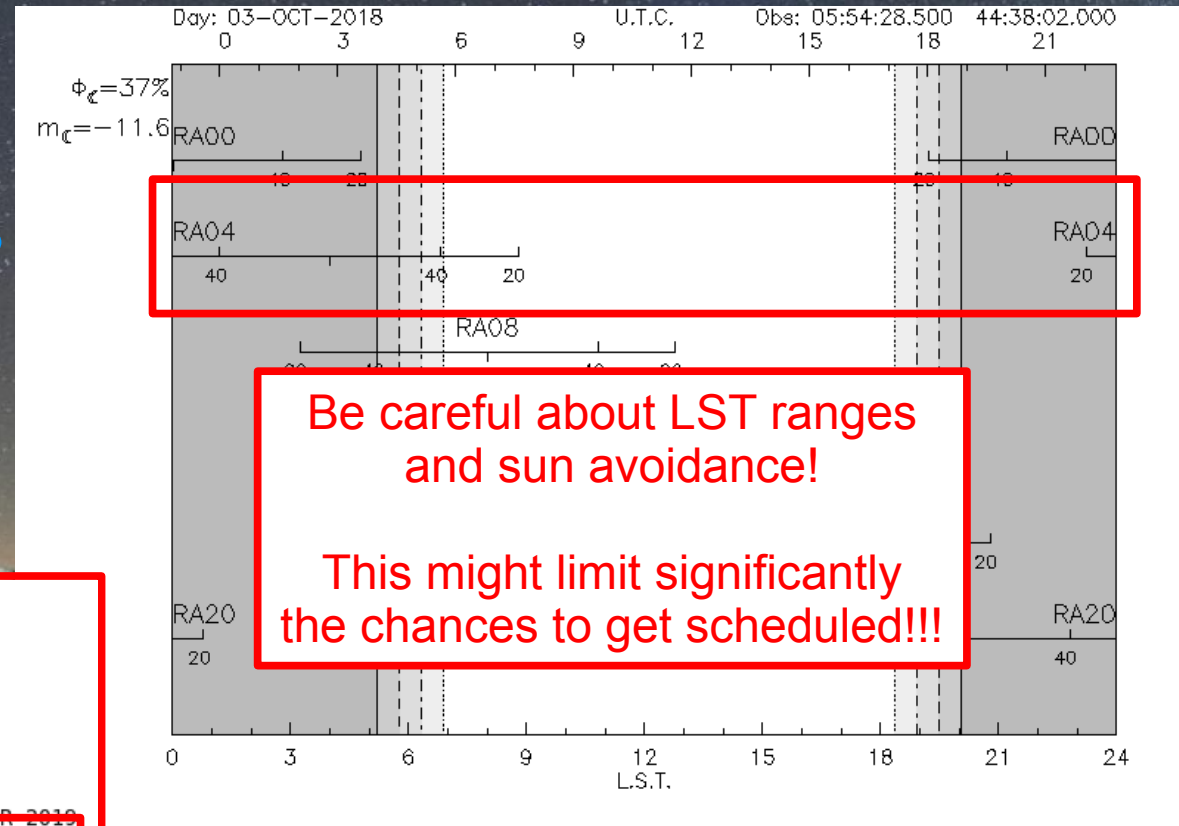
```

ASTRO> cata az.sou
I-CATALOG, New source catalog is az.sou
ASTRO> time
ASTRO> obs noema
I-OBSERVATORY, Selected NOEMA observatory
I-OBSERVATORY, NOEMA status is set to year 2017
  >> NOEMA receivers with Polyfix backend
ASTRO> hori /sou /night
RA00 Sun distance 169.1 Avoidance 21-FEB-2019 to 26-APR-2019
RA04 Sun distance 129.2 Avoidance 19-APR-2019 to 23-JUN-2019
RA08 Sun distance 79.2 Avoidance 20-JUN-2019 to 25-AUG-2019
RA12 Sun distance 16.7 Avoidance 17-AUG-2018 to 21-OCT-2018
RA16 Sun distance 52.5 Avoidance 05-NOV-2018 to 01-DEC-2018
RA20 Sun distance 111.2 Avoidance 12-JAN-2019 to 07-FEB-2019
ASTRO>
    
```

How to use NOEMA

Your source:

- * Declination $\delta > -30\text{deg}$
uv-coverage depends on δ !
- * Sun Avoidance/Az:
Is source visible?



```
ASTRO> cata az.sou
I-CATALOG, New source catalog is az.sou
ASTRO> time
ASTRO> obs noema
I-OBSERVATORY, Selected NOEMA observatory
I-OBSERVATORY, NOEMA status is set to year 2017
  >> NOEMA receivers with Polyfix backend
ASTRO> hori /sou /night
RA00 Sun distance 169.1 Avoidance 21-FEB-2019 to 26-APR-2019
RA04 Sun distance 129.2 Avoidance 19-APR-2019 to 23-JUN-2019
RA08 Sun distance 79.2 Avoidance 20-JUN-2019 to 25-AUG-2019
RA12 Sun distance 16.7 Avoidance 17-AUG-2018 to 21-OCT-2018
RA16 Sun distance 52.5 Avoidance 05-NOV-2018 to 01-DEC-2018
RA20 Sun distance 111.2 Avoidance 12-JAN-2019 to 07-FEB-2019
ASTRO> □
```


How to use NOEMA

Sensitivity requirements:

* How to calculate sensitivities and corresponding telescope time?

$$\delta S = \frac{2k}{\eta_a A \cdot \eta_j \eta_C} \cdot \frac{\langle T_{sys} \rangle}{\eta_p \sqrt{N(N-1)} \sqrt{\delta\nu} t_{on}} \cdot \frac{1}{\sqrt{N_{pol}}}$$

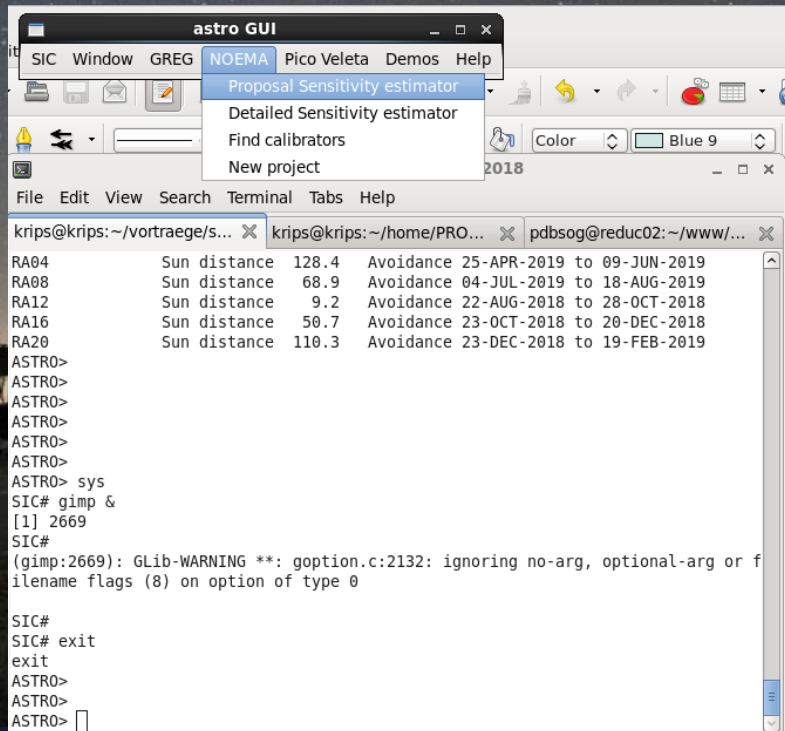
A	collecting area of a single antenna (176.7m ²)
η_a	aperture efficiency (0.80 @ 3mm, 0.75 @ 2mm, 0.65 @ 1mm)
η_j	instrumental decorrelation $\eta_j = e^{-\sigma_j^2/2}$ (0.90 to 0.98)
η_C	correlator efficiency ($\eta_C = 0.88$)
k	Boltzmann constant
$\langle T_{sys} \rangle$	average system temperature [K]
η_p	atmospheric decorrelation $\eta_p = e^{-\sigma_p^2/2}$ (0.6 to 0.98)
N	Number of antennas (currently 10)
$\delta\nu$	Spectral Bandwidth [Hz] (62.5 kHz to 15.6 GHz)
t_{on}	On-source integration time [s], $t_{obs} = 1.6 t_{on}$
N_{pol}	Number of polarizations (1 or 2)
$\frac{2k}{\eta_a A \cdot \eta_j \eta_C}$	$= J_{pk}$: Conversion factor Kelvin to Jansky 22 Jy/K @ 3mm, 26 Jy/K @ 2mm, 35 Jy/K @ 1mm

How to use NOEMA

Sensitivity requirements:

* How to calculate sensitivities and corresponding telescope time?

Use either time estimator in PMS or astro:



The screenshot shows the 'astro GUI' application window. The menu bar includes 'SIC', 'Window', 'GREG', 'NOEMA', 'Pico Veleta', 'Demos', and 'Help'. The 'NOEMA' menu is open, showing options: 'Proposal Sensitivity estimator', 'Detailed Sensitivity estimator', 'Find calibrators', and 'New project'. Below the menu is a toolbar with icons for file operations and a color selection dropdown set to 'Blue 9'. The main window contains a terminal with the following text:

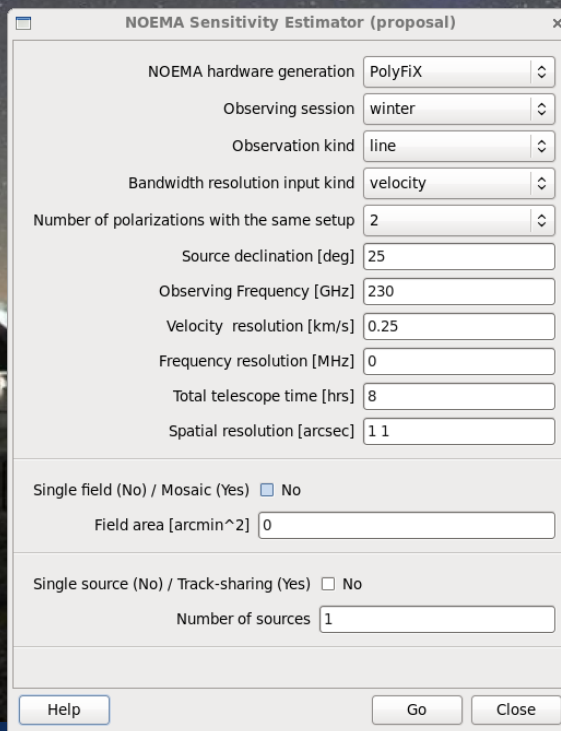
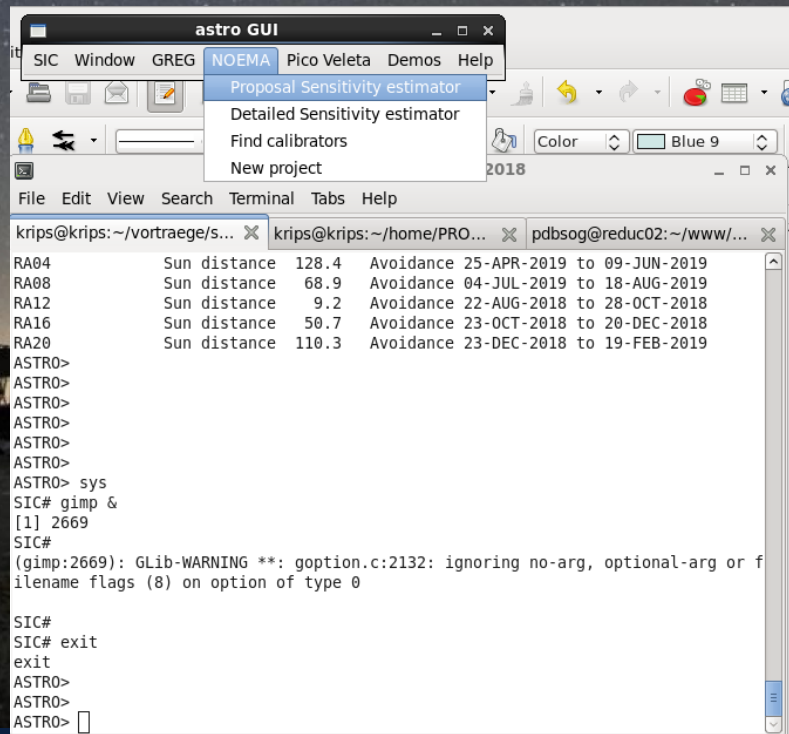
```
krips@krips:~/vortraege/s... x krips@krips:~/home/PRO... x pdbsog@reduc02:~/www/... x
RA04      Sun distance 128.4  Avoidance 25-APR-2019 to 09-JUN-2019
RA08      Sun distance  68.9  Avoidance 04-JUL-2019 to 18-AUG-2019
RA12      Sun distance   9.2  Avoidance 22-AUG-2018 to 28-OCT-2018
RA16      Sun distance  50.7  Avoidance 23-OCT-2018 to 20-DEC-2018
RA20      Sun distance 110.3  Avoidance 23-DEC-2018 to 19-FEB-2019
ASTRO>
ASTRO>
ASTRO>
ASTRO>
ASTRO>
ASTRO>
ASTRO> sys
SIC# gimp &
[1] 2669
SIC#
(gimp:2669): GLib-WARNING **: goption.c:2132: ignoring no-arg, optional-arg or filename flags (8) on option of type 0
SIC#
SIC# exit
exit
ASTRO>
ASTRO>
ASTRO>
```


How to use NOEMA

Sensitivity requirements:

* How to calculate sensitivities and corresponding telescope time?

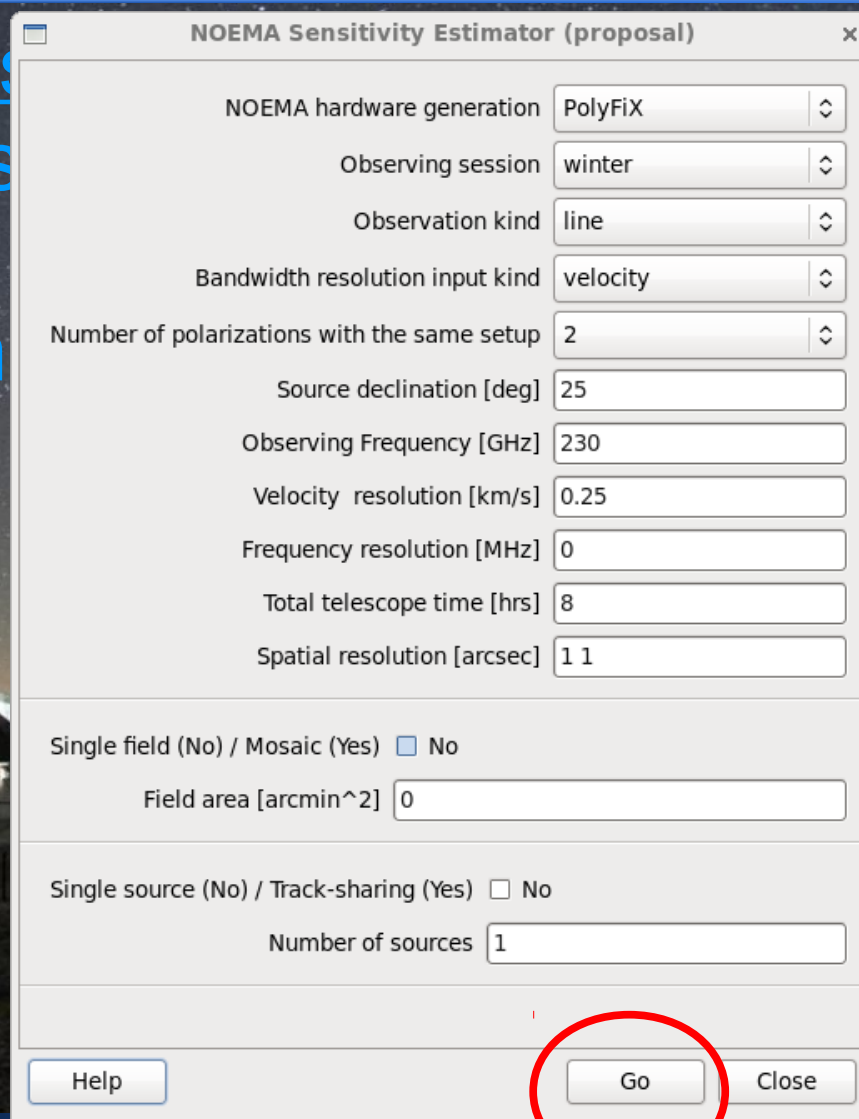
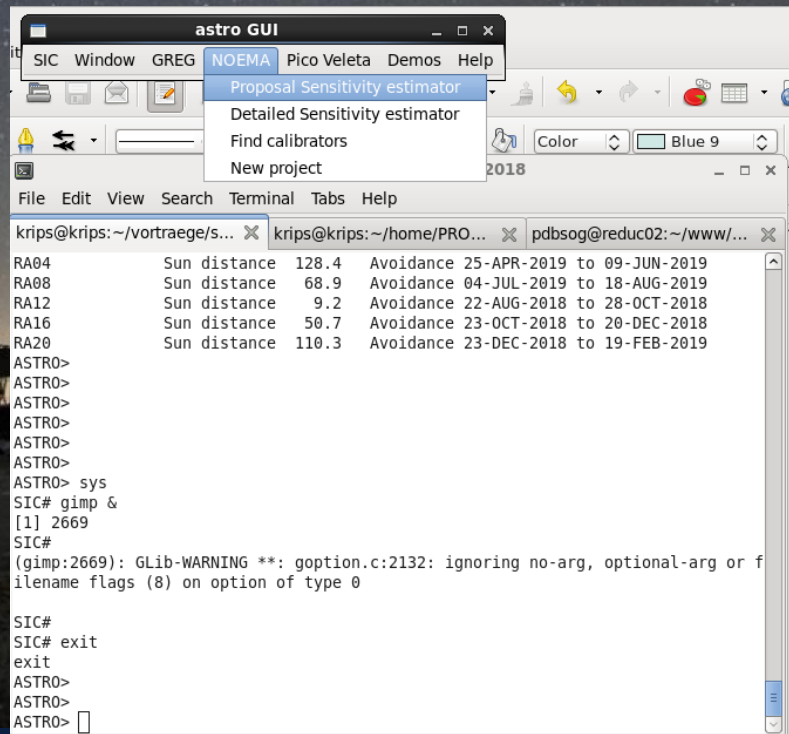
Use either time estimator in PMS or astro:



How to use NOEMA

Sensitivity requirements

* How to calculate sensitivity requirements
telescope time?
Use either time estimator



How to use NOEMA

```
krips@krips:~/vortraege/suso2018
File Edit View Search Terminal Tabs Help
krips@krips:~/vortraege/suso2018 x krips@krips:~/home/PROPOSAL/S... x pdsog@redu
ASTRO>
I-NOEMA-SENSITIVITY-ESTIMATOR, Line observation

I-TASK, Created .check File /home/krips/.gag/scratch/114903/inter-sensitivity.
heck
I-RUN, Task inter-sensitivity running, logfile is
I-RUN, /home/krips/.gag/logs/inter-sensitivity.gildas

Interferometer Sensitivity
-----
Frequency:                230.000 GHz
wavelength:              1.303 mm

Number of polarizations:  2
Frequency resolution:    0.192 MHz
Velocity resolution:     0.250 km/s

Tsyst:                   182.0 K
Decorrelation coefficient: 0.8
On-source integration time: 5.0 hrs

Number of available antennas: 9
Antenna efficiency:      33.0 Jy/K
Beam:                    1.0 x 1.0 arcsec

Conversion factor:       23.1 K[Tmb] per Jy/beam
Point source sensitivity: 10.6 mJy
rms brightness temperature: 0.2 K[Tmb]

-----

I-RUN, Elapsed .0, User .0, System .0
I-RUN, Task inter-sensitivity completed successfully

I-NOEMA-SENSITIVITY, Total On-time: 5.000 hr
I-NOEMA-SENSITIVITY, Total telescope time: 8.000 hr
ASTRO>
```

NOEMA Sensitivity Estimator (proposal)

NOEMA hardware generation: PolyFiX

Observing session: winter

Observation kind: line

Bandwidth resolution input kind: velocity

Number of polarizations with the same setup: 2

Source declination [deg]: 25

Observing Frequency [GHz]: 230

Velocity resolution [km/s]: 0.25

Frequency resolution [MHz]: 0

Total telescope time [hrs]: 8

Spatial resolution [arcsec]: 1 1

Single field (No) / Mosaic (Yes) No

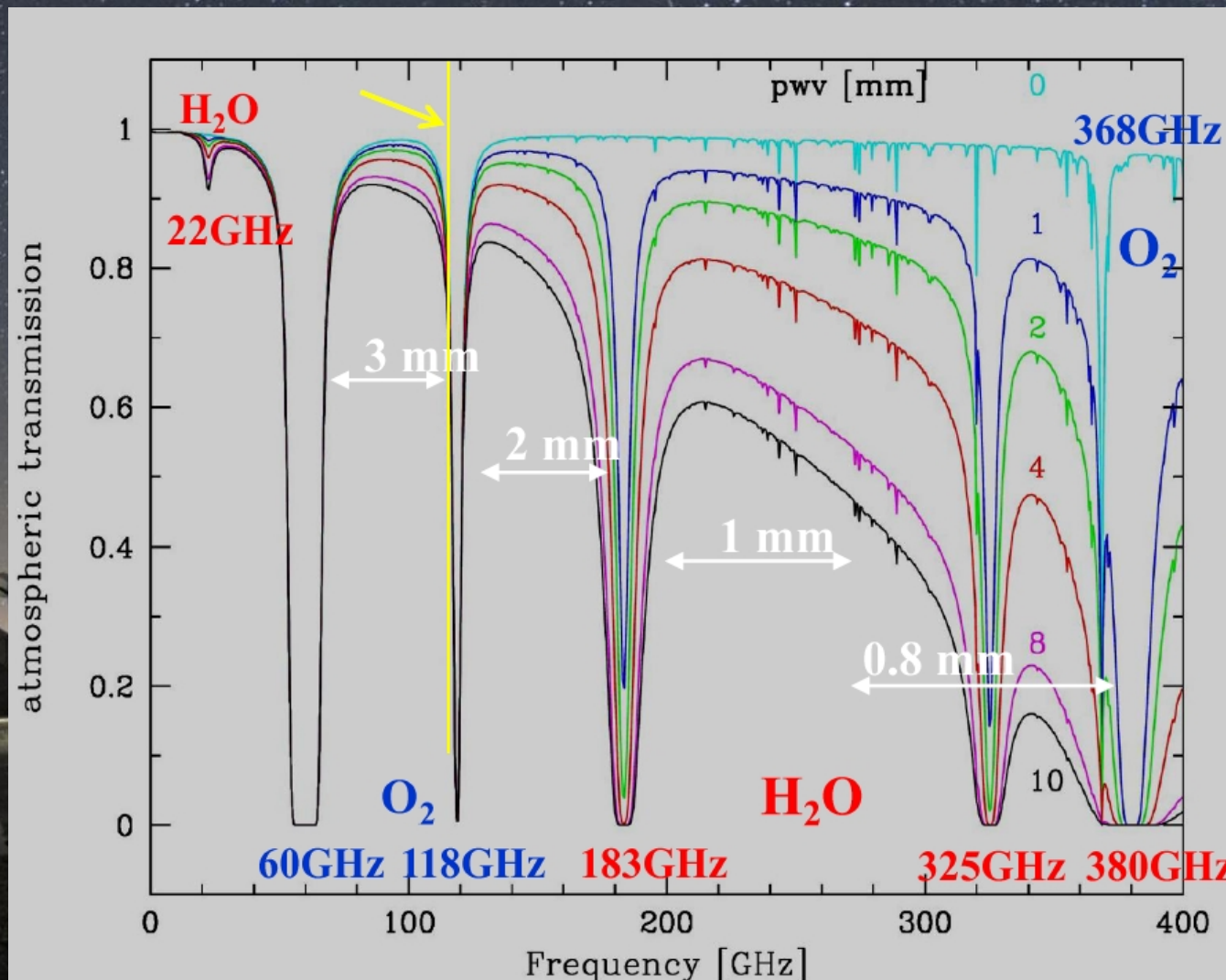
Field area [arcmin²]: 0

Single source (No) / Track-sharing (Yes) No

Number of sources: 1

Help Go Close

How to use NOEMA



How to use NOEMA

Sensitivity requirements:

- * How to calculate sensitivities and corresponding telescope time?
- * Are required telescope times reasonable?



How to use NOEMA

Sensitivity requirements:

* How to calculate sensitivities and corresponding telescope time?

* Are required telescope times reasonable?

Minimum times: overheads become important

Standard Proposal: telescope times < 100h!

Large Proposals: >100h

How to use NOEMA

Get to know NOEMA!

- * When and how to apply for time?
- * What are the technical specifications?
(frequency coverage, angular/spectral resolutions, possible observing modes,...)
- * What proposal categories exist?
- * What weather conditions to expect when?
- * Has my project already been done?
- * Other things to consider?

How to use NOEMA

Proposal Categories:

* Standard Proposals (<100h):

Detection (track-sharing)
Mapping/Mosaic

* Large Proposals (>100h)



How to use NOEMA

Proposal Categories:

- * Standard Proposals (<100h):
Detection (track-sharing)
Mapping/Mosaic
- * Large Proposals (>100h)

How to use NOEMA

Proposal Categories:

- * Standard Proposals (<100h):
Detection (track-sharing)
Mapping/Mosaic
- * Large Proposals (>100h)

How to use NOEMA

Proposal Categories:

- * Standard Proposals (<100h):
Detection (track-sharing)
Mapping/Mosaic
- * Large Proposals (>100h)

Detection:
Only rms noise level deciding factor

Mapping:
RMS noise level AND uv-coverage
deciding factor

How to use NOEMA

Proposal Categories:

* Some words on track-sharing:

If sources are close enough (<15deg)!

