

# DEMO PMS:

## *Proposal Management System*



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9th IRAM millimeter Interferometry School



## NOEMA proposal preparation:

### 1) Scientific goal?

- Source
- Line or continuum
- Spatial resolution: low or high
- Detection/mapping
- Context

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### IN PRACTICE:

- check CDS (duplication) + ASTRO
- at which frequency
- with which spectral resolution?
- which array configuration?
- Detection = sensitivity  
Mapping = Time On Source (TOS)
- Prepare arguments for the PC

## NOEMA proposal preparation:

### 1) Scientific goal?

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### 2) Agreement with the call for proposal

**Summer semester:** compact configurations, low frequencies

**Winter semester:** extended configurations, high frequencies



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**2 key documents :** <http://www.iram-institute.org>  
**Science Users > Proposals > Call for Proposals**

### IRAM NOEMA interferometer Observing Capabilities and Current Status

#### 2 Conditions for the next winter session

Due to the large investment in technical time necessary in the current extension phase of the NOEMA project, *Large Programs* will not be accepted for the interferometer under the current *Call for Proposals*.

During the course of the winter semester, we plan to schedule all three configurations of the eight antenna array. A preliminary configuration schedule for the winter period is outlined below. 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 below should be taken as a rough guideline, in particular when the requested astronomical targets cannot be observed during the entire winter period because of sun avoidance constraints.

8-Ant Conf	Scheduling Priority Winter 2016/17
C	December
D	December – January
A	January – February
C	February – March
(D	March – May)

### 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 2016 to 31 May 2017, is

15 September 2016, 17:00 CEST (UT + 2 hours)

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

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

## NOEMA proposal preparation:

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### 3) Proposal creation and submission

**Through the Proposal Management System (PMS): <https://pms.iram.fr>**

## NOEMA proposal preparation:

### 1) Scientific goal?

- Source
- Line or continuum
- Spatial resolution: low or high
- Detection/mapping
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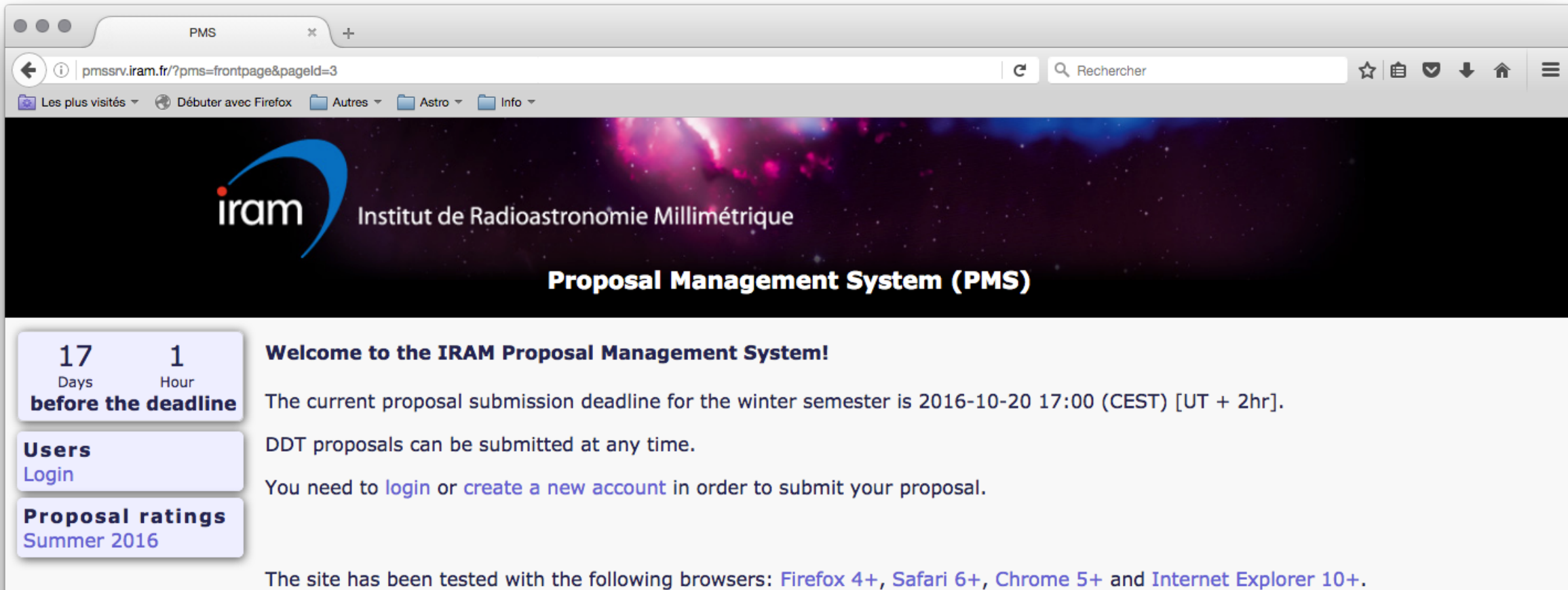
### 2) Agreement with the call for proposal