AND

You need rather short integration times on them!

$(\#(\text{sou}) * \text{tobs}(\text{sou})) \leq 1-2 \text{ tracks (à } \sim 8\text{h)}$

How to use NOEMA

Proposal Categories:

* Some words on Mosaics:

- “Standard” mosaics have < 50 fields
- if $\#(\text{fields}) \gg 50$, different observing techniques should be considered (splitting up the mosaic into several sub-mosaics or lowering time spent per field; this all has consequences on Overheads, i.e. the total telescope time)

How to use NOEMA

Proposal Categories:

- * Standard Proposals (<100h):
Detection (track-sharing)
Mapping/Mosaic
- * Large Proposals (>100h):



How to use NOEMA

Propo

* Stan
Dete
Map

* Larg

The screenshot shows the Mozilla Firefox browser displaying the IRAM website. The address bar shows the URL: www.iram-institute.org/EN/content-page-245-7-57-245-0-0.html. The website header features the IRAM logo and the text 'Institut de Radioastronomie Millimétrique'. A navigation bar includes links for 'About us', 'NOEMA', '30m telescope', 'Science & technology', 'International cooperation', 'Public outreach', and 'Science users'. The main content area is titled 'Large Program policy' and contains the following text:

Large Program policy

IRAM offers the possibility to apply for observing time in the framework of a Large Program for the 30-meter telescope. Following the successful installation and commissioning of the *PolyFiX* correlator end of 2017, Large Programs will be also accepted for NOEMA during the current Call for Proposals. However, certain restrictions are put in place to account for the ongoing, significant investment of technical time that is still needed for the NOEMA project.

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), allocating a maximum of 50% of observing time to such projects on the IRAM 30-meter telescope. A smaller fraction of the available telescope time will be opened for Large Programs submitted to NOEMA as a significant amount of technical time is still needed to upgrade the interferometer to the full NOEMA capabilities.

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.

For further details on the submission of a Large Program, please consult the [Call for Proposal web pages](#).

The sidebar on the left contains a list of links: 30m telescope, NOEMA interferometer, ARC NODE, Proposals (Call for proposals, Large Program policy, Director's discretionary time proposals, Guidelines for observing time, Data policy, Proposal templates, Preparing proposal submission, Submitting proposals, Program committee recommendations), Large Program Archive, Results, Reports and Archives, News, and Events.

On the right side of the page, there are three promotional boxes: '10th IRAM millimeter interferometry school NOEMA', 'NOEMA and 30m virtual tours', and 'Download the brochure'.

How to use NOEMA

Proposal Categories:

- * Standard Proposals (<100h):
Detection (track-sharing)
Mapping/Mosaic

- * Large Proposals (>100h):

- * DDT/ToO projects:
If urgent in time!
Decision will be taken by the director

How to use NOEMA

Proposals

* Standard
Detection
Mapping

* Large F

* DDT/ToO
If urgent
Decision

Director's Discretionary Time Proposals

Which proposals qualify for a DDT request

A small fraction of the available observing time at the NOEMA interferometer and the 30-meter telescope can be assigned to Director's Discretionary Time Proposals (DDT).

A DDT proposal must fulfill at least one of the following criteria:

- Proposals of Target-of-Opportunity (ToO) nature requiring the immediate observation of an unanticipated, short-lived astronomical event;
- Proposals that are urgent either addressing highly competitive scientific topics or asking for observations that will lead to break-through results or requesting follow-up observations of recent discoveries using ground or space facilities that require urgent complementary IRAM data.
- Proposals testing news ideas or including an element of risk, that can be tested with small amounts of observing time

How to submit a DDT Proposal

DDT proposals may be submitted any time through the new [Proposal Management System \(PMS\)](#). This tool replaces the previous e-mail submission, which will not be accepted anymore. Proposers will have to create a PMS account once to be able to login and prepare/submit their proposals. To do so, just click on the link above and follow the instructions on-screen.

The submission 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 justification. A [LATEX 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 that the proposal may contain up to two pages of text describing the scientific aims and the technical justification plus up to two pages of figures, tables, and references, and that the font size must be 11pt or larger. DDT proposals should include a clear justification why the program should be considered for DDT allocation and was not submitted for the regular proposal deadline. Please indicate on the proposal web form if the proposed DDT observations are related to a previous or an on-going IRAM program. If so, the corresponding proposal number should be indicated.

For a proposal to be complete, PMS requires that all authors validate their identity (e-mail and affiliation) and their participation to the proposal. The editor of the proposal will have to send invitations to all authors through PMS by clicking an invitation button. Authors will then receive an e-mail asking them to validate their contact information already entered in PMS by the proposal editor. This does not require the authors to create an account in PMS.

Proposal evaluation

DDT proposals will be evaluated in swift manner, in particular the ToO proposals. For other DDT proposals, please provide a minimum of two weeks notice for the time requested.

Please note that within one month following the observations, the PI of an accepted DDT proposal should submit a feedback report to the IRAM Director (ddt@iram.fr).

10th IRAM millimeter interferometry school

NOEMA and 30m virtual tours

Download the brochure

What does IRAM do?
What is radioastronomy?
How do radiotelescopes work?
Download the brochure and find out.

ARC NODE ALMA
IRAM Node of the European ALMA Regional Center

GILDAS

How to use NOEMA

Get to know NOEMA!

- * When and how to apply for time?
- * What are the technical specifications?
(frequency coverage, angular/spectral resolutions, possible observing modes,...)
- * What proposal categories exist?
- * What weather conditions to expect when?
- * **Has my project already been done?**
- * Other things to consider?

How to use NOEMA

Checking Archival Data:

iram Institut de Radioastronomie Millimétrique

Contact us | Useful links | Job offers | Search
Webmail FR / ES | Intranet access

About us NOEMA 30m telescope Science & technology International cooperation Public outreach Science users

30m telescope
NOEMA interferometer
ARC NODE
Proposals
Call for proposals
Large Program policy
Director's discretionary time proposals
Guidelines for observing time
Data policy
Proposal templates
Preparing proposal submission
Submitting proposals
Program committee recommendations
Large Program Archive
Results, Reports and Archives
News
Events

The IRAM data policy is as follows:

- IRAM organizes storage of raw and online calibrated data for the 30m telescope and storage of raw data for NOEMA/PdBI on unlimited time scales.
- Header information of PdBI/NOEMA observations taken before 1991 can be found at the CDS (*Centre de Données astronomiques de Strasbourg*):
<http://vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=B/iram/pdbi>
- Header information of 30m observations later than 2009 can be found at the CDS:
<http://vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=J/30m/sum>
- Observing programs are distinguished between normal programs and large programs. Data from large programs are public in reduced 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](#).
- Raw data from NOEMA/PdBI or online calibrated data from the 30m telescope of individual normal programs may be provided by IRAM after a three year proprietary period (again counting from the end of the last semester of observations) and depending on directors decision. Multiple large scale requests are excluded.

IRAM does not provide support for data reduction of such retrieved data. Referencing of these data should follow the standard IRAM reference (see the [Data publication policies](#)) and in addition include at least one reference to publications of the PI team, or the PI name and program number in case the data have not yet been published.

10th IRAM millimeter interferometry school NOEMA

NOEMA and 30m virtual tours

Download the brochure

What does IRAM do?
What is radioastronomy?
How do radiotelescopes work?
Download the brochure and find out.

How to use NOEMA

Checking Archival Data:

The screenshot shows the VizieR web interface in Mozilla Firefox. The browser address bar displays `vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=B/iram/pdbi`. The main content area shows the table **B/iram** with the description **The Plateau de Bure Interferometer Observation Log between 1991-12-01 and 2016 (20523 rows)**, which is circled in red. Below the table title, there are buttons for **Simple Constraint**, **List Of Constraints**, **Submit**, and **Reset All**. The **Simple Constraint** section is active, showing a query by constraints applied on columns. A table lists columns with checkboxes for selection and their descriptions:

Show	Sort	Column	Constraint	Explain (UCD)
<input type="checkbox"/>	<input type="radio"/>	recno		Record number assigned by the VizieR team. Should Not be used for identification. (meta.record)
<input type="checkbox"/>	<input type="radio"/>	Nw		[11,18] Internal indicator (meta.code)
<input checked="" type="checkbox"/>	<input type="radio"/>	Prog	(char)	Identification code of the program (meta.code:obs)
<input checked="" type="checkbox"/>	<input type="radio"/>	Name	(char)	Source name, as mentioned in the observing program (meta.id)
<input checked="" type="checkbox"/>	<input type="radio"/>	Obs	"Y:M:D"	Starting date of the Observation (Note 5) (time.start:obs)
<input type="checkbox"/>	<input type="radio"/>	t1	"h:m:s"	LST Time of the first scan on source (time.epoch)
<input type="checkbox"/>	<input type="radio"/>	t2	"h:m:s"	LST Time of the last scan on source (time.epoch)
<input checked="" type="checkbox"/>	<input type="radio"/>	tos	s	Total on-source correlation time (time.expo)
<input checked="" type="checkbox"/>	<input type="radio"/>	Type	(char)	Program type (Note 1) (instr.setup)
<input type="checkbox"/>	<input type="radio"/>	oEq	yr	(n) Original equinox of position (Note 2) (instr.param)
<input checked="" type="checkbox"/>	<input type="radio"/>	Vel	km/s	Velocity of the source (Note 3) (spect.dopplerVeloc)
<input type="checkbox"/>	<input type="radio"/>	Reset All	Clear	(n) indicates a possible blank or NULL column (i)indexed column Submit
<input checked="" type="checkbox"/>	<input type="radio"/>	n_Vel	(char)	[LH] LSR or Heliocentric velocity (meta.note)
<input checked="" type="checkbox"/>	<input type="radio"/>	Flow	MHz	(n) Sky Frequency of the 3mm receiver (Note 6) (em.freq)
<input checked="" type="checkbox"/>	<input type="radio"/>	n_Flow	(char)	[UL] Signal Upper/Lower band of the 3mm receiver (meta.note)
<input checked="" type="checkbox"/>	<input type="radio"/>	Fhigh	MHz	(n) Sky Frequency of the 1mm receiver (Note 6) (em.freq)
<input checked="" type="checkbox"/>	<input type="radio"/>	n_Fhigh	(char)	[UL] Signal Upper/Lower band of the 1mm receiver (meta.note)
<input type="checkbox"/>	<input type="radio"/>	pol	(char)	[HV] Horizontal/Vertical polarisations (Note 6) (meta.code:phys.polarization)
<input type="checkbox"/>	<input type="radio"/>	p4	(char)	[HV] Polarisation of 4GHz continuum (Note 6) (meta.code:phys.polarization)
<input checked="" type="checkbox"/>	<input type="radio"/>	Conf	(char)	Configuration code of the interferometer (meta.id:instr)
<input type="checkbox"/>	<input type="radio"/>	Config	(char)	Detailed configuration (Note 4) (instr.setup)
<input checked="" type="checkbox"/>	<input type="radio"/>	RAJ2000	"h:m:s"	(n)(i) Right Ascension J2000 (pos.eq.ra:meta.main)
<input checked="" type="checkbox"/>	<input type="radio"/>	DEJ2000	"d:m:s"	(n)(i) Declination J2000 (pos.eq.dec:meta.main)
<input type="checkbox"/>	<input type="radio"/>	Reset All	Clear	(n) indicates a possible blank or NULL column (i)indexed column Submit

How to use NOEMA

Checking Archival Data:

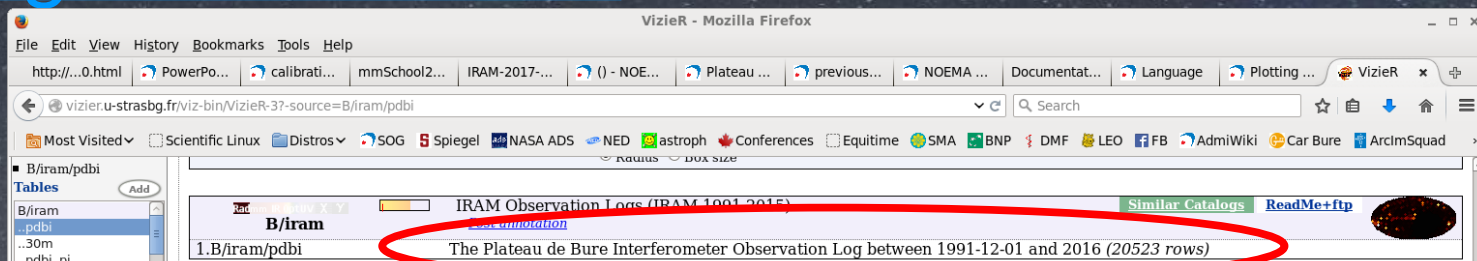
The screenshot shows the VizieR web interface in Mozilla Firefox. The browser address bar shows the URL: `vizier.u-strasbg.fr/viz-bin/VizieR-3?-source=B/iram/pdbi`. The page title is "B/iram" and the main heading is "IRAM Observation Logs (IRAM 1991-2016)". Below this, a table entry is highlighted with a red circle: "1.B/iram/pdbi The Plateau de Bure Interferometer Observation Log between 1991-12-01 and 2016 (20523 rows)".

The interface includes a "Simple Constraint" section with a "Query by Constraints" button. Below this is a table of columns with checkboxes for selection. A red box highlights the header information, with the text "Only header information, no actual data to download!" overlaid on it.

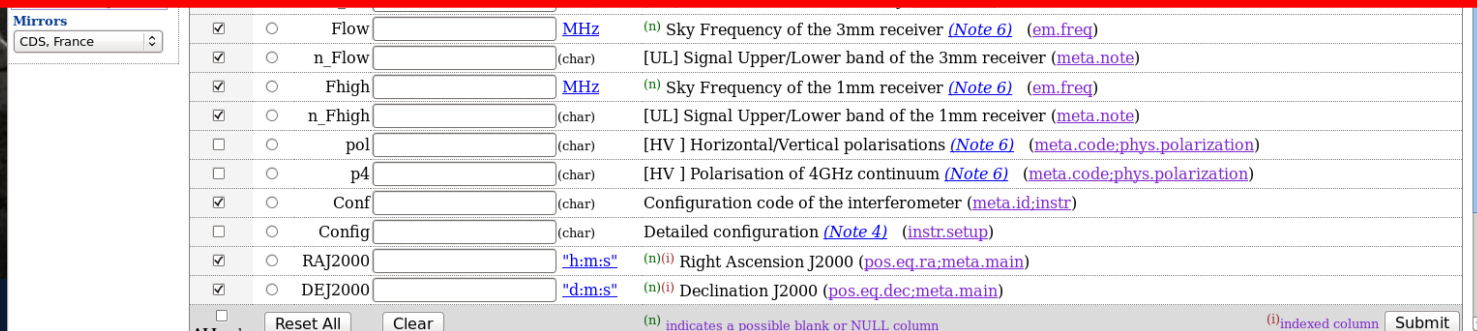
Show	Sort	Column	Constraint	Explain (UCD)
<input type="checkbox"/>	<input type="radio"/>	recno		Record number assigned by the VizieR team. Should Not be used for identification. (meta.record)
<input type="checkbox"/>	<input type="radio"/>	Nw		[11,18] Internal indicator (meta.code)
<input checked="" type="checkbox"/>	<input type="radio"/>	Prog	(char)	Identification code of the program (meta.code:obs)
<input checked="" type="checkbox"/>	<input type="radio"/>	Name	(char)	Source name, as mentioned in the observing program (meta.id)
<input type="checkbox"/>	<input type="radio"/>	oEq	yr	(n) Original equinox of position (Note 2) (instr.param)
<input checked="" type="checkbox"/>	<input type="radio"/>	Vel	km/s	Velocity of the source (Note 3) (spect.dopplerVeloc)
<input checked="" type="checkbox"/>	<input type="radio"/>	n_Vel	(char)	[LH] LSR or Heliocentric velocity (meta.note)
<input checked="" type="checkbox"/>	<input type="radio"/>	Flow	MHz	(n) Sky Frequency of the 3mm receiver (Note 6) (em.freq)
<input checked="" type="checkbox"/>	<input type="radio"/>	n_Flow	(char)	[UL] Signal Upper/Lower band of the 3mm receiver (meta.note)
<input checked="" type="checkbox"/>	<input type="radio"/>	Fhigh	MHz	(n) Sky Frequency of the 1mm receiver (Note 6) (em.freq)
<input checked="" type="checkbox"/>	<input type="radio"/>	n_Fhigh	(char)	[UL] Signal Upper/Lower band of the 1mm receiver (meta.note)
<input type="checkbox"/>	<input type="radio"/>	pol	(char)	[HV] Horizontal/Vertical polarisations (Note 6) (meta.code:phys.polarization)
<input type="checkbox"/>	<input type="radio"/>	p4	(char)	[HV] Polarisation of 4GHz continuum (Note 6) (meta.code:phys.polarization)
<input checked="" type="checkbox"/>	<input type="radio"/>	Conf	(char)	Configuration code of the interferometer (meta.id:instr)
<input type="checkbox"/>	<input type="radio"/>	Config	(char)	Detailed configuration (Note 4) (instr.setup)
<input checked="" type="checkbox"/>	<input type="radio"/>	RAJ2000	"h:m:s"	(n)(i) Right Ascension J2000 (pos.eq.ra:meta.main)
<input checked="" type="checkbox"/>	<input type="radio"/>	DEJ2000	"d:m:s"	(n)(i) Declination J2000 (pos.eq.dec:meta.main)

How to use NOEMA

Checking Archival Data:



- 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.
- Raw data from PdBI/NOEMA or online calibrated data from the 30-meter telescope of individual normal programs may be provided by IRAM after a three year proprietary period (again counting from the end of the last semester of observations) and depending on Director's decision. Multiple



How to use NOEMA

The screenshot shows the IRAM website with the following content:

- Navigation:** About us, NOEMA, 30m telescope, Science & technology, International cooperation, Public outreach, Science users.
- Left Sidebar:** 30m telescope, NOEMA interferometer, ARC NODE, Proposals, **Large Program Archive** (selected), Ongoing Large Programs, Completed Large Programs, Early-Science Large Programs, Results, Reports and Archives, News, Events.
- Main Content:**
 - ## IRAM Large Program Archive

The IRAM Large Program Archive (ILPA) is the collection point for research carried out at the IRAM observatories in the framework of a Large Program. The goal of ILPA is to provide images, calibrated data cubes and uv data from the 30-m telescope and the Plateau de Bure interferometer, and make these science products available to the astronomical community at the end of the regular data proprietary period. ILPA is the result of a joint effort between IRAM, the principal investigators of the Large Programs and their collaborators.
 - ### Large Programs:

 - The HERA CO Line Extragalactic Survey - HERACLES (A. Leroy, F. Walter)
 - Star forming histories and gas fractions of galaxies from $z=1-3$ - PHIBSS (R. Genzel)
 - Origins of molecular clouds and star formation in W43 - W43 HERO (F. Motte, P. Schilke)
 - M51 : A unique laboratory to study the evolutionary sequence of GMC's - PAWS (E. Schinnerer)
 - IRAM chemical survey of sun-like star-forming regions - ASAI (R. Bachiller, B. LeFloch)
 - IRAM lensing survey: probing galaxy formation in the Early Universe (J-P. Kneib)
 - A legacy survey to study cold gas scaling laws in the local universe - xCOLD GASS (A. Saintonge, G. Kauffmann, C. Kramer)
 - Class 0 protostars with PdBI : solving the angular momentum problem ? - CALYPSO (P. André)
 - The complete CO(2-1) map of M33 - MESSIER 33 (J. Braine, K. F. Schuster)
 - Physics of gas and star formation in galaxies at $z=1.2$ (L. Tacconi, F. Combes)
 - Molecular Gas at the Peak Epoch of Galaxy Formation - PHIBSS2 (F. Combes, S. Garcia-Burillo, R. Neri, L. Tacconi, et al.)
 - Fragmentation and disk formation during high-mass star formation - CORE (H. Beuther)
 - The EMIR Nearby Galaxy Dense Gas Survey (F. Bigiel)
 - Orion B: The Anatomy of a Giant Molecular Cloud (J. Pety, M. Gerin)
 - Seeds of Life in Space - SOLIS (C. Ceccarelli, P. Caselli)
 - Gas phase elemental abundances in molecular clouds - GEMS (A. Fuente)
 - Carbon and Oxygen Isotopic Ratios in M51 (T. Saito, S. Kazimierz)
 - A Legacy Survey of Molecular Gas in Powerful Nearby AGN (T. Taro Shimizu)
 - Galactic star formation (N. Peretto)
 - The NIKA2 cosmological legacy survey (N. Lagache, A. Beelen, N. Ponthieu)
 - High-resolution SZ observations of a large sample of clusters of galaxies (F. Mayet, L. Perotto)
 - Studying Milky Way Emission to assess Galaxy Observations (J. Kauffmann)
 - Imaging the shadows of supermassive black holes (C. Goddy)
- Right Side:**
 - 10th IRAM millimeter interferometry school NOEMA
 - NOEMA and 30m virtual tours
 - Download the brochure
 - ARC NODE ALMA IRAM Node of the European ALMA Regional Center

For questions concerning the Large Programs and access problems to the data repositories, please contact the [IRAM Scientific Secretary](#).

Last update: November 2017

How to use NOEMA

www.iram-institute.org/EN/content-page-240-7-158-240-0-0.html

iram Institut de Radioastronomie Millimétrique

About us NOEMA 30m telescope Science & technology International cooperation Public outreach Science users

30m telescope
NOEMA interferometer
ARC NODE
Proposals
Large Program Archive
Ongoing Large Programs
Completed Large Programs
Early-Science
Results, Reports and Publications
News
Events

IRAM Large Program Archive

The IRAM Large Program Archive (ILPA) is the collection point for research carried out at the IRAM observatories in the framework of a Large Program. The goal of ILPA is to provide images, calibrated data cubes and uv data from the 30-m telescope and the Plateau de Bure interferometer, and make these science products available to the astronomical community at the end of the regular data proprietary period. ILPA is the result of a joint effort between IRAM, the principal investigators of the Large Programs and their collaborators.

A searchable and downloadable data archive is planned :)

- IRAM chemical survey of sun-like star-forming regions - ASAI (R. Bachiller, B. LeFloch)
- IRAM lensing survey: probing galaxy formation in the Early Universe (J-P. Kneib)
- A legacy survey to study cold gas scaling laws in the local universe - xCOLD GASS (A. Saintonge, G. Kauffmann, C. Kramer)
- Class 0 protostars with PdBI : solving the angular momentum problem ? - CALYPSO (P. André)
- The complete CO(2-1) map of M33 - MESSIER 33 (J. Braine, K. F. Schuster)
- Physics of gas and star formation in galaxies at $z=1.2$ (L. Tacconi, F. Combes)
- Molecular Gas at the Peak Epoch of Galaxy Formation - PHIBSS2 (F. Combes, S. Garcia-Burillo, R. Neri, L. Tacconi, et al.)
- Fragmentation and disk formation during high-mass star formation - CORE (H. Beuther)
- The EMIR Nearby Galaxy Dense Gas Survey (F. Bigiel)
- Orion B: The Anatomy of a Giant Molecular Cloud (J. Pety, M. Gerin)
- Seeds of Life in Space - SOLIS (C. Ceccarelli, P. Caselli)
- Gas phase elemental abundances in molecular clouds - GEMS (A. Fuente)
- Carbon and Oxygen Isotopic Ratios in M51 (T. Saito, S. Kazimierz)
- A Legacy Survey of Molecular Gas in Powerful Nearby AGN (T. Taro Shimizu)
- Galactic star formation (N. Peretto)
- The NIKA2 cosmological legacy survey (N. Lagache, A. Beelen, N. Ponthieu)
- High-resolution SZ observations of a large sample of clusters of galaxies (F. Mayet, L. Perotto)
- Studying Milky Way Emission to assess Galaxy Observations (J. Kauffmann)
- Imaging the shadows of supermassive black holes (C. Goddy)

For questions concerning the Large Programs and access problems to the data repositories, please contact the [IRAM Scientific Secretary](#).

Last update: November 2017

10th IRAM millimeter interferometry school NOEMA

NOEMA and 30m virtual tours

Download the brochure

ARC NODE ALMA IRAM Node of the European ALMA Regional Center

How to use NOEMA

Checking Archival Data:

If observed lathen~2016, please contact us at:

sog@iram.fr

Duplication checks will be done during the proposal reviewing process, also against proposal from the same semester

How to use NOEMA

Get to know NOEMA!

- * When and how to apply for time?
- * What are the technical specifications?
(frequency coverage, angular/spectral resolutions, possible observing modes,...)
- * What proposal categories exist?
- * What weather conditions to expect when?
- * Has my project already been done?
- * **Other things to consider?**

How to use NOEMA

What else to consider?

* Non-standard projects:

- very large scale mosaics
- projects requiring special calibration
 - + detecting weak lines over strong continuum (~1-2% of bandpass accuracy with standard bandpass calibration; could maybe reach 0.5%)
 - + special needs concerning flux calibration

- ### * Specific dates needed for observations? Coordinated Observations?

How to use NOEMA

What else to consider?

* Non-standard projects:

- very large scale mosaics
- projects requiring special calibration
 - + detecting weak lines over strong continuum (~1-2% of bandpass accuracy with standard bandpass calibration; could maybe reach 0.5%)
 - + special needs concerning flux calibration

- ### * Specific dates needed for observations? Coordinated Observations?

PLEASE CONTACT US IN ADVANCE AT
sog@iram.fr
TO DISCUSS OBSERVING STRATEGIES

How to use NOEMA

What else to consider?

* Non-standard projects:

- very large scale mosaics
- projects requiring special calibration
 - + detecting weak lines over strong continuum (~1-2% of bandpass accuracy with standard bandpass calibration; could maybe reach 0.5%)

+ special needs concerning flux calibration

- ### * Specific dates needed for observations? Coordinated Observations?

How to use NOEMA

What else to consider?

* Non-standard projects:

- very large scale mosaics
- projects requiring special calibration
 - + detecting weak lines over strong continuum (~1-2% of bandpass accuracy with standard bandpass calibration; could maybe reach 0.5%)

PLEASE NOTE THAT WE CANNOT
GUARANTEE TRIGGER TIMES BELOW 3 DAYS!

+ special needs concerning flux calibration

- ### * Specific dates needed for observations? ToO? Coordinated Observations?

How to use NOEMA

Proposal Preparation

Reviewing Process

Observations

Data Reduction

How to use NOEMA

Proposal Reviewing Process:

- * PC divided into 2 panels (30m & NOEMA):
Galactic & Extra-Galactic
- * PC consists currently of 15 scientists
7 in Galactic Panel
8 in Extra-Galactic Panel
PC member are specified at:

<http://www.iram-institute.org/EN/content-page-187-1-187-0-0-0.html>

How to use NOEMA

The screenshot shows the IRAM website with the following content:

- Header: iram Institut de Radioastronomie Millimétrique
- Navigation: About us, NOEMA, 30m telescope, Science & technology, International cooperation, Public outreach, Science users
- Left sidebar: The Institute, Organigram, IRAM Committees, News, Contact us
- Main content: IRAM Executive Council (as of May 2017)
 - Centre National de la Recherche Scientifique (CNRS)
 - Gabriel Chardin, INSU, France
 - Guy Perrin, Observatoire de Paris, France
 - Jean-Loup Puget IAS, Orsay, France
 - Max-Planck-Gesellschaft (MPG)
 - Reinhard Genzel MPE, Garching, Germany
 - Karl Menten MPIfR, Bonn, Germany
 - Markus Schleier MPG, Munich, Germany
- Right sidebar: 10th IRAM millimeter interferometry school NOEMA
- Bottom right: Photo gallery with a "VIEW ALL" button

Prop

* PC
Ga

* PC
7 in

8 in Extra-Galactic Panel
PC member are specified at:

<http://www.iram-institute.org/EN/content-page-187-1-187-0-0-0.html>

How to use NOEMA

The screenshot shows the IRAM website with the following content:

- Navigation:** About us, NOEMA, 30m telescope, Science & technology, International cooperation, Public outreach, Science users.
- Left Sidebar:**
 - The Institute
 - Organigram
 - IRAM Committees
 - News
 - Contact us
- Photo gallery:** A grid of images with a "VIEW ALL" button.
- IRAM Executive Council (as of May 2017):**
 - Peter Abraham, Konkoly Observatory, Budapest, Hungary
 - Marcelino Agundez, ICMM/CSIC Madrid, Spain
 - Javier Alcolea, OAN, Madrid, Spain
 - Alexandre Beelen, IAS, Université Paris Sud, France
 - Elias Brinks, Univ Hertfordshire, Hatfield, United Kingdom
 - Nathalie Brouillet, LAB, OASU, Bordeaux, France
 - Bruce Elmegreen, Thomas J. Watson Research Center, Yorktown Heights, NY, USA
 - Natascha M. Foerster Schreiber, MPE, Garching bei Munich, Germany
 - Yu Gao, CAS Purple Mountain Observatory, Nanjing, China
 - Lee Hartmann, Univ. of Michigan, USA
 - François Levrier, LERMA/ENS, Paris, France
 - Amelie Saintonge, University College London, United Kingdom
 - Dimitri Semenov, MPIA, Heidelberg, Germany
 - Antonio Usero, OAN, Madrid, Spain
 - Axel Weiss, MPIfR, Bonn, Germany
- Program Committee (as of August 2018):** (List of names is partially obscured by a large watermark in the image)
- Images:** A large image of the NOEMA radio telescope array and a smaller image titled "10th IRAM millimeter interferometry school NOEMA".

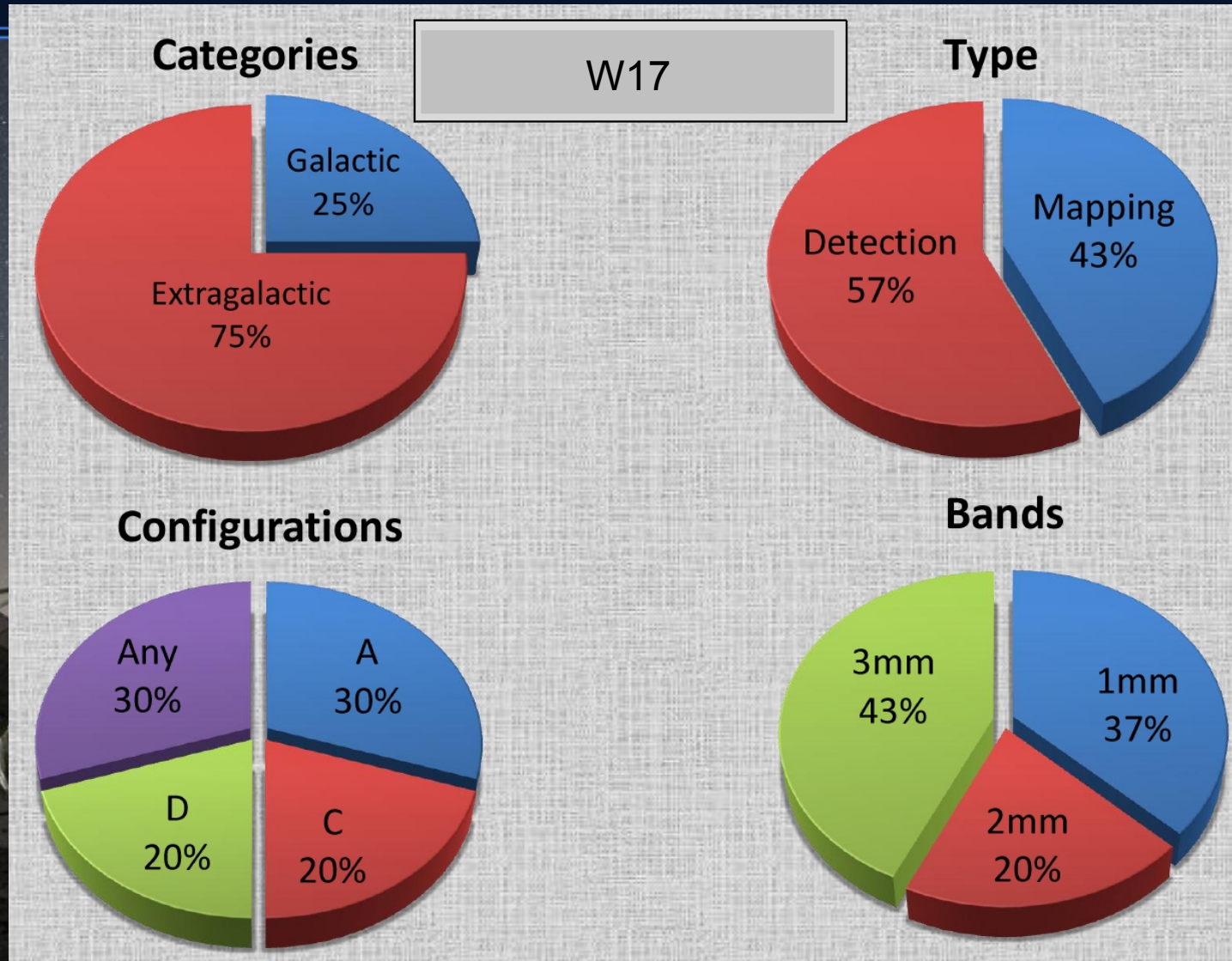
<http://www.iram-institute.org/EN/content-page-187-1-187-0-0-0.html>

How to use NOEMA

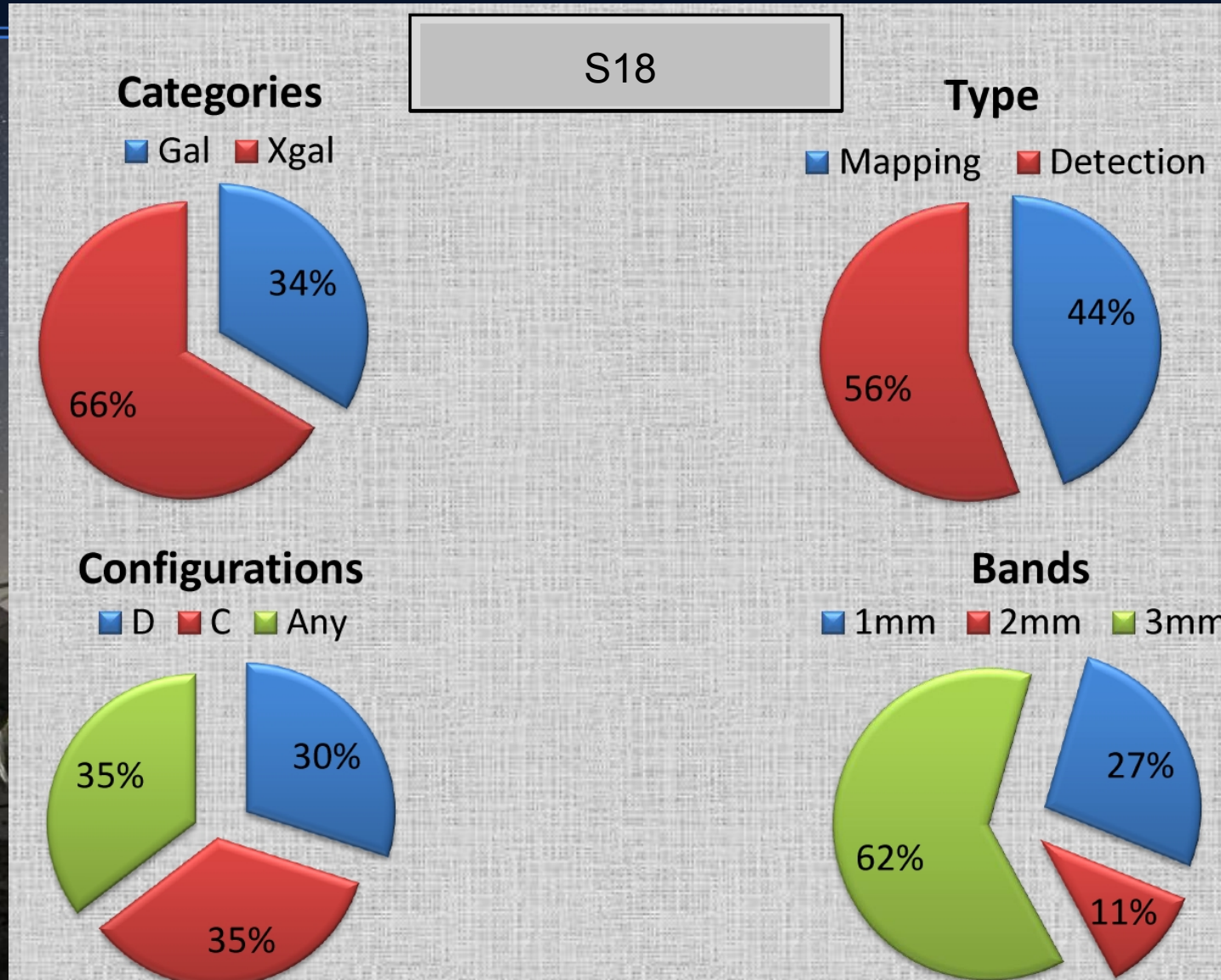
Proposal Reviewing Process:

- * On average, we receive ~200-250 proposals per year at NOEMA:
 - Summer <100
 - Winter ~130-150
- * 30m receives a bit less, ~200 per year!