### 3) Proposal creation and submission

**Through the Proposal Management System (PMS): <https://pms.iram.fr>**

- On line form with technical details  
(source coordinates, array configuration...)
- PDF file with scientific and technical justifications:
  - 2 pages of text (4 pages for Large Programs > 100 hours)
  - 2 pages of figures, tables, references (**well-separated!**)
  - font size 11pt or larger (LATEX template)

# ONLINE DEMO FOR PMS



The screenshot shows a web browser window with the URL `pmssrv.iram.fr/?pms=frontpage&pageld=3`. The page features the IRAM logo and the text "Institut de Radioastronomie Millimétrique". Below this, the title "Proposal Management System (PMS)" is displayed. A sidebar on the left contains three sections: "17 Days 1 Hour before the deadline", "Users Login", and "Proposal ratings Summer 2016". The main content area includes a welcome message, the current proposal submission deadline (2016-10-20 17:00 CEST), and instructions for users to login or create an account. At the bottom, it lists the browsers tested: Firefox 4+, Safari 6+, Chrome 5+, and Internet Explorer 10+.

**17 Days 1 Hour before the deadline**

**Users**  
Login

**Proposal ratings**  
Summer 2016

**Welcome to the IRAM Proposal Management System!**

The current proposal submission deadline for the winter semester is 2016-10-20 17:00 (CEST) [UT + 2hr].

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+](#).

**FAKE session created for the school:**  
**[pmssrv.iram.fr](http://pmssrv.iram.fr)**

**First step: create an account**  
**You can test yourself but do not invite Cols.**



# ONLINE DEMO FOR PMS

PROPOSAL NOT SUBMITTED

## Proposal P293665

Session: Winter 2016 - NOEMA

Title:

Proposal category[?]: ☒ Standard ☐ Time filler ☐ Special

Scientific category: -Select-

Abstract[?]:

1200 characters

- 1 – Cosmology and the high redshift universe
- 2 – Galaxies and galactic nuclei
- 3 – ISM, star formation and astrochemistry
- 4 – Circumstellar disks, exoplanets and the solar system
- 5 – Stellar evolution

To sort proposals by topics for the Time Attribution Committee

# ONLINE DEMO FOR PMS

PROPOSAL NOT SUBMITTED

## Proposal P293665

Session: Winter 2016 - NOEMA

Title:

Proposal category[?]: ☒ Standard ☐ Time filler ☐ Special

Scientific category:

Abstract[?]:

1200 characters

Request for 30m short spacings: ☐

**One single proposal for both observatories (NOEMA + 30m)**

# ONLINE DEMO FOR PMS

PROPOSAL NOT SUBMITTED

## Proposal P293665

Session: Winter 2016 - NOEMA

Title:

Proposal category[?]: ☒ Standard ☐ Time filler ☐ Special

Scientific category:

Abstract[?]:

Request for 30m short spacings: ☐

### Old proposals

Resubmission:

Continuation:

Proposal history[?]:

**Was your project partly observed?**

**B rated project might not be observed during the current semester  
It can be resubmitted for the next semester  
if it is compatible with the call**





# ONLINE DEMO FOR PMS

PROPOSAL NOT SUBMITTED

Proposal P293665

Session: Winter 2016 - NOEMA

Title: High velocity shocks in L1157

Proposal category[?]: ☒ Standard ☐ Time filler ☐ Special

Scientific category: -Select-

Abstract[?]:

Request for 30m short spacings: ☐

Old proposals

Resubmission: Select a proposal

Continuation: Select a proposal

Proposal history[?]:

Authors

For a proposal to be complete, you will have to send invitations (even if you have already invited). We urge proposal editors to do so as soon as possible. You may submit your proposal for participation to the proposal committee.

Invite co-authors

PIs: Select authors

	Full name	Current institute	Edit[?]	Email[?]	Status[?]	
	Charlene Lefevre	Institut de Radioastronomie Millimétrique				make CoI remove

CoIs: Select authors

	Full name	Current institute	Edit[?]	Email[?]	Status[?]	
	Jeremie Boissier	Institut de Radioastronomie Millimétrique	<input type="checkbox"/>	[iram.fr] (edit)	not invited	make PI remove

Cols selection can be an argument for the PC:  
give details of their role if relevant in attached PDF file

if they do not validate (7 days after the deadline)  
they will disappear from the proposal header

# ONLINE DEMO FOR PMS

## Sources and setups

Sources[?]:

Technical sheets:

### 3 examples:

- Detecting/Mapping protostellar disks in Taurus:  
**first goal:** continuum observations - **dust disk**  
**bonus:** CO(2-1) @230.538GHz - width - **gas disk**  
disk size: 2" - sensitivity 0.1 mJy/beam
- CO(2-1) observations in redshifted galaxies  
line width 100km.s<sup>-1</sup> / resolution=10km.s<sup>-1</sup>  
sensitivity: 2 mJy/beam
- Detecting/Mapping protostellar disks in Ophiuchus



**Source Famous-disk**  
**Proposal:** P293699  
**Id[?]:** Famous-disk  
**Epoch:** J2000  
**RA:** 04:00:00.000  
**DEC:** 30:00:00.000  
**Vlsr (km/s):** 6.0  

Ok

Cancel

# Detecting protostellar disks

## Technical sheet 1

**Proposal:** P293730  
**Type:** ☒ Detection ☐ Mapping ☐ Size measurement  
**Number of sources:** 1

### Settings

**Line name[?]:** cont-3mm **Tuning frequency[?]:** 230.538 GHz **On grid[?]:** ☒  
**Requested sensitivity:** 0.10 mJy/beam **Spectral resolution:** 3600.0 MHz → **On source time per source[?]:** 5.27 hours  
**Distribution of time per configuration:**  
**A:**  % **C:** 100.0 % **D:**  % **or Any:**  % **from:** ☐ A ☐ C ☐ D

**Size of largest structure[?]:** < 1.0 arcsec

### Continuum part

**Expected continuum flux[?]:** 1.0 mJy  
**Expected continuum source size[?]:** 1.0 arcsec

### For line projects Add line

Line name	Rest frequency [?] GHz	Width [?] km/s	Size [?] arcsec	Strength [?] mJy	
CO(2-1)	230.538	20.0	< 1.0	10.0	delete

**Do you need narrow band correlator?**

Add

Next talk: NOEMA spectral setups by J. Boissier

### Summary

**Total observing time[?]:** 8.43 (5.27 \* 1.60) hours  
**Total number of tracks:** C: 1.05 (assumed a standard track time of 8 hours)



# Observing star formation in galaxies

galaxies.cat

Gal1	EQ	2000	00:00:00.00	50:00:00.00	LSR	0	$z=0.4$
Gal2	EQ	2000	01:00:00.00	50:00:00.00	LSR	0	$z=0.6$
Gal3	EQ	2000	02:00:00.00	50:00:00.00	LSR	0	$z=0.8$
Gal4	EQ	2000	03:00:00.00	50:00:00.00	LSR	0	$z=1.6$
Gal5	EQ	2000	04:00:00.00	50:00:00.00	LSR	0	$z=2.2$

File format:

Gildas/Astro catalog format

Today only "EQ 2000" and "LSR" are accepted as coordinate system and velocity.