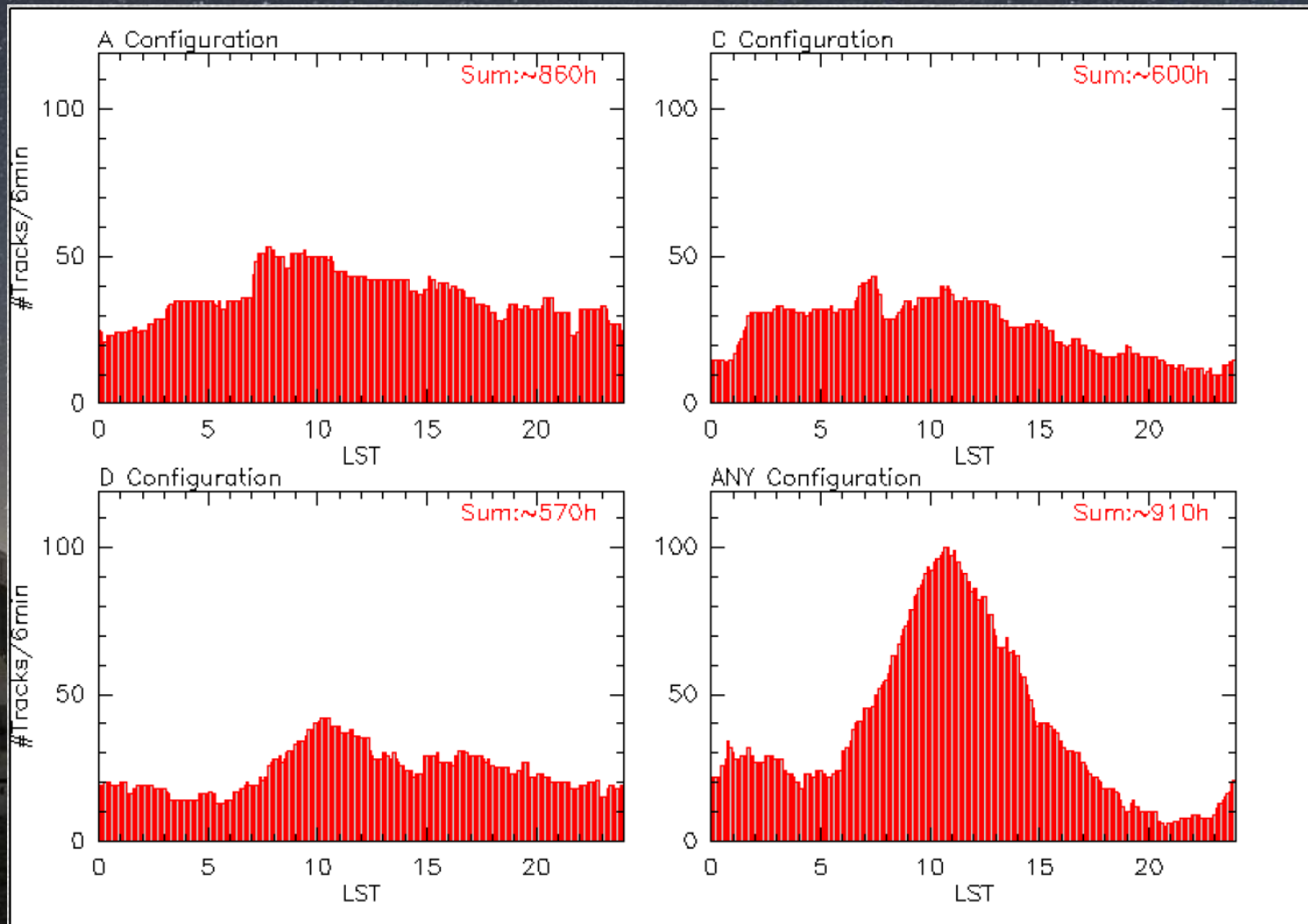
How to use NOEMA



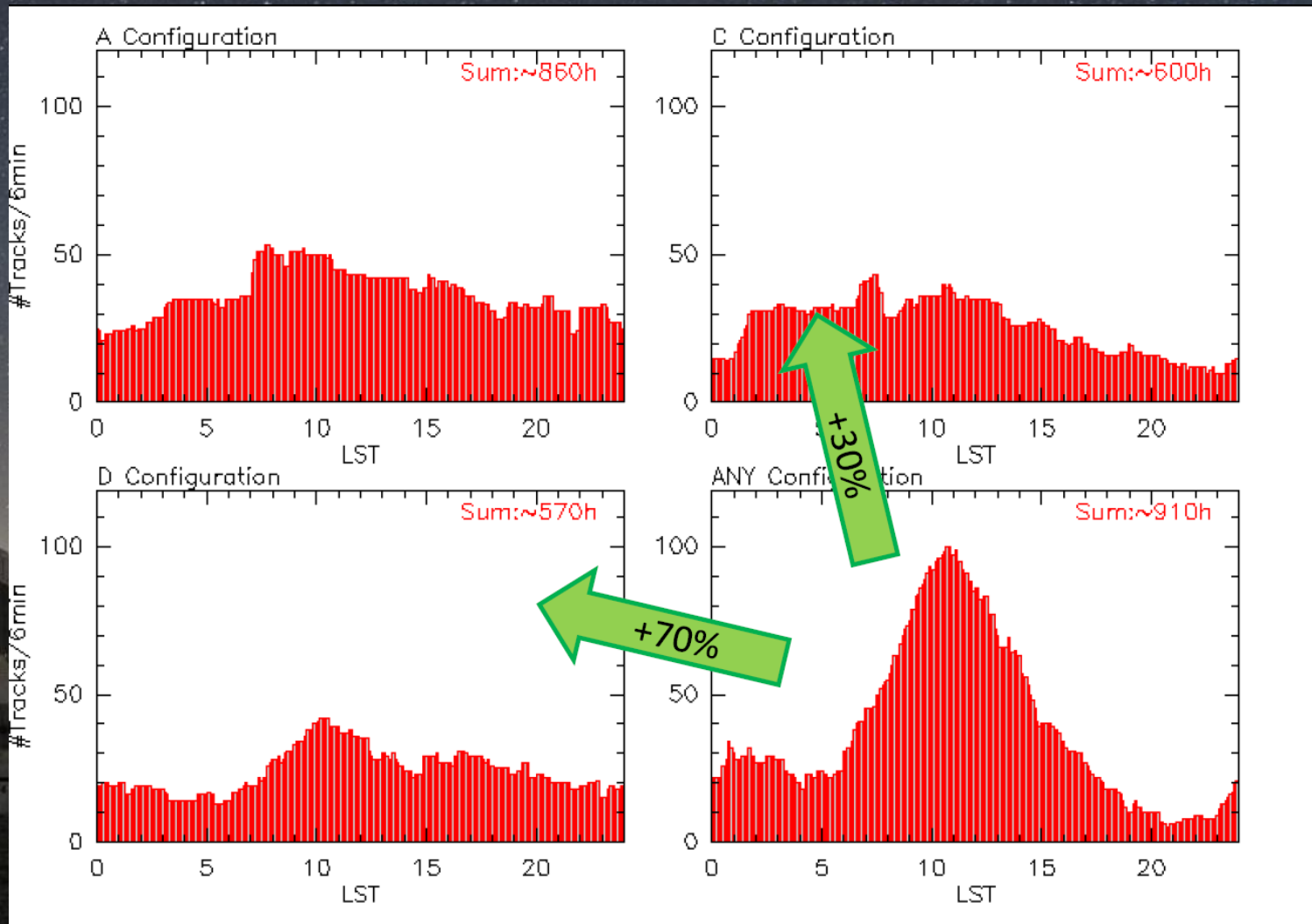
How to use NOEMA



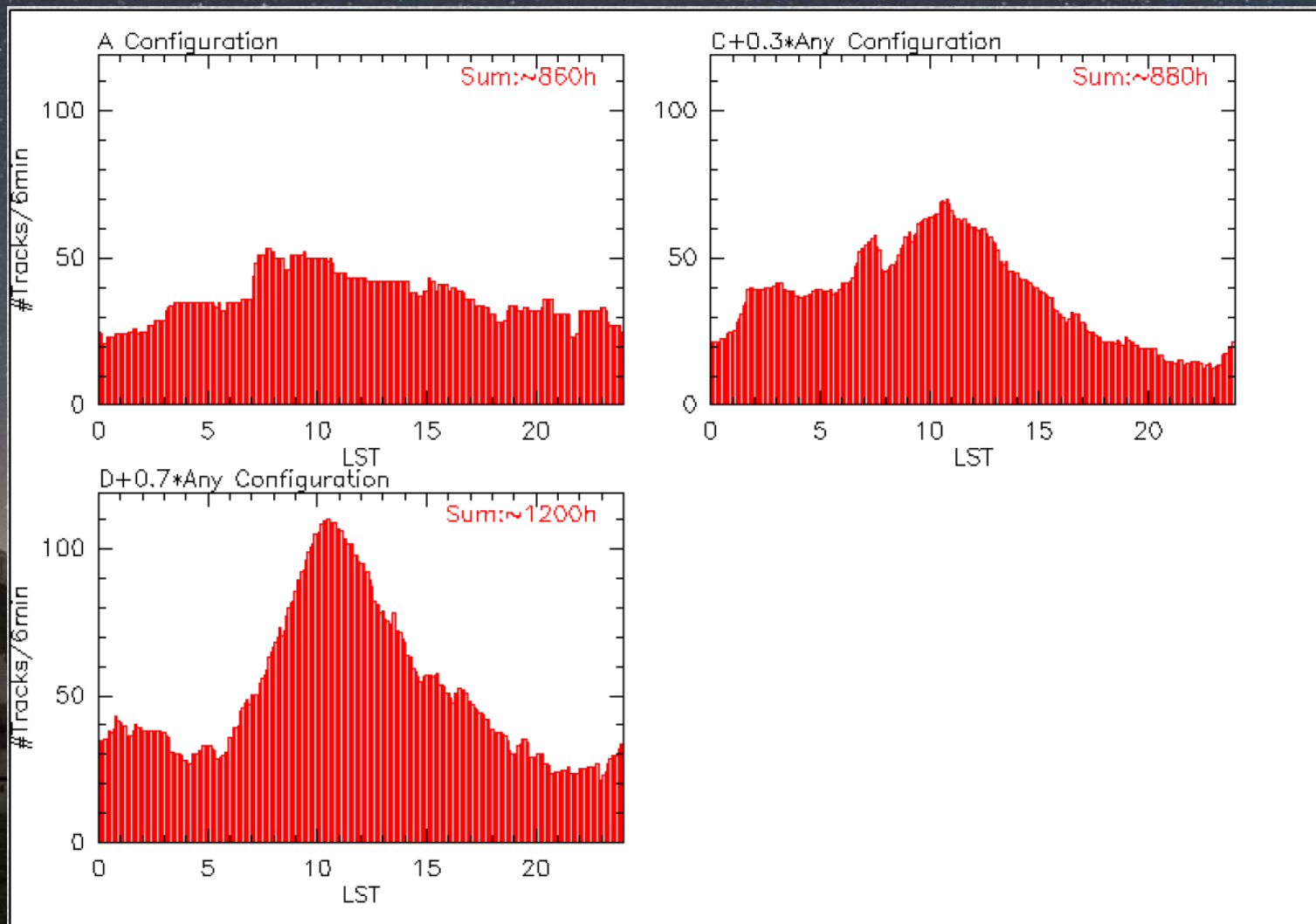
How to use NOEMA



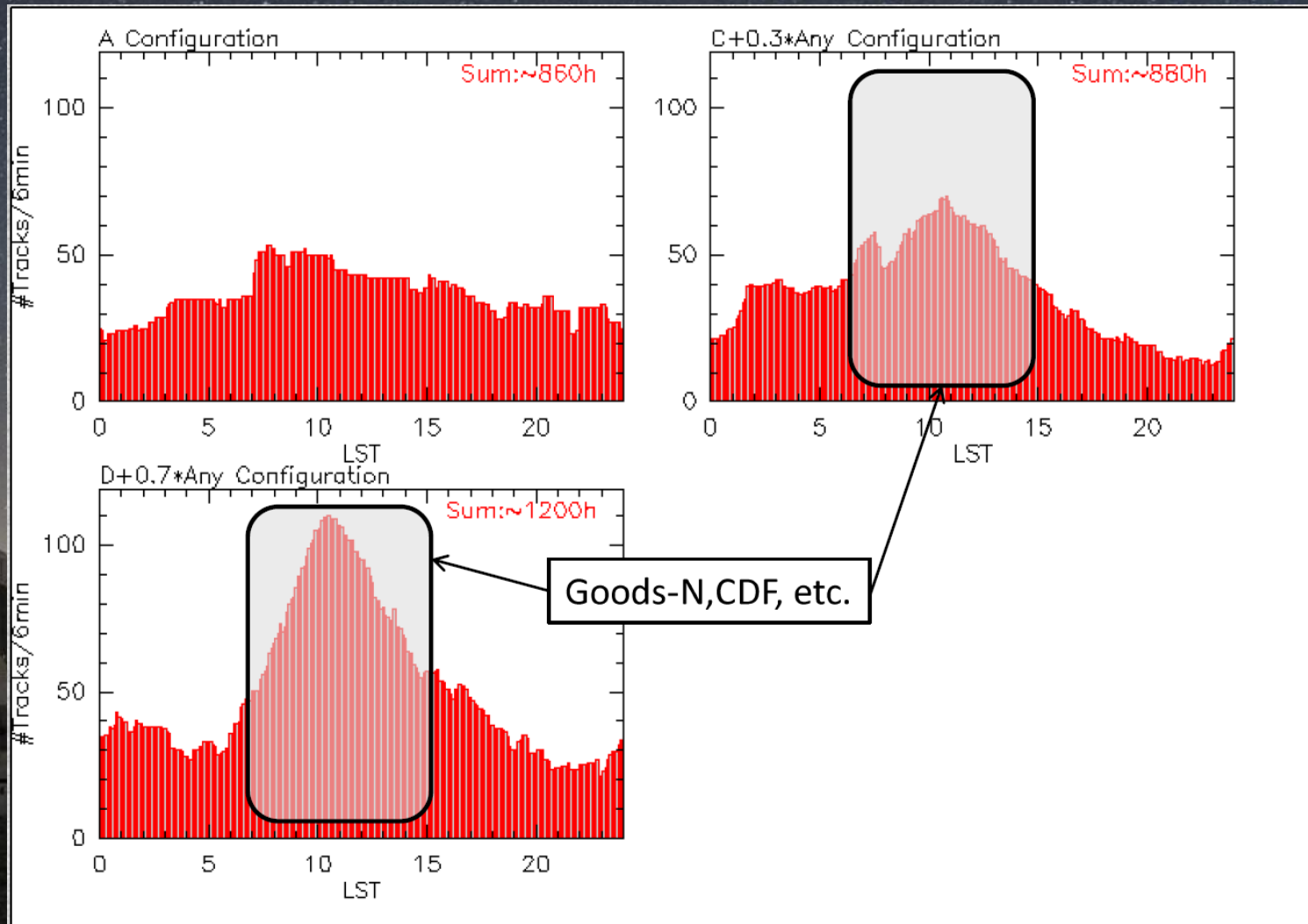
How to use NOEMA



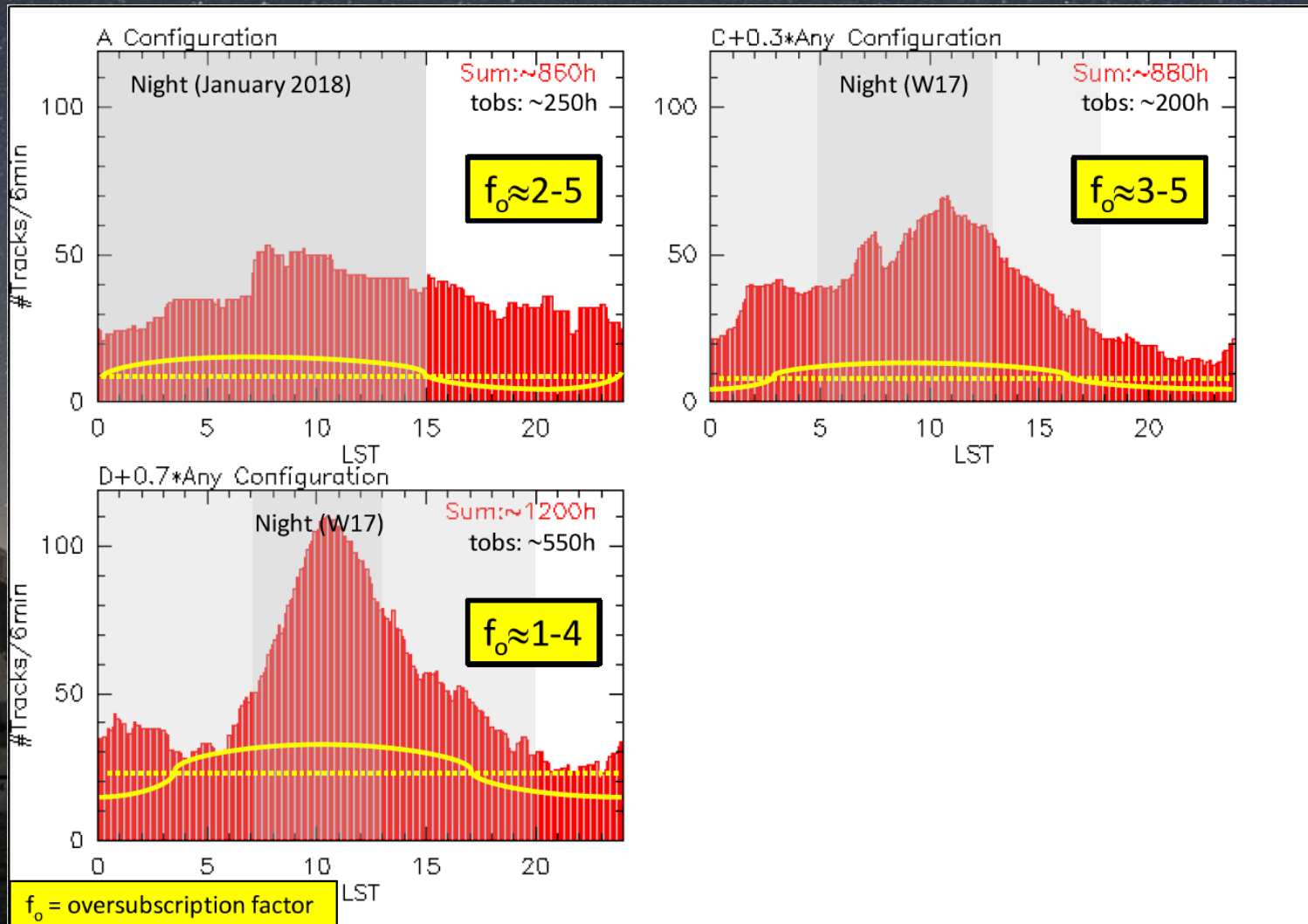
How to use NOEMA



How to use NOEMA



How to use NOEMA



How to use NOEMA

Proposal Reviewing Process:

* Ratings:

A = will be observed

B = will be observed, if further time becomes available taking into account scientific merit, LST pressure factors, and general aspects of balance; once started, the sub(!)-project will be finished (for most cases!)

C = rejected

D = not rated (e.g. for resubmissions, if project was observed in the meantime)

How to use NOEMA

Proposal Reviewing Process:

* Some statistics:

S18 : A-rated=20%, B-rated=50%, C-rated=30%

W17: A-rated=15%, B-rated=35%, C-rated=50%

(but, W17 special due to continued PF
Commissioning)

S17 : A-rated=25%, B-rated=65%, C-rated=10%

W16: A-rated=15%, B-rated=40%, C-rated=45%

How to use NOEMA

Proposal Reviewing Process:

* Some statistics:

Since S14, we observed $\sim 65\% \pm 10\%$ of all accepted (standard+LP) proposals (not counting DDTs (90-100%))

-> this means for B-rated projects, $\sim 50\%$ are observed

How to use NOEMA

Proposal Preparation

Reviewing Process

Observations

Data Reduction

How to use NOEMA

Preparing Observations:

- * Each accepted (i.e. B or A-rated) project WITHOUT an in-house collaborator will be assigned a LOCAL CONTACT (LC; see email, PMS, IRAM WP) or here:

http://www.iram.fr/GENERAL/loc_mar18.txt

- * Please iterate on the setup with the LC (if necessary) and send your OK to the LC (without your OK scripts will NOT be put onto the schedule)

How to use NOEMA

Local contacts - Mozilla Firefox

www.iram-institute.org/EN/content-page-93-7-56-90-93-0.html

iram Institut de Radioastronomie Millimétrique

NOEMA

Local Contacts

An IRAM staff astronomer is appointed as Local Contact to every A and B rated project without IRAM internal collaborator. He/she will assist you from the beginning to the end of your project should no IRAM astronomer be collaborating with you. Feel free to contact him/her after you get the project report with the recommendations of the program committee.

The role of the local contact is to help you set up the observing procedures. You should check the source coordinates and offsets for mosaics, the source velocity, the spectral configuration of the correlator and the observing frequencies. The local contact also helps you to arrange your stay in Grenoble and **get started with data reduction**. He/she will keep an eye on the data reduction and verify the data quality. His/her and your feedback are very important to improve on the system.

Note also, that NOEMA is operated as a service instrument by the IRAM staff. Observations are in general carried out without your presence on the site (in absentee).

Local contacts for the current and previous periods are:

- May 2018 - November 2018
- December 2017 - May 2018
- June 2017 - November 2017
- December 2016 - May 2017
- June 2016 - November 2016
- December 2015 - May 2016
- June 2015 - November 2015
- December 2014 - May 2015
- June 2014 - November 2014
- December 2013 - May 2014
- June 2013 - November 2013
- December 2012 - May 2013
- June 2012 - November 2012
- December 2011 - May 2012

10th IRAM millimeter interferometry school

NOEMA and 30m virtual tours

Download the brochure

ARC NODE ALMA

Prepar

* Each
an in-
CONT

htt

* Pleas
neces
your

WITHOUT
LOCAL
here:

out
chedule)

How to use NOEMA

Preparing Observations

* Each accepted proposal requires an in-house CONTACT (LOCAL CONTACT)

http://www.iram.fr/GENERAL/loc_mar18.txt

* Please iterate the process if necessary) your OK schedule

Project	PI	Institute	Rate	Type	Local Contact
S18AG	Pineda	MPE	A	ISM	N.Cunningham
S18AJ	ChacÃ³n-Tanarro	MPE	A	ISM	R.Neri
S18AQ	Colzi	UniversitadiFire	A	ISM	A.Lopez-Sepulcre
S18AX	Hartmann	UniMich	A	disks	V.Pietu
S18BH	Omand	DepartmentofPhysics	A	Other	M.Bremer
S18BW	Audibert	LERMA	A	XGal	N.Cunningham
S18CE	Neeleman	MPIA	A	High-z	JM.Winters
S18CG	Weiss/Swinbank	MPIfR/DurhamUni	A	High-z	M.Krips
S18CK	Neeleman	MPIA	A	High-z	C.Lefevre
S18CL	Combes	LERMA	A	High-z	C.Herrera-Contreras
S18DA	Daddi	IRFUSApCEA	A	High-z	N.Cunningham
S18DI	Daddi/JIN	IRFUSApCE/NJU	A	High-z	C.Herrera-Contreras
S18DK	Pavesi	CornellUniversity	A	High-z	C.Lefevre
S18DQ	Venemans/Yang	MPIA/StewardObs	A	High-z	C.Herrera-Contreras
S18DQ	Boone/Laporte	IRAP/UCL	A	High-z	M.Krips
S18AS	Qiu	NJU	B	ISM	C.Lefevre
S18BA	Calvet	UniMich	B	disks	A.Castro-Carrizo
S18BY	Hodges-Kluck	UniMich	B	XGal	C.Herrera-Contreras
S18AA	Henshaw	MPIA	B	ISM	V.Pietu
S18AB	Rigby	SchoolofPhysics	B	ISM	C.Lefevre
S18AC	Nagy	MPE	B	ISM	N.Cunningham
S18AE	Feher	KonkolyObs	B	ISM	A.Castro-Carrizo
S18AF	Vidal	LAB/OASU	B	ISM	JM.Winters
S18AL	Pineda	MPE	B	ISM	C.Lefevre
S18AN	Motttram	MPIA	B	ISM	C.Lefevre
S18AO	Wang	MPIA	B	ISM	C.Herrera-Contreras
S18AU	Zemlyanukha/Zinche	IAPRAS/IAPRAS	B	ISM	JM.Winters
S18AV	Wyrowski	MPIfR	B	ISM	N.Cunningham
S18AW	Li	Cfa	B	ISM	M.Krips
S18BC	Bordiu	CAB	B	Other	A.Lopez-Sepulcre
S18BK	Hunt	INAF-OAA	B	XGal	M.Krips
S18BM	Henkel	MPIfR	B	XGal	C.Herrera-Contreras
S18BN	Ge	NanjingUniversity	B	XGal	M.Krips
S18BQ	Lisenfeld	UniversidadGranada	B	XGal	R.Neri
S18BR	Garcia-Burillo	OAN	B	XGal	C.Herrera-Contreras
S18BT	Wang	XMU	B	XGal	N.Cunningham
S18BU	Roshi	NRAO	B	XGal	C.Herrera-Contreras
S18BX	Shangguan	KIAA-PKU	B	XGal	A.Lopez-Sepulcre
S18BZ	Morganti	ASTRON	B	XGal	C.Lefevre
S18CA	Tan	PMO	B	XGal	JM.Winters
S18CB	O'Sullivan	Cfa	B	XGal	N.Cunningham
S18CD	Castignani	LERMA	B	XGal	A.Lopez-Sepulcre
S18CJ	Cortzen	DARK	B	High-z	M.Bremer

WITHOUT a LOCAL CONTACT

-18.txt

if (without the schedule)

How to use NOEMA

Preparing Observations:

- * Each accepted (i.e. B or A-rated) project WITHOUT an in-house collaborator will be assigned a LOCAL CONTACT (LC; see email, PMS, IRAM WP) or here:

http://www.iram.fr/GENERAL/loc_mar18.txt

- * Please iterate on the setup with the LC (if necessary) and send your OK to the LC (without your OK scripts will NOT be put onto the schedule)

How to use NOEMA

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
! PR:SETUP-W18ZZ001.OBS ! Setup procedure for project "W18ZZ001"
!
! - Date:          2018-05-31
! - Author:       LC
! - PI:           PI
! - Local contact: LC
! - Project ID:   W18ZZ001
! - Verified by:  PI (date)
!
! - Rating:       B
! - Number of telescopes assumed: 8
! - Observing mode: Mapping
! - Observing goal: 1 lines, 1 continuum
! - Time:         [0.00,0.00,0.00,5.00,0.00]
!                (total hr os/configuration, all sources/fields combined)
!
! - Requested on-source time (h): 5.00
!
! - Requested sensitivity: 1.0mJy/5000.0kHz
! - Additional sensitivity: 0.02mJy/15488.0MHz
!
! - Requested minimum S/N:
! - Reference Frequency (GHz): 114.490
!
! - Water limit:
! - Obs date constraint:
!
! - Sun avoidance: 29-JUN-2018 to 31-AUG-2018 for MYSOURCE
! - Other comments: RepFreq: 114.490 GHz USB.
!
-----
! Do not edit directly, but copy first then
!
! All lines marked !!! must be customized.
! lines marked !* ! can be modified.
!
-----
SETVEND ! Finish previous observation
@ PR:defaults ! Restore defaults parameters
!
SET\PROJECT W18ZZ001 !!! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18ZZ001" !* ! data processing
CATA SOU INTER_BASE:iram.sou !* !
CATA PHA INTER_BASE:phase-pdb.sou !* !
LET RECEIVER 1 !* ! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW_LIMIT 15. !* ! Low elevation limit 15 degrees
SAY "Project 'PROJECT' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !!! Source
!
LET N_SUBSCANS 45 !* ! Scan length (in seconds)
LET N_SCANS 30 !* ! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 1 !* ! use SYMBOL_NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] %NAME_SOURCE% !* Enter List of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] .. .. !* Enter time per source (in scans)
ENDIF
!
-----
setup-temp.obs Top L65 (Fundamental)
Beginning of buffer
```

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
ENDIF
!
LET CALIBRATOR_1 "0923+392" !* ! flux=2.40Jy@3mm, dist=10.13deg, 08-MAR-2018
LET CALIBRATOR_2 "0851+202" !* ! flux=4.90Jy@3mm, dist=11.10deg, 19-MAR-2018
LET CALIBRATOR_3 "0827+243" !* ! flux=0.60Jy@3mm, dist=8.90deg, 14-DEC-2015
LET N_CALIBRATORS 2 !* ! Use 2 phase calibrators every N_SCANS
LET N_SUBS_CAL 45 !* ! Scan length on calibrator (in seconds)
LET N_SCANS_CAL 3 !* ! Nb scans on each calibrator (3 scans)
!
LET FSWI_CAL .FALSE. !* ! No fast-switching by default
!
LET N_MOSAIC 0 !* ! No mosaic mode
IF (N_MOSAIC.NE.0) THEN
DEFINE REAL X_MOSAIC[N_MOSAIC] Y_MOSAIC[N_MOSAIC] T_MOSAIC[N_MOSAIC] /GLOBAL
LET X_MOSAIC .. .. !* ! offsets in arcsec
LET Y_MOSAIC .. .. !* ! offsets in arcsec
LET T_MOSAIC .. .. !* ! in units of N_SUBSCANS
ENDIF
!
LET SOLVE_POINT YES
LET SOLVE_FOCUS YES
!
LET FOCUS_RECEIVER 'RECEIVER' !* ! Focusing on observing receiver
LET POINT_RECEIVER 'RECEIVER' !* ! Pointing on observing receiver
!
LET POINT_SOURCE_1 "0923+392" !* ! 1st pointing source
LET POINT_SOURCE_2 "0851+202" !* ! 2nd pointing source
LET FOCUS_SOURCE_1 "0923+392" !* ! 1st focusing source
LET FOCUS_SOURCE_2 "0851+202" !* ! 2nd focusing source
!
SET\UNLOCK
!
LINE MYLINE 114.490000 USB 9490.000 /RECEIVER 1
BASEBAND HLO 1 /RECEIVER 1
BASEBAND HLI 1 /RECEIVER 1
BASEBAND HUI 1 /RECEIVER 1
BASEBAND HUO 1 /RECEIVER 1
BASEBAND VLO 1 /RECEIVER 1
BASEBAND VLI 1 /RECEIVER 1
BASEBAND VUI 1 /RECEIVER 1
BASEBAND VUO 1 /RECEIVER 1
!
IF (N_SOURCES.GT.1) THEN
SOURCE 'NAME_SOURCE[1]' /TYPE OBJ
ELSE
SOURCE 'NAME' /TYPE OBJ
ENDIF
!
SET\RECE 'RECEIVER' ! Choose receiver band for the observation
!
SET\OBS
!
LOAD /TUNING ! Load frequency, but don't move antenna now
!
! Make sure any changes in the spectral configuration will be detected:
SET\LOCK
!
LET CHANGE_SPECTRAL .FALSE. !* ! .TRUE. if need to switch to broad_band !(not needed with PolyFIX)
!
IF (CHANGE_SPECTRAL) THEN
SPECTRAL /BROAD
ENDIF
!
SET SHOW OFF
!
TYPE PR:clean.obs
-----
setup-temp.obs 50% L98 (Fundamental)
-----
```

How to use NOEMA

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
PR:SETUP-W18Z001.OBS ! Setup procedure for project "W18Z001"
-----
- Date:          2018-05-31
- Author:        LC
- PI:            PI
- Local contact: LC
- Project ID:    W18Z001
- Verified by:   PI (date)

- Rating:        B
- Number of telescopes assumed: 8
- Observing mode: Mapping
- Observing goal: 1 lines, 1 continuum
                  [0.00,0.00,0.00,5.00,0.00]
- Time:          (total hr os/configuration, all sources/fields combined)

- Requested on-source time (h): 5.00

- Requested sensitivity: 1.0mJy/5000.0kHz
- Additional sensitivity: 0.02mJy/15488.0MHz

- Requested minimum S/N:
- Reference Frequency (GHz): 114.490

- Water limit:
- Obs date constraint:

- Sun avoidance:      29-JUN-2018 to 31-AUG-2018 for MYSOURCE
- Other comments:     RepFreq: 114.490 GHz USB.

-----
Do not edit directly, but copy first then

All lines marked !**! must be customized.
lines marked !* ! can be modified.
-----
!
!
SETVEND ! Finish previous observation
@ PR:defaults ! Restore defaults parameters
!
SET\PROJECT W18Z001 !**! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18Z001" !* ! data processing
CATA SOU INTER_BASE:iram.sou !* !
CATA PHA INTER_BASE:phase-pdb.sou !* !
LET RECEIVER 1 !**! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW_LIMIT 15. !* ! Low elevation limit 15 degrees
SAY "Project 'PROJECT' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !**! Source
!
LET N_SUBSCANS 45 !* ! Scan length (in seconds)
LET N_SCANS 30 !* ! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 1 !* ! use SYMBOL_NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] %NAME_SOURCE% !* Enter List of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] .. .. !* Enter time per source (in scans)
ENDIF
!
-----
setup-temp.obs Top L65 (Fundamental)
Beginning of buffer
```

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
ENDIF
!
LET CALIBRATOR_1 "0923+392" !**! flux=2.40Jy@3mm, dist=10.13deg, 08-MAR-2018
LET CALIBRATOR_2 "0851+202" !**! flux=4.90Jy@3mm, dist=11.10deg, 19-MAR-2018
LET CALIBRATOR_3 "0827+243" !* ! flux=0.60Jy@3mm, dist=8.90deg, 14-DEC-2015
LET N_CALIBRATORS 2 !* ! Use 2 phase calibrators every N_SCANS
!* ! Scan length on calibrator (in seconds)
LET N_SCANS_CAL 3 !* ! Nb scans on each calibrator (3 scans)

LET FSWI_CAL .FALSE. !* ! No fast-switching by default

LET N_MOSAIC 0 !* ! No mosaic mode
IF (N_MOSAIC.NE.0) THEN
DEFINE REAL X_MOSAIC[N_MOSAIC] Y_MOSAIC[N_MOSAIC] T_MOSAIC[N_MOSAIC] /GLOBAL
LET X_MOSAIC .. .. !* ! offsets in arcsec
LET Y_MOSAIC .. .. !* ! offsets in arcsec
LET T_MOSAIC .. .. !* ! in units of N_SUBSCANS
ENDIF
!
LET SOLVE_POINT YES
LET SOLVE_FOCUS YES
!
LET FOCUS_RECEIVER 'RECEIVER' !* ! Focusing on observing receiver
LET POINT_RECEIVER 'RECEIVER' !* ! Pointing on observing receiver
!
LET POINT_SOURCE_1 "0923+392" !**! 1st pointing source
LET POINT_SOURCE_2 "0851+202" !* ! 2nd pointing source
LET FOCUS_SOURCE_1 "0923+392" !**! 1st focusing source
LET FOCUS_SOURCE_2 "0851+202" !* ! 2nd focusing source
!
SET\UNLOCK
!
LINE MYLINE 114.490000 USB 9490.000 /RECEIVER 1
BASEBAND HLO 1 /RECEIVER 1
BASEBAND HLI 1 /RECEIVER 1
BASEBAND HUI 1 /RECEIVER 1
BASEBAND HUO 1 /RECEIVER 1
BASEBAND VLO 1 /RECEIVER 1
BASEBAND VLI 1 /RECEIVER 1
BASEBAND VUI 1 /RECEIVER 1
BASEBAND VUO 1 /RECEIVER 1
!
IF (N_SOURCES.GT.1) THEN
SOURCE 'NAME_SOURCE[1]' /TYPE OBJ
ELSE
SOURCE 'NAME' /TYPE OBJ
ENDIF
!
SET\RECE 'RECEIVER' ! Choose receiver band for the observation
!
SET\OBS
!
LOAD /TUNING ! Load frequency, but don't move antenna now
!
! Make sure any changes in the spectral configuration will be detected:
SET\LOCK
!
LET CHANGE_SPECTRAL .FALSE. !* ! .TRUE. if need to switch to broad_band !(not needed with PolyFIX)
!
IF (CHANGE_SPECTRAL) THEN
SPECTRAL /BROAD
ENDIF
!
SET SHOW OFF
!
TYPE PR:clean.obs
-----
setup-temp.obs 50% L98 (Fundamental)
-----
```


How to use NOEMA

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
! PR:SETUP-W18ZZ001.OBS ! Setup procedure for project "W18ZZ001"
!
! - Date:          2018-05-31
! - Author:       LC
! - PI:          PI
! - Local contact: LC
! - Project ID:   W18ZZ001
! - Verified by:  PI (date)
!
! - Rating:       B
! - Number of telescopes assumed: 8
! - Observing mode: Mapping
! - Observing goal: 1 lines, 1 continuum
! - Time:         [0.00,0.00,0.00,5.00,0.00]
!                (total hr os/configuration, all sources/fields combined)
!
! - Requested on-source time (h): 5.00
!
! - Requested sensitivity: 1.0mJy/5000.0kHz
! - Additional sensitivity: 0.02mJy/15488.0MHz
!
! - Requested minimum S/N:
! - Reference Frequency (GHz): 114.490
!
! - Water limit:
! - Obs date constraint:
!
! - Sun avoidance: 29-JUN-2018 to 31-AUG-2018 for MYSOURCE
! - Other comments: RepFreq: 114.490 GHz USB.
!
-----
! Do not edit directly, but copy first then
!
! All lines marked !!! must be customized.
! lines marked !! can be modified.
!
-----
SETVEND ! Finish previous observation
@ PR:defaults ! Restore defaults parameters
!
SET\PROJECT W18ZZ001 !!! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18ZZ001" !!! data processing
CATA SOU INTER_BASE:iram.sou !!!
CATA PHA INTER_BASE:phase-pdb.sou !!!
LET RECEIVER 1 !!! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW_LIMIT 15. !!! Low elevation limit 15 degrees
SAY "Project '001' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !!! Source
!
LET N_SUBSCANS 45 !!! Scan length (in seconds)
LET N_SCANS 30 !!! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 1 !!! use SYMBOL_NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] %NAME_SOURCE% !!! Enter list of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] .. .. !!! Enter time per source (in scans)
ENDIF
-----
setup-temp.obs Top L65 (Fundamental)
Beginning of buffer
```

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
ENDIF
!
LET CALIBRATOR_1 "0923+392" !!! flux=2.40Jy@3mm, dist=10.13deg, 08-MAR-2018
LET CALIBRATOR_2 "0851+202" !!! flux=4.90Jy@3mm, dist=11.10deg, 19-MAR-2018
LET CALIBRATOR_3 "0827+243" !!! flux=0.60Jy@3mm, dist=8.90deg, 14-DEC-2015
LET N_CALIBRATORS 2 !!! Use 2 phase calibrators every N_SCANS
LET N_SUBS_CAL 45 !!! Scan length on calibrator (in seconds)
LET N_SCANS_CAL 3 !!! Nb scans on each calibrator (3 scans)
!
LET FSWI_CAL .FALSE. !!! No fast-switching by default
!
LET N_MOSAIC 0 !!! No mosaic mode
IF (N_MOSAIC.NE.0) THEN
DEFINE REAL X_MOSAIC[N_MOSAIC] Y_MOSAIC[N_MOSAIC] T_MOSAIC[N_MOSAIC] /GLOBAL
LET X_MOSAIC .. .. !!! offsets in arcsec
LET Y_MOSAIC .. .. !!! offsets in arcsec
LET T_MOSAIC .. .. !!! in units of N_SUBSCANS
ENDIF
!
LET SOLVE_POINT YES
LET SOLVE_FOCUS YES
!
LET FOCUS_RECEIVER 'RECEIVER' !!! Focusing on observing receiver
LET POINT_RECEIVER 'RECEIVER' !!! Pointing on observing receiver
!
LET POINT_SOURCE_1 "0923+392" !!! 1st pointing source
LET POINT_SOURCE_2 "0851+202" !!! 2nd pointing source
LET FOCUS_SOURCE_1 "0923+392" !!! 1st focusing source
LET FOCUS_SOURCE_2 "0851+202" !!! 2nd focusing source
!
SET\UNLOCK
!
LINE MYLINE 114.490000 USB 9490.000 /RECEIVER 1
BASEBAND HLO 1 /RECEIVER 1
BASEBAND HLI 1 /RECEIVER 1
BASEBAND HUI 1 /RECEIVER 1
BASEBAND HUO 1 /RECEIVER 1
BASEBAND VLO 1 /RECEIVER 1
BASEBAND VLI 1 /RECEIVER 1
BASEBAND VUI 1 /RECEIVER 1
BASEBAND VUO 1 /RECEIVER 1
!
IF (N_SOURCES.GT.1) THEN
SOURCE 'NAME_SOURCE[1]' /TYPE OBJ
ELSE
SOURCE 'NAME' /TYPE OBJ
ENDIF
!
SET\RECE 'RECEIVER' ! Choose receiver band for the observation
!
SET\OBS
!
LOAD /TUNING ! Load frequency, but don't move antenna now
!
! Make sure any changes in the spectral configuration will be detected:
SET\LOCK
!
LET CHANGE_SPECTRAL .FALSE. !!! .TRUE. if need to switch to broad_band !(not needed with PolyFIX)
!
IF (CHANGE_SPECTRAL) THEN
SPECTRAL /BROAD
ENDIF
!
SET SHOW OFF
!
TYPE PR:clean.obs
-----
setup-temp.obs 50% L98 (Fundamental)
-----
```

How to use NOEMA

```
setup-temp2.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
PR:SETUP-W18ZZ001.OBS ! Setup procedure for project "W18ZZ001"
!
! - Date: 2018-05-31
! - Author: LC
! - PI: PI
! - Local contact: LC
! - Project ID: W18ZZ001
! - Verified by: PI (date)
!
! - Number of telescopes assumed: 8
! - Observing mode: Detection / track-sharing 4 sources[]
! - Observing goal: 1 lines, 1 continuum
! - Time: {0.00,0.00,0.00,10.00,0.00}
! (total hr os/configuration, all sources/fields combined)
!
! - Requested on-source time (h): 10.00
!
! - Requested sensitivity: 1.4mJy/5000.0kHz
! - Additional sensitivity: 0.03mJy/15488.0MHz
!
! - Requested minimum S/N:
! - Reference Frequency (GHz): 114.490
!
! - Water limit:
! - Obs date constraint:
!
! - Sun avoidance: 29-JUN-2018 to 31-AUG-2018 for MYSOURCE1
! 29-JUN-2018 to 31-AUG-2018 for MYSOURCE2
! 29-JUN-2018 to 31-AUG-2018 for MYSOURCE3
! 29-JUN-2018 to 31-AUG-2018 for MYSOURCE4
!
! - Other comments: RepFreq: 114.490 GHz USB.
!
-----
! Do not edit directly, but copy first then
!
! All lines marked !**! must be customized.
! lines marked !* ! can be modified.
!
-----
SETVEND ! Finish previous observation
@PR:defaults ! Restore defaults parameters
!
SET\PROJECT W18ZZ001 !**! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18ZZ001" !* ! data processing
CATA SOU NEW:w18zz000.sou !* !
CATA PHA INTER_BASE:nbase.ndb.sou !* !
LET RECEIVER 1 !**! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW LIMIT 15 !* ! Low elevation limit 15 degrees
!
SAY "Project 'PROJECT' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !**! Source
!
LET N_SUBSCANS 45 !* ! Scan length (in seconds)
LET N_SCANS 28 !* ! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 4 !* ! use SYMBOL NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] "MYSOURCE1" "MYSOURCE2" "MYSOURCE3" "MYSOURCE4" !* Enter list of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] 8 8 8 8 !* Enter time per source (in scans)
ENDIF
!
-U:-- setup-temp2.obs 2% L14 (Fundamental)
Write /home/krips/vortraege/suso2018/setup-temp2.obs
```

Track-Sharing

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
ENDIF
!
LET CALIBRATOR_1 "0923+392" !**! flux=2.40Jy@3mm, dist=10.13deg, 08-MAR-2018
LET CALIBRATOR_2 "0851+202" !**! flux=4.90Jy@3mm, dist=11.10deg, 19-MAR-2018
LET CALIBRATOR_3 "0827+243" !* ! flux=0.60Jy@3mm, dist=8.90deg, 14-DEC-2015
LET N_CALIBRATORS 2 !* ! Use 2 phase calibrators every N_SCANS
LET N_SUBS_CAL 45 !* ! Scan length on calibrator (in seconds)
LET N_SCANS_CAL 3 !* ! Nb scans on each calibrator (3 scans)
!
LET FSWI_CAL .FALSE. !* ! No fast-switching by default
!
LET N_MOSAIC 0 !* ! No mosaic mode
IF (N_MOSAIC.NE.0) THEN
DEFINE REAL X_MOSAIC[N_MOSAIC] Y_MOSAIC[N_MOSAIC] T_MOSAIC[N_MOSAIC] /GLOBAL
LET X_MOSAIC . . . !* ! offsets in arcsec
LET Y_MOSAIC . . . !* ! offsets in arcsec
LET T_MOSAIC . . . !* ! in units of N_SUBSCANS
ENDIF
!
LET SOLVE_POINT YES
LET SOLVE_FOCUS YES
!
LET FOCUS_RECEIVER 'RECEIVER' !* ! Focusing on observing receiver
LET POINT_RECEIVER 'RECEIVER' !* ! Pointing on observing receiver
!
LET POINT_SOURCE_1 "0923+392" !**! 1st pointing source
LET POINT_SOURCE_2 "0851+202" !* ! 2nd pointing source
LET FOCUS_SOURCE_1 "0923+392" !**! 1st focusing source
LET FOCUS_SOURCE_2 "0851+202" !* ! 2nd focusing source
!
SET\UNLOCK
!
LINE MYLINE 114.490000 USB 9490.000 /RECEIVER 1
BASEBAND HLO 1 /RECEIVER 1
BASEBAND HLI 1 /RECEIVER 1
BASEBAND HUI 1 /RECEIVER 1
BASEBAND HUU 1 /RECEIVER 1
BASEBAND VLO 1 /RECEIVER 1
BASEBAND VLI 1 /RECEIVER 1
BASEBAND VUI 1 /RECEIVER 1
BASEBAND VUU 1 /RECEIVER 1
!
IF (N_SOURCES.GT.1) THEN
SOURCE 'NAME_SOURCE[1]' /TYPE OBJ
ELSE
SOURCE 'NAME' /TYPE OBJ
ENDIF
!
SET\RECE 'RECEIVER' ! Choose receiver band for the observation
!
SET\OBS
!
LOAD /TUNING ! Load frequency, but don't move antenna now
!
! Make sure any changes in the spectral configuration will be detected:
SET\LOCK
!
LET CHANGE_SPECTRAL .FALSE. !* ! .TRUE. if need to switch to broad_band !(not needed with PolyFIX)
!
IF (CHANGE_SPECTRAL) THEN
SPECTRAL /BROAD
ENDIF
!
SET SHOW OFF
!
TYPE PR:clean.obs
!
-U:-- setup-temp.obs 50% L98 (Fundamental)
```


How to use NOEMA

The image displays three Emacs windows used for configuring NOEMA observations. The left window, titled 'setup-temp2.obs', contains project metadata and observation parameters. The middle window, titled 'w18zz000.sou', lists four sources (MYSOURCE1 to MYSOURCE4) with their coordinates and LSR velocities. The right window, titled 'setup-temp.obs', contains the main observation configuration script.

Left Window: setup-temp2.obs - emacs@krips.iram.fr

```
! PR:SETUP-W18ZZ001.OBS ! Setup procedure for project "W18ZZ001"
!
! - Date: 2018-05-31
! - Author: LC
! - PI: PI
! - Local contact: LC
! - Project ID: W18ZZ001
! - Verified by: PI (date)
!
! - Number of telescopes assumed: 8
! - Observing mode: Detection / track-sharing 4 sources[]
! - Observing goal: 1 lines, 1 continuum
! - Time: [0.00,0.00,0.00,10.00,0.00]
! (total hr os/configuration, all sources)
!
! - Requested on-source time (h): 10.00
!
! - Requested sensitivity: 1.4mJy/5000.0kHz
! - Additional sensitivity: 0.03mJy/15488.0MHz
!
! - Requested minimum S/N:
! - Reference Frequency (GHz): 114.490
!
! - Water limit:
! - Obs date constraint:
!
! - Sun avoidance: 29-JUN-2018 to 31-AUG-2018 for MYSOURCE1
! 29-JUN-2018 to 31-AUG-2018 for MYSOURCE2
! 29-JUN-2018 to 31-AUG-2018 for MYSOURCE3
! 29-JUN-2018 to 31-AUG-2018 for MYSOURCE4
!
! - Other comments: RepFreq: 114.490 GHz USB.
!
! Do not edit directly, but copy first then
!
! All lines marked !**! must be customized.
! lines marked !* ! can be modified.
!
!-----
SETVEND ! Finish previous observation
@ PR:defaults ! Restore defaults parameters
!
SETVPROJECT W18ZZ001 !**! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18ZZ001" ! data processing
CATA SOU NEW:w18zz000.sou !* !
CATA PHA INTER_BASE:nbase.ndb.sou !* !
LET RECEIVER 1 !**! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW LIMIT 15 !* ! Low elevation limit 15 degrees
!
SAY "Project 'PROJECT' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !**! Source
!
LET N_SUBSCANS 45 !* ! Scan length (in seconds)
LET N_SCANS 28 !* ! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 4 !* ! use SYMBOL NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] "MYSOURCE1" "MYSOURCE2" "MYSOURCE3" "MYSOURCE4" !* Enter list of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] 8 8 8 8 !* Enter time per source (in scans)
ENDIF
!-----
-U:--- setup-temp2.obs 2% L14 (Fundamental)
Write /home/krips/vortraege/suso2018/setup-temp2.obs
```

Middle Window: w18zz000.sou - emacs@krips.iram.fr

```
File Edit Options Buffers Tools Help
MYSOURCE1 EQ 2000 10:00:21.260 02:00:00.000 LSR 0.0
MYSOURCE2 EQ 2000 10:01:22.770 03:00:00.000 LSR 0.0
MYSOURCE3 EQ 2000 10:02:19.340 04:00:00.000 LSR 0.0
MYSOURCE4 EQ 2000 10:03:10.780 05:00:00.000 LSR 0.0
!-----
w18zz000.sou All L5 (Fundamental Ovwrt)
```

Right Window: setup-temp.obs - emacs@krips.iram.fr

```
ENDIF
LET CALIBRATOR_1 "0923+392" !**! flux=2.40Jy@3mm, dist=10.13deg, 08-MAR-2018
LET CALIBRATOR_2 "0851+202" !**! flux=4.90Jy@3mm, dist=11.10deg, 19-MAR-2018
LET CALIBRATOR_3 "0827+243" !* ! flux=0.60Jy@3mm, dist=8.90deg, 14-DEC-2015
LET N_CALIBRATORS 2 !* ! Use 2 phase calibrators every N_SCANS
LET N_SUBS_CAL 45 !* ! Scan length on calibrator (in seconds)
LET N_SCANS_CAL 3 !* ! Nb scans on each calibrator (3 scans)
LET FSWI_CAL .FALSE. !* ! No fast-switching by default
```

How to use NOEMA

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
! PR:SETUP-W18ZZ001.OBS ! Setup procedure for project "W18ZZ001"
!
! - Date: 2018-05-31
! - Author: LC
! - PI: PI
! - Local contact: LC
! - Project ID: W18ZZ001
! - Verified by: PI (date)
!
! - Rating: B
!
! - Observing mode: Mapping / mosaic 2 fields
! - Observing goal: 1 lines 1 continuum
! - Time: [0.00,0.00,0.00,5.00,0.00]
! (total hr os/configuration, all sources/fields combined)
!
! - Requested on-source time (h): 5.00
!
! - Requested sensitivity: 1.0mJy/5000.0kHz
! - Additional sensitivity: 0.02mJy/15488.0MHz
!
! - Requested minimum S/N:
! - Reference Frequency (GHz): 114.490
!
! - Water limit:
! - Obs date constraint:
!
! - Sun avoidance: 29-JUN-2018 to 31-AUG-2018 for MYSOURCE
! - Other comments: RepFreq: 114.490 GHz USB.
!
-----
Do not edit directly, but copy first then
!
! All lines marked !!! must be customized.
! lines marked !! can be modified.
!
-----
SETVEND ! Finish previous observation
@ PR:defaults ! Restore defaults parameters
!
SET\PROJECT W18ZZ001 !!! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18ZZ001" !!! data processing
CATA SOU INTER_BASE:iram.sou !!!
CATA PHA INTER_BASE:phase-pdb.sou !!!
LET RECEIVER 1 !!! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW_LIMIT 15. !!! Low elevation limit 15 degrees
SAY "Project 'PROJECT' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !!! Source
!
LET N_SUBSCANS 45 !!! Scan length (in seconds)
LET N_SCANS 30 !!! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 1 !!! use SYMBOL_NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] %NAME_SOURCE% !!! Enter List of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] .. .. !!! Enter time per source (in scans)
ENDIF
!
-----
setup-temp.obs Top L65 (Fundamental)
Beginning of buffer
```

MOSAIC!

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
!
! ENDIF
!
LET CALIBRATOR_1 "0923+392" !!! flux=2.40Jy@3mm, dist=10.13deg, 08-MAR-2018
LET CALIBRATOR_2 "0851+202" !!! flux=4.90Jy@3mm, dist=11.10deg, 19-MAR-2018
LET CALIBRATOR_3 "0827+243" !!! flux=0.60Jy@3mm, dist=8.90deg, 14-DEC-2015
LET N_CALIBRATORS 2 !!! Use 2 phase calibrators every N_SCANS
LET N_SUBS_CAL 45 !!! Scan length on calibrator (in seconds)
LET N_SCANS_CAL 3 !!! Nb scans on each calibrator (3 scans)
!
LET N_MOSAIC 2 !!! No mosaic mode
IF (N_MOSAIC.NE.0) THEN
DEFINE REAL X_MOSAIC[N_MOSAIC] Y_MOSAIC[N_MOSAIC] T_MOSAIC[N_MOSAIC] /GLOBAL
LET X_MOSAIC 9.00 -14.00 !!! offsets in arcsec
LET Y_MOSAIC 1.00 -4.00 !!! offsets in arcsec
LET T_MOSAIC 15 15 !!! in units of N_SUBSCANS
ENDIF
!
LET SOLVE_FOCUS YES
LET SOLVE_FOCUS YES
!
LET FOCUS_RECEIVER 'RECEIVER' !!! Focusing on observing receiver
LET POINT_RECEIVER 'RECEIVER' !!! Pointing on observing receiver
!
LET POINT_SOURCE_1 "0923+392" !!! 1st pointing source
LET POINT_SOURCE_2 "0851+202" !!! 2nd pointing source
LET FOCUS_SOURCE_1 "0923+392" !!! 1st focusing source
LET FOCUS_SOURCE_2 "0851+202" !!! 2nd focusing source
!
SET\UNLOCK
!
LINE MYLINE 114.490000 USB 9490.000 /RECEIVER 1
BASEBAND HLO 1 /RECEIVER 1
BASEBAND HLI 1 /RECEIVER 1
BASEBAND HUI 1 /RECEIVER 1
BASEBAND HUU 1 /RECEIVER 1
BASEBAND VLO 1 /RECEIVER 1
BASEBAND VLI 1 /RECEIVER 1
BASEBAND VUI 1 /RECEIVER 1
BASEBAND VUO 1 /RECEIVER 1
!
IF (N_SOURCES.GT.1) THEN
SOURCE 'NAME_SOURCE[1]' /TYPE OBJ
ELSE
SOURCE 'NAME' /TYPE OBJ
ENDIF
!
SET\RECE 'RECEIVER' ! Choose receiver band for the observation
!
SET\OBS
!
LOAD /TUNING ! Load frequency, but don't move antenna now
!
! Make sure any changes in the spectral configuration will be detected:
SET\LOCK
!
LET CHANGE_SPECTRAL .FALSE. !!! .TRUE. if need to switch to broad_band !(not needed with PolyFIX)
!
IF (CHANGE_SPECTRAL) THEN
SPECTRAL /BROAD
ENDIF
!
SET SHOW OFF
!
TYPE PR:clean.obs
-----
setup-temp.obs 50% L98 (Fundamental)
-----
```


How to use NOEMA

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
! PR:SETUP-W18Z001.OBS ! Setup procedure for project "W18Z001"
!
! - Date:          2018-05-31
! - Author:       LC
! - PI:          PI
! - Local contact: LC
! - Project ID:   W18Z001
! - Verified by:  PI (date)
!
! - Rating:      B
! - Number of telescopes assumed: 8
! - Observing mode: Mapping
! - Observing goal: 1 lines, 1 continuum
! - Time:        [0.00,0.00,0.00,5.00,0.00]
!               (total hr os/configuration, all sources/fields combined)
!
! - Requested on-source time (h): 5.00
!
! - Requested sensitivity: 1.0mJy/5000.0kHz
! - Additional sensitivity: 0.02mJy/15488.0MHz
!
! - Requested minimum S/N:
! - Reference Frequency (GHz): 114.490
!
! - Water limit:
! - Obs date constraint:
! - Sun avoidance:
! - Other comments:
!
-----
Do not edit directly, but copy first then
-----
All lines marked !!! must be customized.
lines marked !* ! can be modified.
-----
SETVEND ! Finish previous observation
@ PR:defaults ! Restore defaults parameters
!
SET\PROJECT W18Z001 !!! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18Z001" !* ! data processing
CATA SOU INTER_BASE:iram.sou !* !
CATA PHA INTER_BASE:phase-pdb.sou !* !
LET RECEIVER 1 !* ! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW_LIMIT 15. !* ! Low elevation limit 15 degrees
SAY "Project 'PROJECT' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !!! Source
!
LET N_SUBSCANS 45 !* ! Scan length (in seconds)
LET N_SCANS 30 !* ! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 1 !* ! use SYMBOL_NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] %NAME_SOURCE% !* Enter List of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] .. .. !* Enter time per source (in scans)
ENDIF
!
-----
setup-temp.obs Top L65 (Fundamental)
Beginning of buffer
```

Calibrators

2 for Mapping Projects
1 for Detection Projects

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
ENDIF
!
LET CALIBRATOR_1 "0923+392" !* ! flux=2.40Jy@3mm, dist=10.13deg, 08-MAR-2018
LET CALIBRATOR_2 "0851+202" !* ! flux=4.90Jy@3mm, dist=11.10deg, 19-MAR-2018
LET CALIBRATOR_3 "0827+243" !* ! flux=0.60Jy@3mm, dist=8.90deg, 14-DEC-2015
LET N_CALIBRATORS 2 !* ! Use 2 phase calibrators every N_SCANS
LET N_SUBS_CAL 45 !* ! Scan length on calibrator (in seconds)
LET N_SCANS_CAL 3 !* ! Nb scans on each calibrator (3 scans)
!
-----
LET N_MOSAIC 0 !* ! No mosaic mode
IF (N_MOSAIC.NE.0) THEN
DEFINE REAL X_MOSAIC[N_MOSAIC] Y_MOSAIC[N_MOSAIC] T_MOSAIC[N_MOSAIC] /GLOBAL
LET X_MOSAIC .. .. !* ! offsets in arcsec
LET Y_MOSAIC .. .. !* ! offsets in arcsec
LET T_MOSAIC .. .. !* ! in units of N_SUBSCANS
ENDIF
!
LET SOLVE_POINT YES
LET SOLVE_FOCUS YES
!
LET FOCUS_RECEIVER 'RECEIVER' !* ! Focusing on observing receiver
LET POINT_RECEIVER 'RECEIVER' !* ! Pointing on observing receiver
!
LET POINT_SOURCE_1 "0923+392" !* ! 1st pointing source
LET POINT_SOURCE_2 "0851+202" !* ! 2nd pointing source
LET FOCUS_SOURCE_1 "0923+392" !* ! 1st focusing source
LET FOCUS_SOURCE_2 "0851+202" !* ! 2nd focusing source
!
SETVONLOCK
!
LINE MYLINE 114.490000 USB 9490.000 /RECEIVER 1
BASEBAND HLO 1 /RECEIVER 1
BASEBAND HLI 1 /RECEIVER 1
BASEBAND HUI 1 /RECEIVER 1
BASEBAND HUO 1 /RECEIVER 1
BASEBAND VLO 1 /RECEIVER 1
BASEBAND VLI 1 /RECEIVER 1
BASEBAND VUI 1 /RECEIVER 1
BASEBAND VUO 1 /RECEIVER 1
!
IF (N_SOURCES.GT.1) THEN
SOURCE 'NAME_SOURCE[1]' /TYPE OBJ
ELSE
SOURCE 'NAME' /TYPE OBJ
ENDIF
!
SET\RECE 'RECEIVER' ! Choose receiver band for the observation
!
SET\OBS
!
LOAD /TUNING ! Load frequency, but don't move antenna now
!
! Make sure any changes in the spectral configuration will be detected:
SET\LOCK
!
LET CHANGE_SPECTRAL .FALSE. !* ! .TRUE. if need to switch to broad_band !(not needed with PolyFIX)
!
IF (CHANGE_SPECTRAL) THEN
SPECTRAL /BROAD
ENDIF
!
SET SHOW OFF
!
TYPE PR:clean.obs
-----
setup-temp.obs 50% L98 (Fundamental)
-----
```

How to use NOEMA

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
! PR:SETUP-W18ZZ001.OBS ! Setup procedure for project "W18ZZ001"
!
! - Date:          2018-05-31
! - Author:       LC
! - PI:          PI
! - Local contact: LC
! - Project ID:   W18ZZ001
! - Verified by:  PI (date)
!
! - Rating:      B
! - Number of telescopes assumed: 8
! - Observing mode: Mapping
! - Observing goal: 1 lines, 1 continuum
! - Time:        [0.00,0.00,0.00,5.00,0.00]
!               (total hr os/configuration, all sources/fields combined)
!
! - Requested on-source time (h): 5.00
!
! - Requested sensitivity: 1.0mJy/5000.0kHz
! - Additional sensitivity: 0.02mJy/15488.0MHz
!
! - Requested minimum S/N:
! - Reference Frequency (GHz): 114.490
!
! - Water limit:
! - Obs date constraint:
!
! - Sun avoidance: 29-JUN-2018 to 31-AUG-2018 for MYSOURCE
!
! - Other comments: RepFreq: 114.490 GHz USB.
!
-----
! Do not edit directly, but copy first then
!
! All lines marked !!! must be customized.
! lines marked !* ! can be modified.
!
-----
SETVEND ! Finish previous observation
@ PR:defaults ! Restore defaults parameters
SET\PROJECT W18ZZ001 !**! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18ZZ001" !* ! data processing
CATA SOU INTER_BASE:iram.sou !* !
CATA PHA INTER_BASE:phase-pdb.sou !* !
LET RECEIVER 1 !**! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW_LIMIT 15. !* ! Low elevation limit 15 degrees
SAY "Project 'PROJECT' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !**! Source
!
LET N_SUBSCANS 45 !* ! Scan length (in seconds)
LET N_SCANS 30 !* ! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 1 !* ! use SYMBOL_NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] %NAME_SOURCE% !* Enter List of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] .. .. !* Enter time per source (in scans)
ENDIF
!
-----
setup-temp.obs Top L65 (Fundamental)
Beginning of buffer
```

Correlator Setup
(here only LR basebands)

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
ENDIF
LET CALIBRATOR_1 "0923+392" !**! flux=2.40Jy@3mm, dist=10.13deg, 08-MAR-2018
LET CALIBRATOR_2 "0851+202" !**! flux=4.90Jy@3mm, dist=11.10deg, 19-MAR-2018
LET CALIBRATOR_3 "0827+243" !* ! flux=0.60Jy@3mm, dist=8.90deg, 14-DEC-2015
LET N_CALIBRATORS 2 !* ! Use 2 phase calibrators every N_SCANS
LET N_SUBS_CAL 45 !* ! Scan length on calibrator (in seconds)
LET N_SCANS_CAL 3 !* ! Nb scans on each calibrator (3 scans)
!
LET FSWI_CAL .FALSE. !* ! No fast-switching by default
!
LET N_MOSAIC 0 !* ! No mosaic mode
IF (N_MOSAIC.NE.0) THEN
! CALIBRATOR_1 [N_MOSAIC] T_MOSAIC[N_MOSAIC] /GLOBAL
! offsets in arcsec
! offsets in arcsec
! in units of N_SUBSCANS
!
LET FOCUS_RECEIVER 'RECEIVER' !* ! Focusing on observing receiver
LET POINT_RECEIVER 'RECEIVER' !* ! Pointing on observing receiver
!
LET POINT_SOURCE_1 "0923+392" !**! 1st pointing source
LET POINT_SOURCE_2 "0851+202" !* ! 2nd pointing source
LET FOCUS_SOURCE_1 "0923+392" !**! 1st focusing source
LET FOCUS_SOURCE_2 "0851+202" !* ! 2nd focusing source
!
SETVONLOCK
!
LINE MYLINE 114.490000 USB 9490.000 /RECEIVER 1
BASEBAND HLO 1 /RECEIVER 1
BASEBAND HLI 1 /RECEIVER 1
BASEBAND HUI 1 /RECEIVER 1
BASEBAND HUU 1 /RECEIVER 1
BASEBAND VLO 1 /RECEIVER 1
BASEBAND VLI 1 /RECEIVER 1
BASEBAND VUI 1 /RECEIVER 1
BASEBAND VUU 1 /RECEIVER 1
!
SOURCE 'NAME_SOURCE[1]' /TYPE OBJ
ELSE
SOURCE 'NAME' /TYPE OBJ
ENDIF
!
SET\RECE 'RECEIVER' ! Choose receiver band for the observation
!
SET\OBS
!
LOAD /TUNING ! Load frequency, but don't move antenna now
!
! Make sure any changes in the spectral configuration will be detected:
SET\LOCK
!
LET CHANGE_SPECTRAL .FALSE. !* ! .TRUE. if need to switch to broad_band !(not needed with PolyFIX)
!
IF (CHANGE_SPECTRAL) THEN
SPECTRAL /BROAD
ENDIF
!
SET SHOW OFF
!
TYPE PR:clean.obs
-----
setup-temp.obs 50% L98 (Fundamental)
Beginning of buffer
```


How to use NOEMA

Correlator Setup
(here plus HR SPWs)