Example:

M51 EQ 2000 13:29:52.7 47:11:43 LSR 465

Or:

Name;Ra;Dec;Vlsr-or-z

Epoch is set to J2000

Example:

M51;13:29:52.7;47:11:43;465

$$F_{\text{sky}} = F_{\text{rest}}/(1+z)$$

$$F_{\text{rest}} = 230.538\text{GHz}$$

# Observing star formation in galaxies

galaxies.cat

Gal1	EQ	2000	00:00:00.00	50:00:00.00	LSR	0	$z=0.4$	$F_{\text{sky}}=164.670\text{GHz}$
Gal2	EQ	2000	01:00:00.00	50:00:00.00	LSR	0	$z=0.6$	$F_{\text{sky}}=144.086\text{GHz}$
Gal3	EQ	2000	02:00:00.00	50:00:00.00	LSR	0	$z=0.8$	$F_{\text{sky}}=128.076\text{GHz}$
Gal4	EQ	2000	03:00:00.00	50:00:00.00	LSR	0	$z=1.6$	$F_{\text{sky}}=88.668\text{GHz}$
Gal5	EQ	2000	04:00:00.00	50:00:00.00	LSR	0	$z=2.2$	$F_{\text{sky}}=72.043\text{GHz}$

File format:

Gildas/Astro catalog format

Today only "EQ 2000" and "LSR" are accepted as coordinate system and velocity.

Example:

M51 EQ 2000 13:29:52.7 47:11:43 LSR 465

Or:

Name;Ra;Dec;Vlsr-or-z

Epoch is set to J2000

Example:

M51;13:29:52.7;47:11:43;465

$$F_{\text{sky}} = F_{\text{rest}}/(1+z)$$

$$F_{\text{rest}} = 230.538\text{GHz}$$

**What is possible?**

# Observing star formation in galaxies

galaxies.cat

Gal1	EQ	2000	00:00:00.00	50:00:00.00	LSR	0	$z=0.4$	$F_{\text{sky}}=164.670\text{GHz}$
Gal2	EQ	2000	01:00:00.00	50:00:00.00	LSR	0	$z=0.6$	$F_{\text{sky}}=144.086\text{GHz}$
Gal3	EQ	2000	02:00:00.00	50:00:00.00	LSR	0	<del><math>z=0.8</math></del>	<del><math>F_{\text{sky}}=128.076\text{GHz}</math></del>
Gal4	EQ	2000	03:00:00.00	50:00:00.00	LSR	0	$z=1.6$	$F_{\text{sky}}=88.668\text{GHz}$
Gal5	EQ	2000	04:00:00.00	50:00:00.00	LSR	0	<del><math>z=2.2</math></del>	<del><math>F_{\text{sky}}=72.043\text{GHz}</math></del>

File format:

Gildas/Astro catalog format

Today only "EQ 2000" and "LSR" are accepted as coordinate system and velocity.

Example:

M51 EQ 2000 13:29:52.7 47:11:43 LSR 465

Or:

Name;Ra;Dec;Vlsr-or-z

Epoch is set to J2000

Example:

M51;13:29:52.7;47:11:43;465

$$F_{\text{sky}} = F_{\text{rest}}/(1+z)$$

$$F_{\text{rest}} = 230.538\text{GHz}$$

What is possible?