```
setup-temp.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
! PR:SETUP-W18ZZ001.OBS ! Setup procedure for project "W18ZZ001"
!
! - Date: 2018-05-31
! - Author: LC
! - PI: PI
! - Local contact: LC
! - Project ID: W18ZZ001
! - Verified by: PI (date)
!
! - Rating: B
! - Number of telescopes assumed: 8
! - Observing mode: Mapping
! - Observing goal: 1 lines, 1
! - Time: [0.00,0.00
! (total hr
!
! - Requested on-source time (h): 5.00
!
! - Requested sensitivity: 1.0mJy/500
! - Additional sensitivity: 0.02mJy/15
!
! - Requested minimum S/N:
! - Reference Frequency (GHz): 114.490
!
! - Water limit:
! - Obs date constraint:
!
! - Sun avoidance: 29-JUN-2018 to 31-AUG-2018 for MYSOURCE
!
! - Other comments: RepFreq: 114.490 GHz USB.
!
-----
! Do not edit directly, but copy first then
!
! All lines marked !**! must be customized.
! lines marked !* ! can be modified.
!
-----
SETVEND ! Finish previous observation
@ PR:defaults ! Restore defaults parameters
!
SET\PROJECT W18ZZ001 !**! Specify project number for further
!
SYMBOL GO "@ PR:observe-all W18ZZ001" !* ! data processing
CATA SOU INTER_BASE:iram.sou !* !
CATA PHA INTER_BASE:phase-pdb.sou !* !
LET RECEIVER 1 !**! Choose observing receiver: receiver 1 @ 3mm
! receiver 2 @ 2mm
! receiver 3 @ 1mm
!
LET LOW_LIMIT 15. !* ! Low elevation limit 15 degrees
SAY "Project 'PROJECT' starting"
!
SYMBOL NAME "MYSOURCE EQ 2000 08:08:08.08 31:31:31.31 LSR 0.0" !**! Source
!
LET N_SUBSCANS 45 !* ! Scan length (in seconds)
LET N_SCANS 30 !* ! Number of scans on SOURCE (22.5 minutes = 30*45sec)
LET N_SOURCES 1 !* ! use SYMBOL_NAME if N_SOURCES.EQ.1
IF (N_SOURCES.GT.1) THEN
LET NAME_SOURCE[1:N_SOURCES] %NAME_SOURCE% !* Enter List of sources (maximum 30)
LET N_SCANS_SOURCE[1:N_SOURCES] .. .. !* Enter time per source (in scans)
ENDIF
!
-----
setup-temp.obs Top L65 (Fundamental)
Beginning of buffer
```

```
setup-s18aa001.obs - emacs@krips.iram.fr
File Edit Options Buffers Tools Help
-----
BASEBAND HLO 1 /RECEIVER 1
BASEBAND HLI 1 /RECEIVER 1
BASEBAND HUI 1 /RECEIVER 1
BASEBAND HUO 1 /RECEIVER 1
BASEBAND VLO 1 /RECEIVER 1
BASEBAND VLI 1 /RECEIVER 1
BASEBAND VUI 1 /RECEIVER 1
BASEBAND VUO 1 /RECEIVER 1
SPW /CHUNK 58 TO 59 /BASEBAND HLO /RECEIVER 1
SPW /CHUNK 53 TO 54 /BASEBAND HLO /RECEIVER 1
SPW /CHUNK 42 TO 43 /BASEBAND HLO /RECEIVER 1
SPW /CHUNK 38 TO 39 /BASEBAND HLO /RECEIVER 1
SPW /CHUNK 33 TO 34 /BASEBAND HLO /RECEIVER 1
SPW /CHUNK 10 TO 11 /BASEBAND HLO /RECEIVER 1
SPW /CHUNK 12 TO 13 /BASEBAND HLI /RECEIVER 1
SPW /CHUNK 20 TO 21 /BASEBAND HLI /RECEIVER 1
SPW /CHUNK 30 TO 31 /BASEBAND HLI /RECEIVER 1
SPW /CHUNK 52 TO 53 /BASEBAND HLI /RECEIVER 1
SPW /CHUNK 43 TO 44 /BASEBAND HUI /RECEIVER 1
SPW /CHUNK 38 TO 40 /BASEBAND HUI /RECEIVER 1
SPW /CHUNK 32 TO 33 /BASEBAND HUI /RECEIVER 1
SPW /CHUNK 27 TO 28 /BASEBAND HUI /RECEIVER 1
SPW /CHUNK 19 TO 20 /BASEBAND HUI /RECEIVER 1
SPW /CHUNK 4 TO 5 /BASEBAND HUO /RECEIVER 1
SPW /CHUNK 34 TO 35 /BASEBAND HUO /RECEIVER 1
SPW /CHUNK 39 TO 40 /BASEBAND HUO /RECEIVER 1
SPW /CHUNK 48 TO 49 /BASEBAND HUO /RECEIVER 1
SPW /CHUNK 50 TO 51 /BASEBAND HUO /RECEIVER 1
SPW /CHUNK 54 TO 55 /BASEBAND HUO /RECEIVER 1
SPW /CHUNK 57 TO 58 /BASEBAND HUO /RECEIVER 1
SPW /CHUNK 58 TO 59 /BASEBAND VLO /RECEIVER 1
SPW /CHUNK 53 TO 54 /BASEBAND VLO /RECEIVER 1
SPW /CHUNK 42 TO 43 /BASEBAND VLO /RECEIVER 1
SPW /CHUNK 38 TO 39 /BASEBAND VLO /RECEIVER 1
SPW /CHUNK 33 TO 34 /BASEBAND VLO /RECEIVER 1
SPW /CHUNK 10 TO 11 /BASEBAND VLO /RECEIVER 1
SPW /CHUNK 12 TO 13 /BASEBAND VLI /RECEIVER 1
SPW /CHUNK 20 TO 21 /BASEBAND VLI /RECEIVER 1
SPW /CHUNK 30 TO 31 /BASEBAND VLI /RECEIVER 1
SPW /CHUNK 52 TO 53 /BASEBAND VLI /RECEIVER 1
SPW /CHUNK 43 TO 44 /BASEBAND VUI /RECEIVER 1
SPW /CHUNK 38 TO 40 /BASEBAND VUI /RECEIVER 1
SPW /CHUNK 32 TO 33 /BASEBAND VUI /RECEIVER 1
SPW /CHUNK 27 TO 28 /BASEBAND VUI /RECEIVER 1
SPW /CHUNK 19 TO 20 /BASEBAND VUI /RECEIVER 1
SPW /CHUNK 4 TO 5 /BASEBAND VUO /RECEIVER 1
SPW /CHUNK 34 TO 35 /BASEBAND VUO /RECEIVER 1
SPW /CHUNK 39 TO 40 /BASEBAND VUO /RECEIVER 1
SPW /CHUNK 48 TO 49 /BASEBAND VUO /RECEIVER 1
SPW /CHUNK 50 TO 51 /BASEBAND VUO /RECEIVER 1
SPW /CHUNK 54 TO 55 /BASEBAND VUO /RECEIVER 1
SPW /CHUNK 57 TO 58 /BASEBAND VUO /RECEIVER 1
!
IF (N_SOURCES.GT.1) THEN
SOURCE %NAME_SOURCE[1] /TYPE OBJ
ELSE
SOURCE %NAME_SOURCE[1] /TYPE OBJ
ENDIF
ENDIF
!
SET\RECE 'RECEIVER' ! Choose receiver band for the observation
!
SET\OBS
!
LOAD /TUNING ! Load frequency, but don't move antenna now
!
! Make sure any changes in the spectral configuration will be detected:
-----
setup-s18aa001.obs 60% L100 (Fundamental)
-----
```

How to use NOEMA

Preparing Observations:

- * Each accepted (i.e. B or A-rated) project WITHOUT an in-house collaborator will be assigned a LOCAL CONTACT (LC; see email, PMS, IRAM WP) or here:

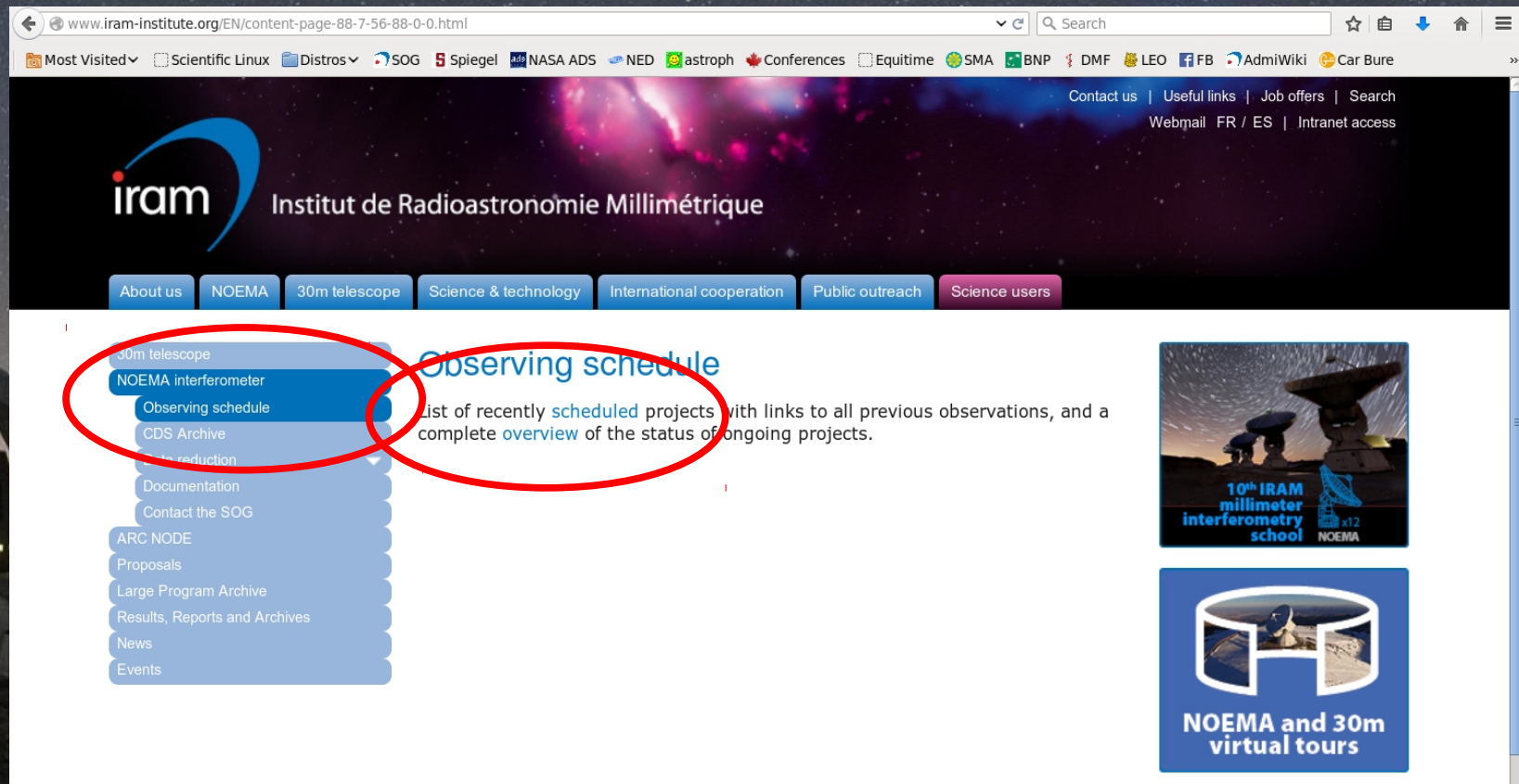
http://www.iram.fr/GENERAL/loc_mar18.txt

- * Please iterate on the setup with the LC (if necessary) and send your OK to the LC (without your OK scripts will NOT be put onto the schedule)

How to use NOEMA

Observations:

* Check Status of your project

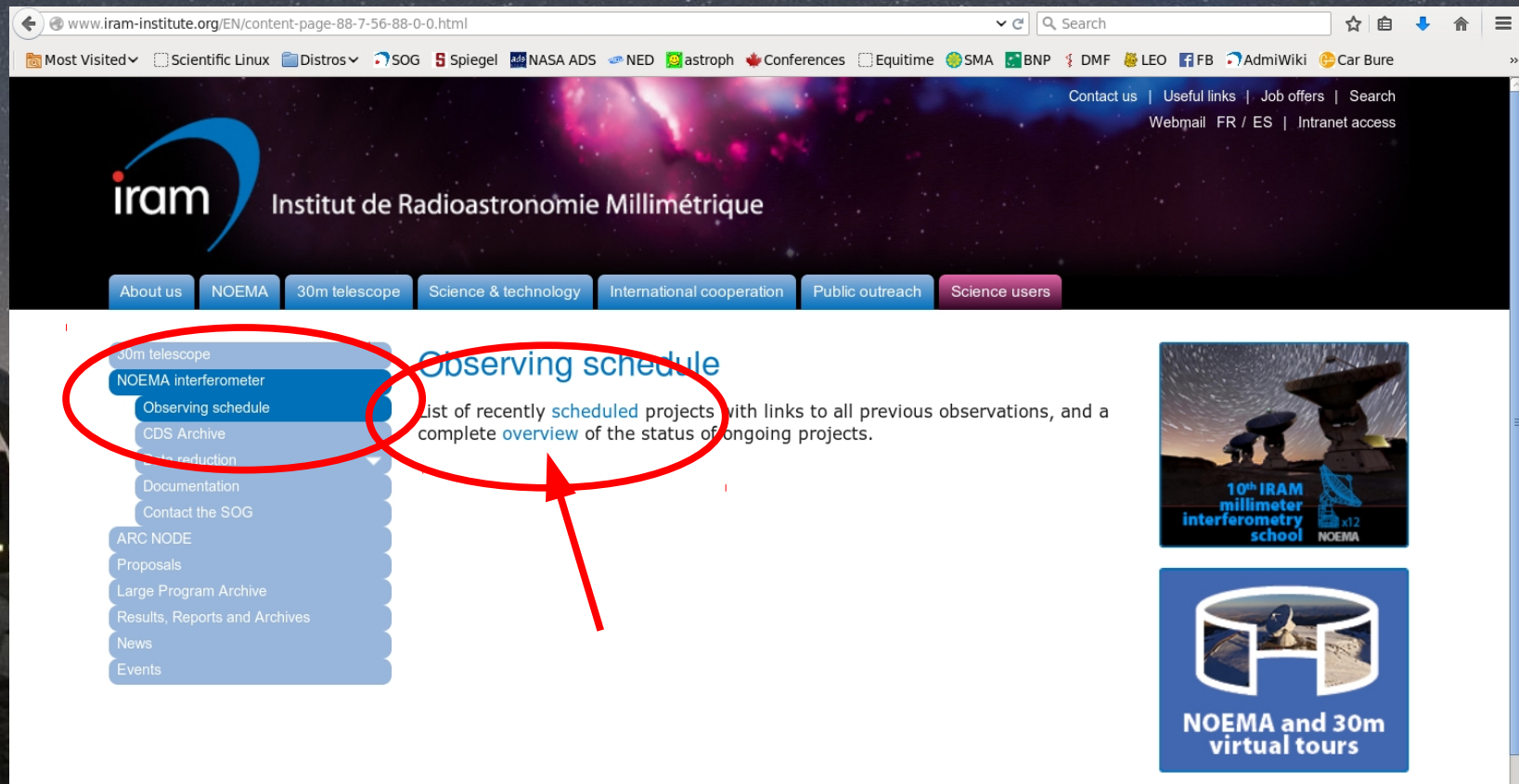


The screenshot shows the IRAM website interface. The browser address bar displays www.iram-institute.org/EN/content-page-88-7-56-88-0-0.html. The website header includes the IRAM logo and the text "Institut de Radioastronomie Millimétrique". A navigation menu at the top contains items: About us, NOEMA, 30m telescope, Science & technology, International cooperation, Public outreach, and Science users. A dropdown menu is open under "30m telescope", with "NOEMA interferometer" selected. Within this dropdown, "Observing schedule" is highlighted with a red circle. To the right of the dropdown, the text "Observing schedule" is also circled in red, followed by a description: "List of recently scheduled projects with links to all previous observations, and a complete overview of the status of ongoing projects." Below the dropdown menu, there are two promotional images: "10th IRAM millimeter interferometry school" and "NOEMA and 30m virtual tours".

How to use NOEMA

Observations:

* Check Status of your project



The screenshot shows the IRAM website interface. The browser address bar displays www.iram-institute.org/EN/content-page-88-7-56-88-0-0.html. The website header includes the IRAM logo and the text "Institut de Radioastronomie Millimétrique". A navigation menu contains links for "About us", "NOEMA", "30m telescope", "Science & technology", "International cooperation", "Public outreach", and "Science users". A dropdown menu is open under "NOEMA", with "NOEMA interferometer" and "Observing schedule" highlighted in blue. A red circle highlights the "Observing schedule" link, and a red arrow points to the text "list of recently scheduled projects with links to all previous observations, and a complete overview of the status of ongoing projects." To the right, there are two promotional banners: "10th IRAM millimeter interferometry school" and "NOEMA and 30m virtual tours".

How to use NOEMA

Plateau de Bure Schedule - Mozilla Firefox

www.iram.fr/IRAMFR/PDB/ongoing-last.html

Current configuration is: E03-W12-W09-E16-W20-N29-N11-H03-E10 (9C)
Generated automatically by sog@iram.fr on Thursday 04-Oct-2018 00:17 CEST
For projects before June 2014 check [here](#)

Plateau de Bure Semester SS18

June 2018 - November 2018

Project	PI	LOC/co-I	Completed	Planned	Sun-Avoidance	Priority	Status
S18AA001	Henshaw	Pietu	D	CD	15-dec / 29-jan	B	Started
S18AB001	Rigby	Lefevre		C	28-nov / 29-jan	B	
S18AC001	Nagy	Cunningham		C	01-dec / 29-jan	B	
S18AC002	Nagy	Cunningham		C	01-dec / 29-jan	B	
S18AD001	Falgarone	Herrera Contreras	D			A	Completed
S18AE001	Feher	Castro-Carrizo		C		B	
S18AF001	Vidal	Winters		D	16-apr / 19-jun	B	
S18AG001	Pineda	Cunningham	D	C	17-apr / 21-jun	A	Started
S18AH001	Segura-Cox	Lopez-Sepulcre		C	17-apr / 24-jun	B	
S18AH002	Segura-Cox	Lopez-Sepulcre		C	17-apr / 20-jun	B	
S18AH003	Segura-Cox	Lopez-Sepulcre		C	18-apr / 21-jun	B	
S18AJ001	Chacon-Tanarro	Neri		C	05-may / 13-jul	A	
S18AK001	Orkisz	Orkisz	D	D	24-may / 09-jul	A	Started
S18AL001	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AN001	Mottram	Lefevre	D			A	Completed
S18AO001	Wang	Herrera Contreras	CD	C		B	Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	A	Started
S18AS001	Qiu	Lefevre	D			A	Completed
S18AT001	Cunningham	Cunningham		C		B	
S18AU001	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AU002	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AV001	Wyrowski	Cunningham		D	24-nov / 27-jan	B	
S18AW002	Li	Krips		D	09-dec / 28-jan	B	
S18AW003	Li	Krips		D	21-nov / 25-jan	B	
S18AW004	Li	Krips		D	02-dec / 29-jan	B	
S18AW005	Li	Krips		D		B	

Observ
* Chec

How to use NOEMA

Plateau de Bure Schedule - Mozilla Firefox

www.iram.fr/IRAMFR/PDB/ongoing-last.html

S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AN001	Mottram	Lefevre	D			A	Completed
S18AO001	Wang	Herrera Contreras	CD	C		B	Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	A	Started
S18AS001	Qiu	Lefevre	D			A	Completed
S18AT001	Cunningham	Cunningham		C		B	
S18AU001	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AU002	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AV001	Wyrowski	Cunningham		D	24-nov / 27-jan	B	
S18AW002	Li	Krips		D	09-dec / 28-jan	B	
S18AW003	Li	Krips		D	21-nov / 25-jan	B	
S18AW004	Li	Krips		D	02-dec / 29-jan	B	
S18AW005	Li			D		B	
S18AX001	Hartmann	Pietu	D			A	Completed
S18AY001	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AY002	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AY003	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AZ001	Gavino	Pietu		C	27-apr / 05-jul	B	
S18BA001	Calvet	Castro-Carrizo	D		17-may / 10-jul	A	Completed
S18BC001	Bordiu	Lopez-Sepulcre		CD	30-dec / 20-jan	B	
S18BE001	Guelin	Winters		C	14-jul / 21-sep	B	
S18BF001	Tetarenko			Any		B	No Procedure
S18BF002	Tetarenko			Any		B	No Procedure
S18BG001	Tetarenko			Any		B	No Procedure
S18BH001	Omand	Bremer	D			A	Completed
S18BK001	Hunt	Krips		C		B	
S18BK002	Hunt	Krips		C		B	
S18BK003	Hunt	Krips		C	01-sep / 05-nov	B	
S18BM001	Henkel	Herrera Contreras		Any	30-mar / 29-may	B	
S18BM002	Henkel	Herrera Contreras	D	Any		B	Started
S18BN001	Ge	Lopez-Sepulcre	D		04-jul / 09-sep	A	Reduced
S18BO001	Tomicic	Pety	D	C		B	Started
S18BP001	Koenig	Krips		D		B	
S18BQ001	Lisenfeld	Neri		CD	04-jul / 05-sep	B	
S18BR001	Garcia-Burillo	Herrera Contreras		C		B	
S18RT001	Wana	Cunningham		C		B	

Observ
* Chec

How to use NOEMA

Observations:

* Check Status of your project

The screenshot shows the IRAM website interface. The browser address bar displays www.iram-institute.org/EN/content-page-88-7-56-88-0-0.html. The website header includes the IRAM logo and the text 'Institut de Radioastronomie Millimétrique'. A navigation menu contains links for 'About us', 'NOEMA', '30m telescope', 'Science & technology', 'International cooperation', 'Public outreach', and 'Science users'. The main content area features a section titled 'Observing schedule' with the text: 'List of recently **scheduled** projects with links to all previous observations, and a complete **overview** of the status of ongoing projects.' A sidebar on the left contains a list of links, with 'Observing schedule' highlighted. Two red circles and an arrow are used to highlight the 'Observing schedule' link in both the sidebar and the main content area.

How to use NOEMA

Observ
* Chec

Project Status

The status of [on-going](#) projects allows you verify in which configuration your project has already been observed and what remains to be done. This information is updated daily. You may also consult the list of [projects](#) belonging to the last observing period.

A time ordered list of observations carried out with the interferometer, with observing dates, project names, source names, start and ending hour angle of the observations can be accessed by clicking on the specified year. CAUTION: although the list is broken into pieces on a monthly basis, this is a BIG database: the total amounts to a few thousand pages.

- [1990](#) [1991](#) [1992](#) [1993](#) [1994](#) [1995](#) [1996](#) [1997](#) [1998](#) [1999](#) [2000](#) [2001](#) [2002](#) [2003](#) [2004](#) [2005](#) [2006](#) [2007](#) [2008](#) [2009](#) [2010](#) [2011](#) [2012](#) [2013](#) [2014](#) [2015](#) [2016](#) [2017](#) [2018](#)

Previous Days

20-SEP-2018	10D	10D-W05	S18AK001	HOLO	S18BH001	TINTTEST	N17	P0	IN	S18CD003	S18AL002
21-SEP-2018	10D-N17	N05E04	S18AL002	S18BH001	TA10REC3	S18BM002					
22-SEP-2018	10D-N17	10D-N17N09	S18AL002	TINTTEST	S18CE001	S18BH001	S18DR001				
23-SEP-2018	10D-N17	N05E04	S18AL002	S18CK001	S18CD003	TA10REC3					
24-SEP-2018	10D-N17		TINTTEST	S18BH001	S18AA001	S18DG002					
25-SEP-2018	10D-N17		S18DG002	S18CT001	S18CD001	S18CD003	FLUX				
26-SEP-2018	10D-N17		FLUX	S18BA001	S18CD002	S18DG002	BASE				
27-SEP-2018	10D-N17		HOLO	S18AN001	S18AA001	S18CZ002					
28-SEP-2018	10D-N17	7ant-Special	S18AN001	S18CD001	S18DQ001	TINTTEST	HOLO	BASE	FLUX		
29-SEP-2018	9C		FLUX	S18CQ002	S18DI003	S18A001	HOLO				
30-SEP-2018	9C		HOLO	BASE	S18AJ001	TINTTEST	S18A001				
01-OCT-2018	N11E10		TA10REC3	TINTTEST							
02-OCT-2018	E10	9C	TA10REC3	TINTTEST	S18A001	HOLO	S18AJ001				
03-OCT-2018	9C		S18AJ001	TINTTEST	S18CE003	BASE					

Generated automatically by bure@iram.fr on Thu Oct 4 06:18:12 CEST 2018

How to use NOEMA

Proposal Preparation

Reviewing Process

Observations

Data Reduction

How to use NOEMA

Plateau de Bure Schedule - Mozilla Firefox

www.iram.fr/IRAMFR/PDB/ongoing-last.html

S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AN001	Mottram	Lefevre	D			A	Completed
S18AO001	Wang	Herrera Contreras	CD	C		B	Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	A	Started
S18AS001	Qiu	Lefevre	D			A	Completed
S18AT001	Cunningham	Cunningham		C		B	
S18AU001	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AU002	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AV001	Wyrowski	Cunningham		D	24-nov / 27-jan	B	
S18AW002	Li	Krips		D	09-dec / 28-jan	B	
S18AW003	Li	Krips		D	21-nov / 25-jan	B	
S18AW004	Li	Krips		D	02-dec / 29-jan	B	
S18AW005	Li			D		B	
S18AX001	Hartmann	Pietu	D			A	Completed
S18AY001	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AY002	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AY003	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AZ001	Gavino	Pietu		C	27-apr / 05-jul	B	
S18BA001	Calvet	Castro-Carrizo	D		17-may / 10-jul	A	Completed
S18BC001	Bordiu	Lopez-Sepulcre		CD	30-dec / 20-jan	B	
S18BE001	Guelin	Winters		C	14-jul / 21-sep	B	
S18BF001	Tetarenko			Any		B	No Procedure
S18BF002	Tetarenko			Any		B	No Procedure
S18BG001	Tetarenko			Any		B	No Procedure
S18BH001	Omand	Bremer	D			A	Completed
S18BK001	Hunt	Krips		C		B	
S18BK002	Hunt	Krips		C		B	
S18BK003	Hunt	Krips		C	01-sep / 05-nov	B	
S18BM001	Henkel	Herrera Contreras		Any	30-mar / 29-may	B	
S18BM002	Henkel	Herrera Contreras	D	Any		B	Started
S18BN001	Ge	Lopez-Sepulcre	D		04-jul / 09-sep	A	Reduced
S18BO001	Tomicic	Pety	D	C		B	Started
S18BP001	Koenig	Krips		D		B	
S18BQ001	Lisenfeld	Neri		CD	04-jul / 05-sep	B	
S18BR001	Garcia-Burillo	Herrera Contreras		C		B	
S18RT001	Wana	Cunningham		C		B	

How to use NOEMA

Plateau de Bure Schedule - Mozilla Firefox

www.iram.fr/IRAMFR/PDB/ongoing-last.html

S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AN001	Mottram	Lefevre	D			A	Completed
S18AO001	Wang	Herrera Contreras	CD	C		B	Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	A	Started
S18AS001	Qiu	Lefevre	D			A	Completed
S18AT001	Cunningham	Cunningham		C		B	
S18AU001	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AU002	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AW005	Li		D	D		B	
S18AX001	Hartmann	Pietu	D			A	Completed
S18AY001	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AY002	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AY003	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AZ001	Gavino	Pietu		C	27-apr / 05-jul	B	
S18BA001	Calvet	Castro-Carrizo	D		17-may / 10-jul	A	Completed
S18BC001	Bordiu	Lopez-Sepulcre		CD	30-dec / 20-jan	B	
S18BE001	Guelin	Winters		C	14-jul / 21-sep	B	
S18BF001	Tetarenko			Any		B	No Procedure
S18BF002	Tetarenko			Any		B	No Procedure
S18BG001	Tetarenko			Any		B	No Procedure
S18BH001	Omand	Bremer	D			A	Completed
S18BK001	Hunt	Krips		C		B	
S18BK002	Hunt	Krips		C		B	
S18BK003	Hunt	Krips		C	01-sep / 05-nov	B	
S18BM001	Henkel	Herrera Contreras		Any	30-mar / 29-may	B	
S18BM002	Henkel	Herrera Contreras	D	Any		B	Started
S18BN001	Ge	Lopez-Sepulcre	D		04-jul / 09-sep	A	Reduced
S18BO001	Tomicic	Pety	D	C		B	Started
S18BP001	Koenig	Krips		D		B	
S18BQ001	Lisenfeld	Neri		CD	04-jul / 05-sep	B	
S18BR001	Garcia-Burillo	Herrera Contreras		C		B	
S18RT001	Wana	Cunningham		C		B	

If your project is entirely completed, you will receive soon after an email from our scientific secretary (Cathy Berjaud)

How to use NOEMA

Plateau de Bure Schedule - Mozilla Firefox

www.iram.fr/IRAMFR/PDB/ongoing-last.html

S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AN001	Mottram	Lefevre	D			A	Completed
S18AO001	Wang	Herrera Contreras	CD	C		B	Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	A	Started
S18AS001	Qiu	Lefevre	D			A	Completed
S18AT001	Cunningham	Cunningham		C		B	
S18AU001	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AU002	Zemlyanukha, Zinchenko	Winters		CD	22-may / 29-jul	B	
S18AW005	Li		D	D		B	
S18AX001	Hartmann	Pietu	D			A	Completed
S18AY001	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AY002	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AY003	Guilloteau	Chapillon		C	30-apr / 08-jul	A	
S18AZ001	Gavino	Pietu		C	27-apr / 05-jul	R	
S18BC001	Bordu	Lopez-Sepulcre		CD	30-dec / 20-jan	B	
S18BE001	Guelin	Winters		C	14-jul / 21-sep	B	
S18BF001	Tetarenko			Any		B	No Procedure
S18BF002	Tetarenko			Any		B	No Procedure
S18BG001	Tetarenko			Any		B	No Procedure
S18BH001	Omand	Bremer	D			A	Completed
S18BK001	Hunt	Krips		C		B	
S18BK002	Hunt	Krips		C		B	
S18BK003	Hunt	Krips		C	01-sep / 05-nov	B	
S18BM001	Henkel	Herrera Contreras		Any	30-mar / 29-may	B	
S18BM002	Henkel	Herrera Contreras	D	Any		B	Started
S18BN001	Ge	Lopez-Sepulcre	D		04-jul / 09-sep	A	Reduced
S18BO001	Tomicic	Pety	D	C		B	Started
S18BP001	Koenig	Krips		D		B	
S18BQ001	Lisenfeld	Neri		CD	04-jul / 05-sep	B	
S18BR001	Garcia-Burillo	Herrera Contreras		C		B	
S18RT001	Wana	Cunningham		C		R	

If your project is entirely completed, you will receive soon after an email from our scientific secretary (Cathy Berjaud)

Catherine Berjaud <berjaud@iram.fr> Project S18AL completed -> data reduction

How to use NOEMA

Plateau de Bure Schedule - Mozilla Firefox

www.iram.fr/IRAMFR/PDB/ongoing-last.html

S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AN001	Mottram	Lefevre	D			A	Completed
S18AO001	Wang	Herrera Contreras	CD	C		B	Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	A	Started

Catherine Berjaud <berjaud@iram.fr>

Project S18AL completed -> data reduction

We are pleased to inform you that your project:

Title: Exploring the kinematics of a subsonic dense core

IRAM Reference Number: S18AL

IRAM local contact: Charlene Lefèvre

has recently been observed with the NOEMA Interferometer and is now completed. As your data have been taken with the recently commissioned correlator PolyFiX, we recommend you plan a stay at IRAM/Grenoble for the calibration of your data so we can provide you with the most efficient support.

Please take note that

1. your IRAM local contact is to be contacted to organize the support for the calibration and reduction of the project data; please consult the [list of visitors](#) and check with your local contact before deciding for a date of visit.
2. publications issued from NOEMA observations are required to comply with the [IRAM data publication policies](#)
3. according to the [IRAM Data policy](#), the data of your NOEMA project will enter the public domain on 01 June 2020

Best regards, Cathy

S18BO001	Tomicic	Pety	D	C		B	Started
S18BP001	Koenig	Krips		D		B	
S18BQ001	Lisenfeld	Neri		CD	04-jul / 05-sep	B	
S18BR001	Garcia-Burillo	Herrera Contreras		C		B	
S18RT001	Wana	Cunninham		C		B	

How to use NOEMA

S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AN001	Mottram	Lefevre	D			A	Completed
S18AO001	Wang	Herrera Contreras	CD	C		B	Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	A	Started

Catherine Berjaud <berjaud@iram.fr>

Project S18AL completed -> data reduction

We are pleased to inform you that your project:

Title: Exploring the kinematics of a subsonic dense core

IRAM Reference Number: S18AL

IRAM local contact: Charlene Lefèvre

has recently been observed with the NOEMA Interferometer and is now completed. As your data have been taken with the recently commissioned correlator PolyFiX, we recommend you plan a stay at IRAM/Grenoble for the calibration of your data so we can provide you with the most efficient support.

Please take note that

1. your IRAM local contact is to be contacted to organize the support for the calibration and reduction of the project data; please consult the [list of visitors](#) and check with your local contact before deciding for a date of visit.
2. publications issued from NOEMA observations are required to comply with the [IRAM data publication policies](#)
3. according to the [IRAM Data policy](#), the data of your NOEMA project will enter the public domain on 01 June 2020

Best regards, Cathy

S18BO001	Tomicic	Pety	D	C		B	Started
S18BP001	Koenig	Krips		D		B	
S18BQ001	Lisenfeld	Neri		CD	04-jul / 05-sep	B	
S18BR001	Garcia-Burillo	Herrera Contreras		C		B	
S18RT001	Wana	Cunninham		C		B	

How to use NOEMA

Project ID	PI1	PI2	Instrument	Correlator	Dates	Status
S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	Completed
S18AN001	Mottram	Lefevre	D			Completed
S18AO001	Wang	Herrera Contreras	CD	C		Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	Started

Catherine Berjaud <berjaud@iram.fr>

Project S18AL completed -> data reduction

We are pleased to inform you that your project:

Title: Exploring the kinematics of a subsonic dense core

IRAM Reference Number: S18AL

IRAM local contact: Charlene Lefèvre

has recently been observed with the NOEMA Interferometer and is now completed. As your data have been taken with the recently commissioned correlator PolyFiX, we recommend you plan a stay at IRAM/Grenoble for the calibration of your data so we can provide you with the most efficient support.

Please take note that

1. your IRAM local contact is to be contacted to organize the support for the calibration and reduction of the project data; please consult the [list of visitors](#) and check with your local contact before deciding for a date of visit.
2. publications issued from NOEMA observations are required to comply with the [IRAM data publication policies](#)
3. according to the [IRAM Data policy](#), the data of your NOEMA project will enter the public domain on 01 June 2020

Remote data reduction can be possible under certain conditions, please ask your LC whether this might be a possible alternative in your case!

Best regards, Cathy

S18B0001	Tomicic	Pety	D	C		B	Started
S18BP001	Koenig	Krips		D		B	
S18BQ001	Lisenfeld	Neri		CD	04-jul / 05-sep	B	
S18BR001	Garcia-Burillo	Herrera Contreras		C		B	
S18RT001	Wana	Cunningham		C		B	

How to use NOEMA

Project ID	PI1	PI2	Status	Other	Dates	Phase	Completion
S18AL002	Pineda	Lefevre	D		22-apr / 24-jun	A	Completed
S18AN001	Mottram	Lefevre	D			A	Completed
S18AO001	Wang	Herrera Contreras	CD	C		B	Started
S18AQ001	Colzi	Lopez-Sepulcre	D	C	16-may / 19-jul	A	Started

Catherine Berjaud <berjaud@iram.fr>