At higher redshift, CO(3-2) could be observed:  $F_{\text{rest}}=345.796\text{GHz}$



# Observing star formation in galaxies

galaxies.cat

Gal1	EQ	2000	00:00:00.00	50:00:00.00	LSR	0	$z=0.4$	$F_{\text{sky}}=164.670\text{GHz}$
Gal2	EQ	2000	01:00:00.00	50:00:00.00	LSR	0	$z=0.6$	$F_{\text{sky}}=144.086\text{GHz}$
Gal3	EQ	2000	02:00:00.00	50:00:00.00	LSR	0	<del><math>z=0.8</math></del>	<del><math>F_{\text{sky}}=128.076\text{GHz}</math></del>
Gal4	EQ	2000	03:00:00.00	50:00:00.00	LSR	0	$z=1.6$	$F_{\text{sky}}=88.668\text{GHz}$
Gal5	EQ	2000	04:00:00.00	50:00:00.00	LSR	0	<del><math>z=2.2</math></del>	<del><math>F_{\text{sky}}=72.043\text{GHz}</math></del>

File format:

Gildas/Astro catalog format

Today only "EQ 2000" and "LSR" are accepted as coordinate system and velocity.

Example:

M51 EQ 2000 13:29:52.7 47:11:43 LSR 465

Or:

Name;Ra;Dec;Vlsr-or-z

Epoch is set to J2000

Example:

M51;13:29:52.7;47:11:43;465

$$F_{\text{sky}} = F_{\text{rest}}/(1+z)$$

$$F_{\text{rest}} = 230.538\text{GHz}$$

What is possible?

At higher redshift, CO(3-2) could be observed:  $F_{\text{rest}}=345.796\text{GHz}$

Demo with Gal1 and Gal2:

resolution:  $10\text{km/s} = 5.5\text{ MHz}$  for Gal1,  $4.8\text{MHz}$  for Gal2

# Observing star formation in galaxies

Gal 1

## Technical sheet 2

Proposal: P293751

Type: ☒ Detection ☐ Mapping ☐ Size measurement

Number of sources: 1

### Settings

Line name[?]: CO(2-1)    Tuning frequency[?]: 164.67 GHz    On grid[?]: ☒

Requested sensitivity: 2.00 mJy/beam    Spectral resolution: 4.8 MHz → On source time per source[?]: 3.43 hours

Distribution of time per configuration:

A:  %    C:  %    D:  %    or Any: 100.0 %    from: ☐ A ☒ C ☒ D

Size of largest structure[?]: < 1.0 arcsec

### Continuum part

Expected continuum flux[?]: 0.0 mJy

Expected continuum source size[?]: 0.0 arcsec

For line projects

Do you need narrow band correlator?

### Summary

Total observing time[?]: 5.49 (3.43 \* 1.60) hours

Total number of tracks: Any: 0.69 from: C, D (assumed a standard track time of 8 hours)



# Observing star formation in galaxies

Gal 2

**Technical sheet 3**  
**Proposal:** P293730  
**Type:** ☒ Detection ☐ Mapping ☐ Size measurement  
**Number of sources:** 1

**Settings**  
**Line name[?]:** CO(2-1) **Tuning frequency[?]:** 144.086 GHz **On grid[?]:** ☒  
**Requested sensitivity:** 2.00 mJy/beam **Spectral resolution:** 4.8 MHz → **On source time per source[?]:** 2.54 hours  
**Distribution of time per configuration:**  
**A:**  % **C:**  % **D:**  % **or Any:** 100.0 % **from:** ☐ A ☒ C ☒ D

**Size of largest structure[?]:** < 1.0 arcsec

**Continuum part**  
**Expected continuum flux[?]:** 0.0 mJy  
**Expected continuum source size[?]:** 0.0 arcsec

**For line projects** 

Line name	Rest frequency [?] GHz	Width [?] km/s	Size [?] arcsec	Strength [?] mJy	
CO(2-1)	230.538	100.0	< 1.0	10.0	<input type="button" value="delete"/>

**Do you need narrow band correlator?**

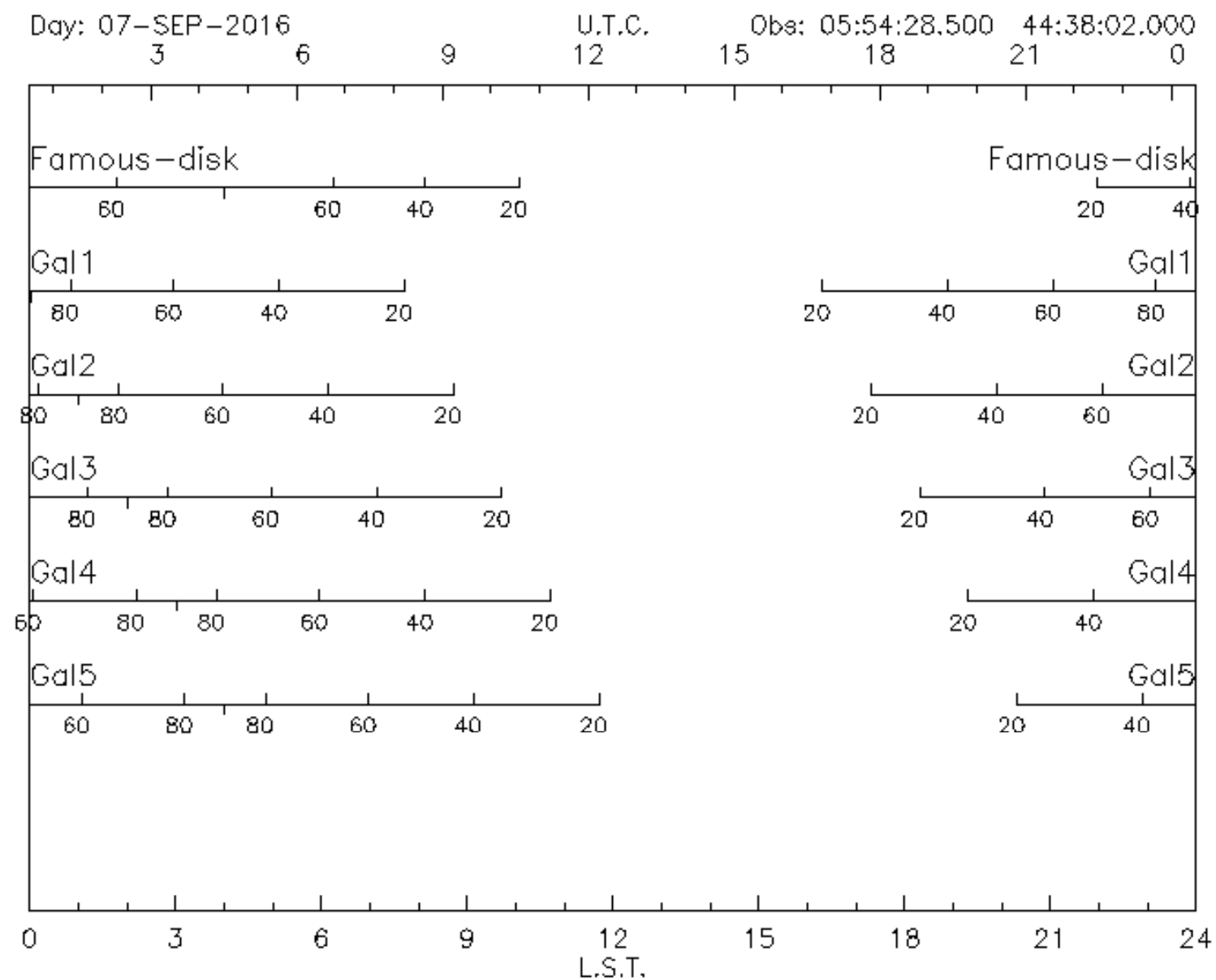
**Summary**  
**Total observing time[?]:** 4.06 (2.54 \* 1.60) hours  
**Total number of tracks:** Any: 0.51 from: C, D (assumed a standard track time of 8 hours)