Project S18AL completed -> data reduction

We are pleased to inform you that your project:

Title: Exploring the kinematics of a subsonic dense core

IRAM Reference Number: S18AL

IRAM local contact: Charlene Lefèvre

has recently been observed with the NOEMA Interferometer and is now completed. As your data have been taken with the recently commissioned correlator PolyFiX, we recommend you plan a stay at IRAM/Grenoble for the calibration of your data so we can provide you with the most efficient support.

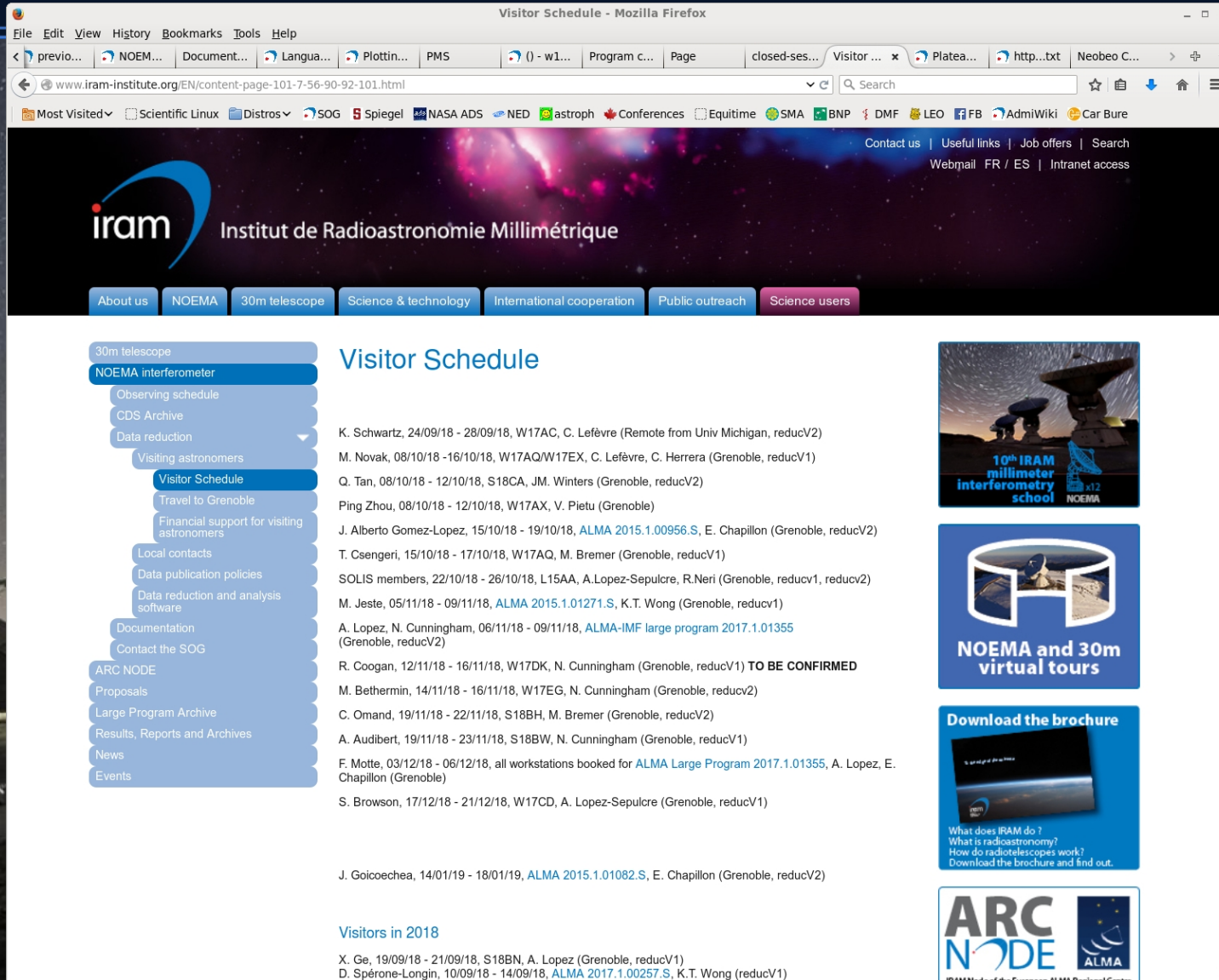
Please take note that

1. your IRAM local contact is to be contacted to organize the support for the calibration and reduction of the project data; please consult the [list of visitors](#) and check with your local contact before deciding for a date of visit.
2. publications issued from NOEMA observations are required to comply with the [IRAM data publication policies](#)
3. according to the [IRAM Data policy](#), the data of your NOEMA project will enter the public domain on 01 June 2020

Best regards, Cathy

S18BO001	Tomicic	Pety	D	C		B	Started
S18BP001	Koenig	Krips		D		B	
S18BQ001	Lisenfeld	Neri		CD	04-jul / 05-sep	B	
S18BR001	Garcia-Burillo	Herrera Contreras		C		B	
S18RT001	Wana	Cunninham		C		B	

How to use NOEMA



Visitor Schedule - Mozilla Firefox

www.iram-institute.org/EN/content-page-101-7-56-90-92-101.html

iram Institut de Radioastronomie Millimétrique

Contact us | Useful links | Job offers | Search
Webmail FR / ES | Intranet access

About us | NOEMA | 30m telescope | Science & technology | International cooperation | Public outreach | Science users

30m telescope
NOEMA interferometer
Observing schedule
CDS Archive
Data reduction
Visiting astronomers
Visitor Schedule
Travel to Grenoble
Financial support for visiting astronomers
Local contacts
Data publication policies
Data reduction and analysis software
Documentation
Contact the SOG
ARC NODE
Proposals
Large Program Archive
Results, Reports and Archives
News
Events

Visitor Schedule

K. Schwartz, 24/09/18 - 28/09/18, W17AC, C. Lefèvre (Remote from Univ Michigan, reducV2)
M. Novak, 08/10/18 - 16/10/18, W17AQ/W17EX, C. Lefèvre, C. Herrera (Grenoble, reducV1)
Q. Tan, 08/10/18 - 12/10/18, S18CA, JM. Winters (Grenoble, reducV2)
Ping Zhou, 08/10/18 - 12/10/18, W17AX, V. Pietu (Grenoble)
J. Alberto Gomez-Lopez, 15/10/18 - 19/10/18, ALMA 2015.1.00956.S, E. Chapillon (Grenoble, reducV2)
T. Csengeri, 15/10/18 - 17/10/18, W17AQ, M. Bremer (Grenoble, reducV1)
SOLIS members, 22/10/18 - 26/10/18, L15AA, A.Lopez-Sepulcre, R.Neri (Grenoble, reducV1, reducV2)
M. Jeste, 05/11/18 - 09/11/18, ALMA 2015.1.01271.S, K.T. Wong (Grenoble, reducV1)
A. Lopez, N. Cunningham, 06/11/18 - 09/11/18, ALMA-IMF large program 2017.1.01355 (Grenoble, reducV2)
R. Coogan, 12/11/18 - 16/11/18, W17DK, N. Cunningham (Grenoble, reducV1) **TO BE CONFIRMED**
M. Bethermin, 14/11/18 - 16/11/18, W17EG, N. Cunningham (Grenoble, reducV2)
C. Omand, 19/11/18 - 22/11/18, S18BH, M. Bremer (Grenoble, reducV2)
A. Audibert, 19/11/18 - 23/11/18, S18BW, N. Cunningham (Grenoble, reducV1)
F. Motte, 03/12/18 - 06/12/18, all workstations booked for ALMA Large Program 2017.1.01355, A. Lopez, E. Chapillon (Grenoble)
S. Browson, 17/12/18 - 21/12/18, W17CD, A. Lopez-Sepulcre (Grenoble, reducV1)

J. Goicoechea, 14/01/19 - 18/01/19, ALMA 2015.1.01082.S, E. Chapillon (Grenoble, reducV2)

Visitors in 2018

X. Ge, 19/09/18 - 21/09/18, S18BN, A. Lopez (Grenoble, reducV1)
D. Spérone-Longin, 10/09/18 - 14/09/18, ALMA 2017.1.00257.S, K.T. Wong (reducV1)

10th IRAM millimeter interferometry school
NOEMA x12

NOEMA and 30m virtual tours

Download the brochure

What does IRAM do?
What is radioastronomy?
How do radiotelescopes work?
Download the brochure and find out.

ARC NODE ALMA

10th IRAM Interferometry School – 01-05 October 2018

How to use NOEMA

Visitor Schedule - Mozilla Firefox

www.iram-institute.org/EN/content-page-101-7-56-90-92-101.html

iram Institut de Radioastronomie Millimétrique

About us NOEMA 30m telescope Science & technology International cooperation Public outreach Science users

Visitor Schedule

We prefer to host not more than 2 groups at a time!
(having said that we may accept 3 groups if justified)

M. Jeste, 05/11/18 - 09/11/18, ALMA 2015.1.01271.S, K.T. Wong (Grenoble, reducV1)
A. Lopez, N. Cunningham, 06/11/18 - 09/11/18, ALMA-IMF large program 2017.1.01355 (Grenoble, reducV2)
R. Coogan, 12/11/18 - 16/11/18, W17DK, N. Cunningham (Grenoble, reducV1) **TO BE CONFIRMED**
M. Bethermin, 14/11/18 - 16/11/18, W17EG, N. Cunningham (Grenoble, reducV2)
C. Omand, 19/11/18 - 22/11/18, S18BH, M. Bremer (Grenoble, reducV2)
A. Audibert, 19/11/18 - 23/11/18, S18BW, N. Cunningham (Grenoble, reducV1)
F. Motte, 03/12/18 - 06/12/18, all workstations booked for ALMA Large Program 2017.1.01355, A. Lopez, E. Chapillon (Grenoble)
S. Browson, 17/12/18 - 21/12/18, W17CD, A. Lopez-Sepulcre (Grenoble, reducV1)

J. Goicoechea, 14/01/19 - 18/01/19, ALMA 2015.1.01082.S, E. Chapillon (Grenoble, reducV2)

Visitors in 2018

X. Ge, 19/09/18 - 21/09/18, S18BN, A. Lopez (Grenoble, reducV1)
D. Spérone-Longin, 10/09/18 - 14/09/18, ALMA 2017.1.00257.S, K.T. Wong (reducV1)

10th IRAM millimeter interferometry school NOEMA x12

NOEMA and 30m virtual tours

Download the brochure

What does IRAM do?
What is radioastronomy?
How do radiotelescopes work?
Download the brochure and find out.

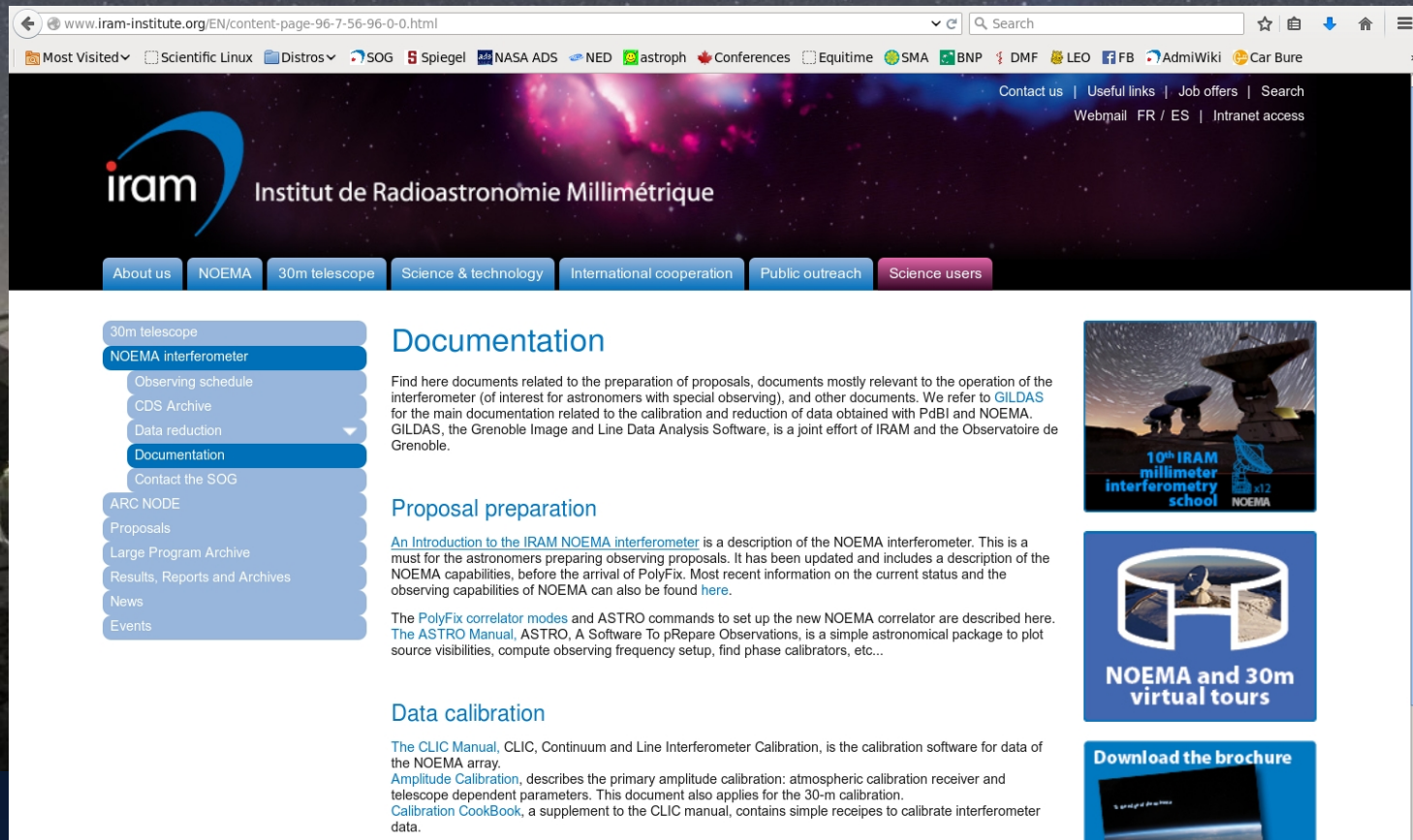
ARC NODE ALMA

10th IRAM Interferometry School – 01-05 October 2018

How to use NOEMA

DATA Reduction:

* Please, read the documentation before your visit (especially if your a first time visitor):



The screenshot shows the IRAM website interface. The browser address bar displays 'www.iram-institute.org/EN/content-page-96-7-56-96-0-0.html'. The website header includes the IRAM logo and the text 'Institut de Radioastronomie Millimétrique'. A navigation menu at the top lists various categories: About us, NOEMA, 30m telescope, Science & technology, International cooperation, Public outreach, and Science users. The main content area is titled 'Documentation' and contains several sections:

- 30m telescope**
 - NOEMA interferometer
 - Observing schedule
 - CDS Archive
 - Data reduction
 - Documentation**
 - Contact the SOG
 - ARC NODE
 - Proposals
 - Large Program Archive
 - Results, Reports and Archives
 - News
 - Events
- Documentation**

Find here documents related to the preparation of proposals, documents mostly relevant to the operation of the interferometer (of interest for astronomers with special observing), and other documents. We refer to [GILDAS](#) for the main documentation related to the calibration and reduction of data obtained with PdBI and NOEMA. GILDAS, the Grenoble Image and Line Data Analysis Software, is a joint effort of IRAM and the Observatoire de Grenoble.
- Proposal preparation**

[An Introduction to the IRAM NOEMA interferometer](#) is a description of the NOEMA interferometer. This is a must for the astronomers preparing observing proposals. It has been updated and includes a description of the NOEMA capabilities, before the arrival of PolyFix. Most recent information on the current status and the observing capabilities of NOEMA can also be found [here](#).

The [PolyFix correlator modes](#) and ASTRO commands to set up the new NOEMA correlator are described here. The [ASTRO Manual](#), ASTRO, A Software To pRepare Observations, is a simple astronomical package to plot source visibilities, compute observing frequency setup, find phase calibrators, etc...
- Data calibration**

The [CLIC Manual](#), CLIC, Continuum and Line Interferometer Calibration, is the calibration software for data of the NOEMA array.

[Amplitude Calibration](#), describes the primary amplitude calibration: atmospheric calibration receiver and telescope dependent parameters. This document also applies for the 30-m calibration.

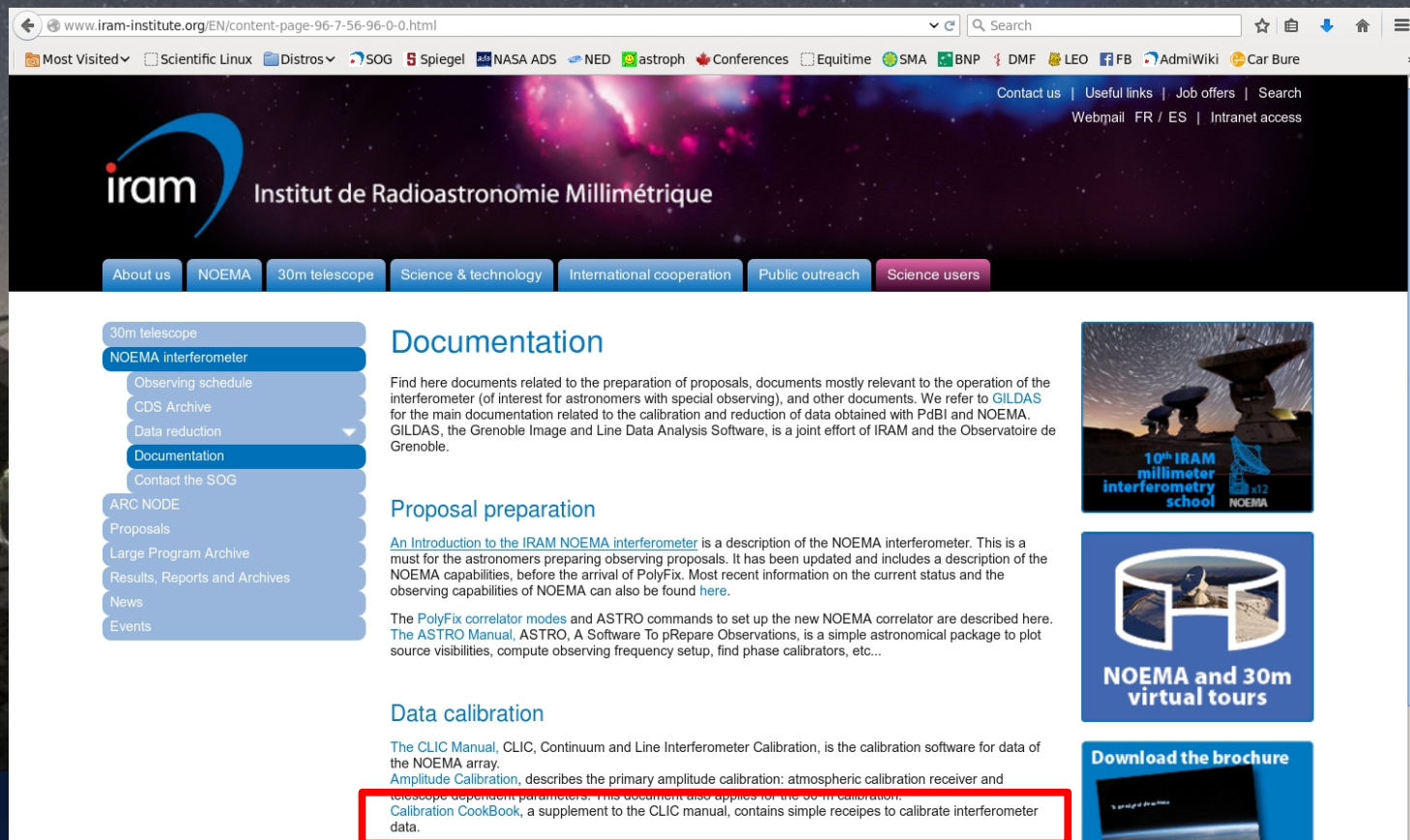
[Calibration Cookbook](#), a supplement to the CLIC manual, contains simple recipes to calibrate interferometer data.

Additional content on the page includes a '10th IRAM millimeter interferometry school' banner, a 'NOEMA and 30m virtual tours' section with a 3D model of the telescope array, and a 'Download the brochure' button.

How to use NOEMA

DATA Reduction:

* Please, read the documentation before your visit (especially if your a first time visitor):



www.iram-institute.org/EN/content-page-96-7-56-96-0-0.html

Most Visited Scientific Linux Distros SOG Spiegel NASA ADS NED astroph Conferences Equitime SMA BNP DMF LEO FB AdmiWiki Car Bure

Contact us | Useful links | Job offers | Search
Webmail FR / ES | Intranet access

iram Institut de Radioastronomie Millimétrique

About us NOEMA 30m telescope Science & technology International cooperation Public outreach Science users

30m telescope
NOEMA interferometer
Observing schedule
CDS Archive
Data reduction
Documentation
Contact the SOG
ARC NODE
Proposals
Large Program Archive
Results, Reports and Archives
News
Events

Documentation

Find here documents related to the preparation of proposals, documents mostly relevant to the operation of the interferometer (of interest for astronomers with special observing), and other documents. We refer to [GILDAS](#) for the main documentation related to the calibration and reduction of data obtained with PdBI and NOEMA. GILDAS, the Grenoble Image and Line Data Analysis Software, is a joint effort of IRAM and the Observatoire de Grenoble.

Proposal preparation

[An Introduction to the IRAM NOEMA interferometer](#) is a description of the NOEMA interferometer. This is a must for the astronomers preparing observing proposals. It has been updated and includes a description of the NOEMA capabilities, before the arrival of PolyFix. Most recent information on the current status and the observing capabilities of NOEMA can also be found [here](#).

The [PolyFix correlator modes](#) and ASTRO commands to set up the new NOEMA correlator are described here. The [ASTRO Manual](#), ASTRO, A Software To pRepare Observations, is a simple astronomical package to plot source visibilities, compute observing frequency setup, find phase calibrators, etc...

Data calibration

The [CLIC Manual](#), CLIC, Continuum and Line Interferometer Calibration, is the calibration software for data of the NOEMA array.

[Amplitude Calibration](#), describes the primary amplitude calibration: atmospheric calibration receiver and telescope dependent parameters. This document also applies for the 30m calibration.

[Calibration Cookbook](#), a supplement to the CLIC manual, contains simple recipes to calibrate interferometer data.

10th IRAM millimeter interferometry school NOEMA x12

NOEMA and 30m virtual tours

Download the brochure

How to use NOEMA

DATA Reduction:

* Please, read the documentation before your visit (especially if your a first time visitor):

www.iram-institute.org/EN/content-page-96-7-56-96-0-0.html

Most Visited Scientific Linux Distros SOG Spiegel NASA ADS NED astroph Conferences Equitime SMA BNP DMF LEO FB AdmiWiki Car Bure

Contact us | Useful links | Job offers | Search
Webmail FR / ES | Intranet access

iram

Probably really, really old
an update will come... :)

About us NOEMA 30m telescope Science & technology International cooperation Public outreach Science users

30m telescope
NOEMA interferometer
Observing schedule
CDS Archive
Data reduction
Documentation
Contact the SOG

ARC NODE
Proposals
Large Program Archive
Results, Reports and Archives
News
Events

Documentation

Find here documents related to the preparation of proposals, documents mostly relevant to the operation of the interferometer (of interest for astronomers with special observing), and other documents. We refer to **GILDAS** for the main documentation related to the calibration and reduction of data obtained with PdBI and NOEMA. GILDAS, the Grenoble Image and Line Data Analysis Software, is a joint effort of IRAM and the Observatoire de Grenoble.

Proposal preparation

An introduction to the IRAM NOEMA interferometer is a description of the NOEMA interferometer. This is a...
NOEMA...
observing capabilities of NOEMA can also be found here.

The **PolyFix correlator modes** and **ASTRO** commands to set up the new NOEMA correlator are described here.
The **NOEMA manual: ASTRO Software to Prepare Observations**, is a simple astronomical package to pre-source visibilities, compute observing frequency setup, and phase calibrators, etc...

Data calibration

The **CLIC manual: CLIC, continuum and line interferometer calibration**, is the calibration software for data of the NOEMA array.
telescope dependent parameters. This document also applies for the 30-m calibration.
Calibration Cookbook, a supplement to the CLIC manual, contains simple recipes to calibrate interferometer data.

10th IRAM millimeter interferometry school NOEMA x12

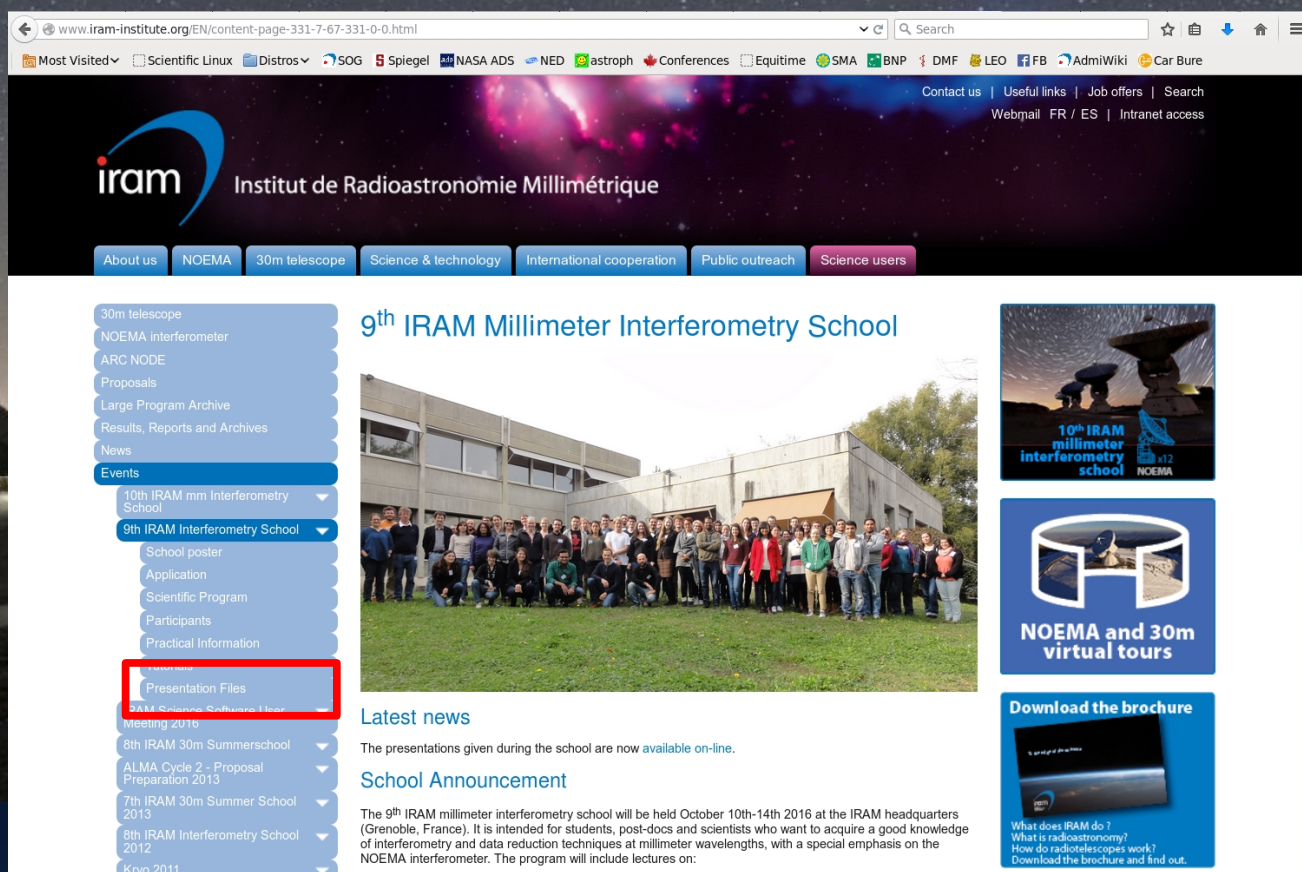
NOEMA and 30m virtual tours

Download the brochure

How to use NOEMA

DATA Reduction:

* Please, read the documentation before your visit (especially if your a first time visitor):



The screenshot shows the IRAM website interface. The top navigation bar includes links for 'About us', 'NOEMA', '30m telescope', 'Science & technology', 'International cooperation', 'Public outreach', and 'Science users'. The main content area features a sidebar menu on the left with a red box highlighting 'Presentation Files'. The main content area displays the '9th IRAM Millimeter Interferometry School' page, which includes a group photo of participants, a 'Latest news' section, and a 'School Announcement' section. A 'Download the brochure' button is also visible.

iram Institut de Radioastronomie Millimétrique

30m telescope
NOEMA interferometer
ARC NODE
Proposals
Large Program Archive
Results, Reports and Archives
News
Events

10th IRAM mm Interferometry School
9th IRAM Interferometry School
School poster
Application
Scientific Program
Participants
Practical Information

Presentation Files

8th IRAM 30m Summerschool
ALMA Cycle 2 - Proposal Preparation 2013
7th IRAM 30m Summer School 2013
8th IRAM Interferometry School 2012
Kryo 2011

9th IRAM Millimeter Interferometry School

Latest news

The presentations given during the school are now [available on-line](#).

School Announcement

The 9th IRAM millimeter interferometry school will be held October 10th-14th 2016 at the IRAM headquarters (Grenoble, France). It is intended for students, post-docs and scientists who want to acquire a good knowledge of interferometry and data reduction techniques at millimeter wavelengths, with a special emphasis on the NOEMA interferometer. The program will include lectures on:

Download the brochure

What does IRAM do?
What is radioastronomy?
How do radiotelescopes work?
Download the brochure and find out.

How to use NOEMA

DATA Reduction:

- * LC is there to help you with the data reduction and may provide further assistance for mapping and/or more in-depth analysis
- * please note data reduction accounts are usually kept open for ~2 weeks and will be then deleted (raw data will always be archived but no data reduction products!)

How to use NOEMA

DATA Reduction:

* Travel funds may be available:

- either for Pis from IRAM partner countries (travel will be paid by IRAM)
- through RADIONET TA program funding if Certain criteria are fulfilled; contact:

winters@iram.fr

or read more here:

<http://www.iram-institute.org/EN/content-page-114-7-56-90-92-114.html>

Financial support for visiting astronomers - Mozilla Firefox

File Edit View History Bookmarks Tools Help

IRAM-201... () - NO... Platea... NOEM... Visitor Sch... Galactic Financi... View Sess... closed-ses... IRAM Com...

www.iram-institute.org/EN/content-page-114-7-56-90-92-114.html

Most Visited Scientific Linux Distros SOG Spiegel NASA ADS NED astroph Conferences Equitime SMA BNP

iram Institut de Radioastronomie Millimétrique

About us NOEMA 30m telescope Science & technology International cooperation Public outreach Science users

30m telescope
NOEMA interferometer
Observing schedule
CDS Archive
Data reduction
Visiting astronomers
Visitor Schedule
Travel to Grenoble
Financial support for visiting astronomers
Local contacts
Data publication policies
Data reduction and analysis software
Documentation
Contact the SOG
ARC NODE
Proposals
Large Program Archive
Results, Reports and Archives
News
Events

Financial support to visiting astronomers on mission to IRAM-Grenoble for data reduction

Financial support is granted to the Principal Investigators from institutes in the IRAM member states on a NOEMA data reduction mission to Grenoble. IRAM provides free transportation, board and lodging to these astronomers. Only under exceptional circumstances, financial support can be provided for an additional astronomer, and after prior consent by IRAM.

I. Eligible scientists from the IRAM member states

- France : Astronomers working at French observatories and universities.
- Germany : Astronomers working at Max-Planck Institutes.
- Astronomers working at German universities may also be eligible to travel reimbursement, provided they fill a special form.
- Spain : Astronomers working at the Instituto Geografico Nacional.

Rules for Reimbursement

Generally, visiting astronomers are asked to book their travel tickets themselves. The conditions for reimbursement are as follows :

- AIR : The reimbursement of flight tickets is made on the basis of the cheapest price available for a roundtrip. The authorization by IRAM must be obtained for any exception to this regulation. Public transportation (shuttle) from and to the airport, should be used. Taxis are reimbursed only if a bus or train service is not available at the time of flights (please keep all receipts).
- TRAIN : For travel by train, the costs of a 2nd class ticket will be reimbursed. Supplements for high-speed trains and sleeper are eligible expenses.
- CAR : Mileage expenses by private car are not reimbursed by IRAM.
- ACCOMODATION : The same eligibility rules apply for accomodation reimbursement. Accomodation in a 2 stars hotel will be organized by IRAM.

Reimbursement procedure

On their arrival at IRAM, visiting astronomers will be held a Travel Request Form which is to be filled in, signed and sent to IRAM (Attention : "Service des Missions"), together with trip tickets and all necessary receipts.

II. Scientists eligible for TA (RadioNet) support

RadioNet IV is an initiative supported by the European Commission under the 8th Framework Programme (FP8) from 01-01-2017 to 31-12-2020.

TA support may be available for eligible projects. Please submit your request to the IRAM RadioNet TA leader (ta@iram.fr).

III. Not supported astronomers

When free board, lodging and travel are not provided by IRAM, the charges are as follows :

Taxi Geneva-Grenoble* 160 km, roughly 180 euros
 Taxi Lyon-Grenoble 100 km, roughly 160 euros
 Train Return ticket Geneva – Grenoble 100 km, 40 euros
 Bus shuttle Return ticket Lyon St-Exupery – Grenoble 30 euros
 Meals in the proximity of IRAM about 12 euros

10th IRAM millimeter interferometry school NOEMA

NOEMA and 30m virtual tours

Download the brochure

What does IRAM do ?
 What is radioastronomy?
 How do radiotelescopes work?
 Download the brochure and find out.

ARC NODE ALMA
 IRAM Node of the European ALMA Regional Center

GILDAS SOFTWARE

IRAM Large Program Archive

DATA R

* Travel

- eithe

(trave

- throu

Certa

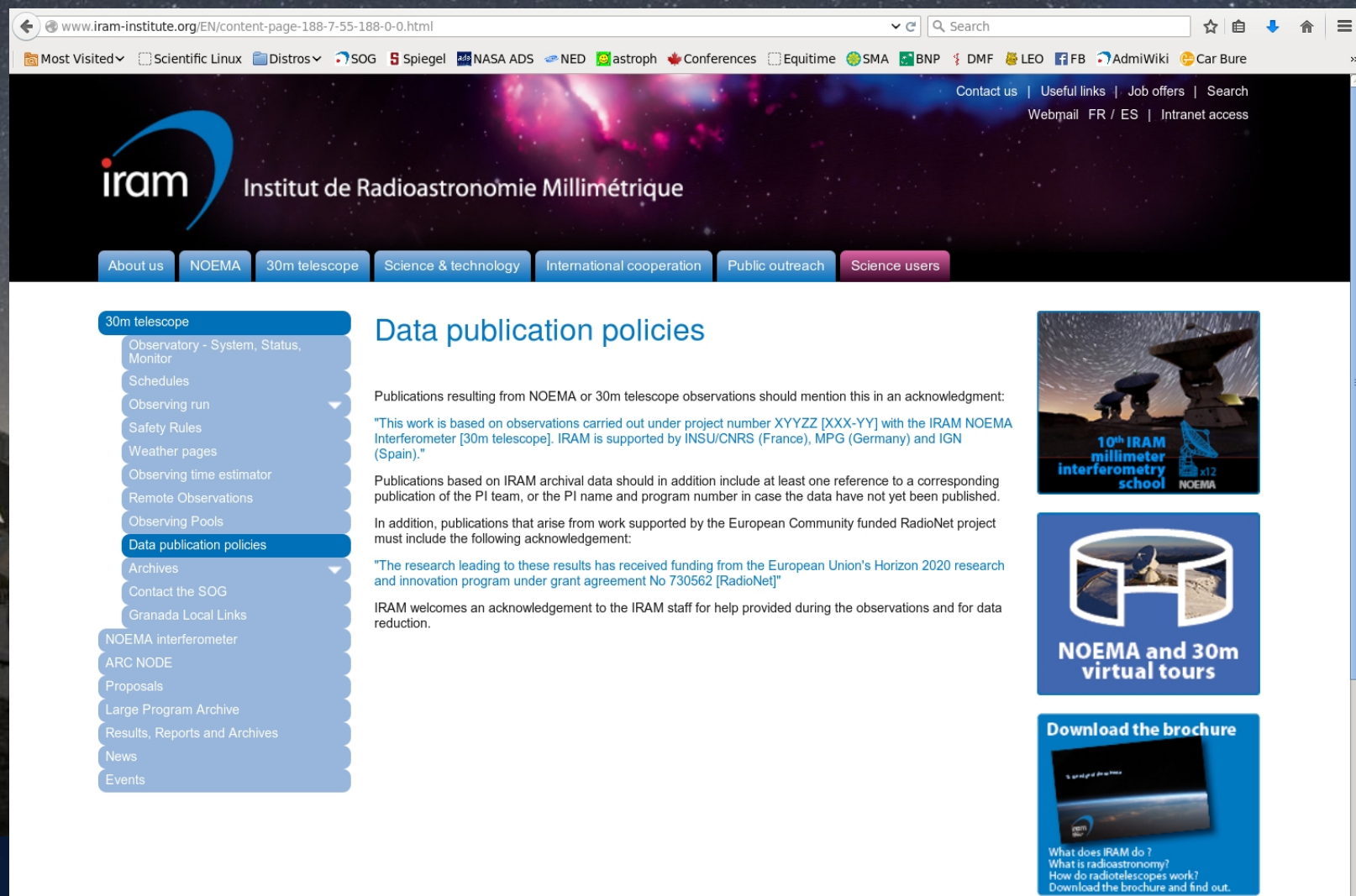
or re

http://w

tml

How to use NOEMA

DATA Publication Policy:



The screenshot shows the IRAM website with the following elements:

- Header:** "iram Institut de Radioastronomie Millimétrique". Navigation links include "Contact us", "Useful links", "Job offers", "Search", "Webmail", "FR / ES", and "Intranet access".
- Menu:** "About us", "NOEMA", "30m telescope", "Science & technology", "International cooperation", "Public outreach", "Science users".
- Left Sidebar (30m telescope):**
 - Observatory - System, Status, Monitor
 - Schedules
 - Observing run
 - Safety Rules
 - Weather pages
 - Observing time estimator
 - Remote Observations
 - Observing Pools
 - Data publication policies**
 - Archives
 - Contact the SOG
 - Granada Local Links
- Main Content (Data publication policies):**
 - Section-Header:** "Data publication policies"
 - Text:** "Publications resulting from NOEMA or 30m telescope observations should mention this in an acknowledgment: 'This work is based on observations carried out under project number XYYZZ [XXX-YY] with the IRAM NOEMA Interferometer [30m telescope]. IRAM is supported by INSU/CNRS (France), MPG (Germany) and IGN (Spain).'"
 - Text:** "Publications based on IRAM archival data should in addition include at least one reference to a corresponding publication of the PI team, or the PI name and program number in case the data have not yet been published."
 - Text:** "In addition, publications that arise from work supported by the European Community funded RadioNet project must include the following acknowledgement: '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]'"
 - Text:** "IRAM welcomes an acknowledgement to the IRAM staff for help provided during the observations and for data reduction."
- Right Sidebar:**
 - Image:** "10th IRAM millimeter interferometry school NOEMA"
 - Image:** "NOEMA and 30m virtual tours"
 - Image:** "Download the brochure" with text: "What does IRAM do? What is radioastronomy? How do radiotelescopes work? Download the brochure and find out."

How to use NOEMA

Questions?