## What about low declination source?

**Taurus**

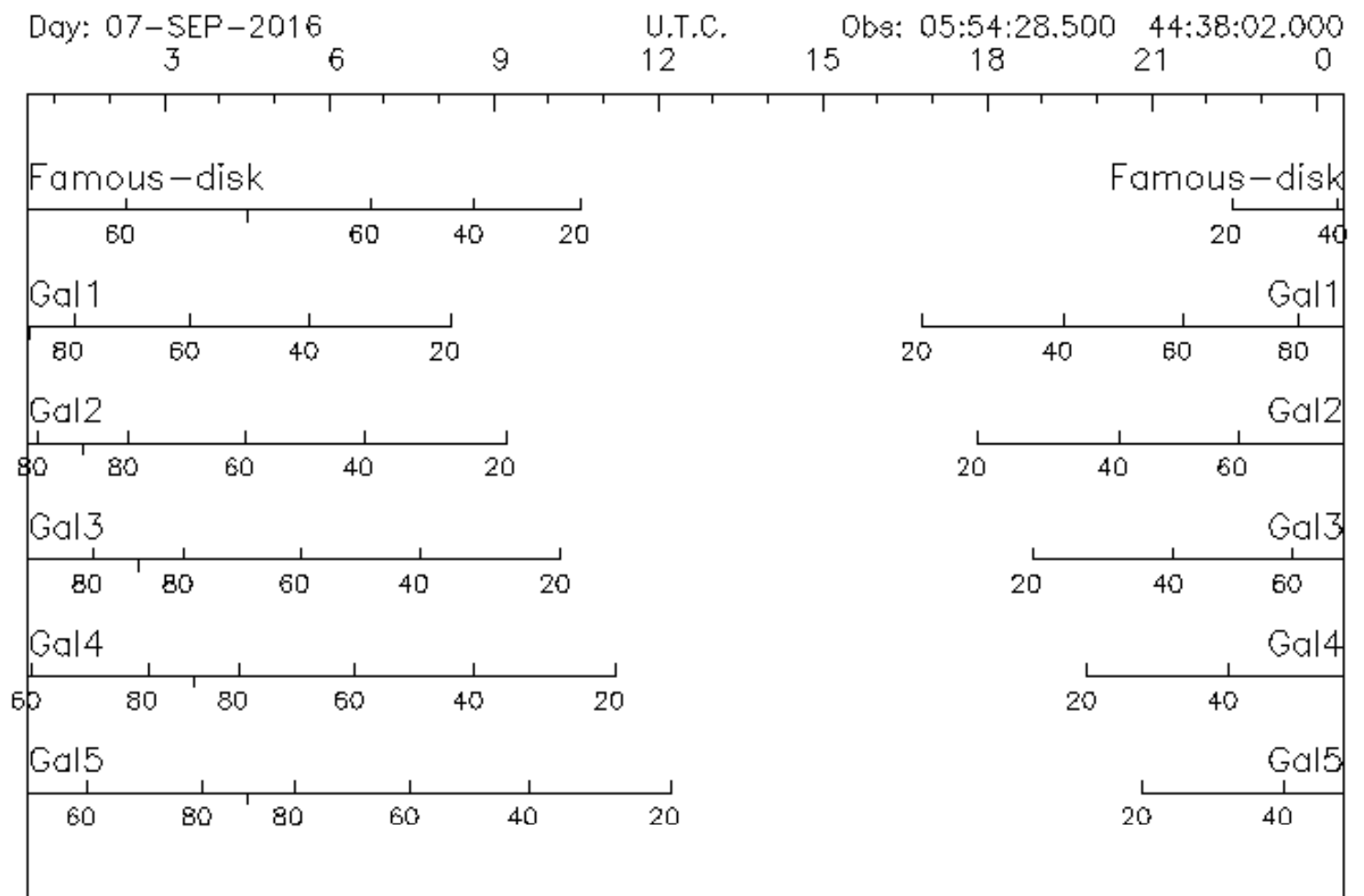
```
ASTRO> obs noema
ASTRO> cata all_sources.cat
ASTRO> time 00:00:00.00 07-sep-2016
ASTRO> hori /sou
```



# What about low declination source?

ASTRO> obs noema  
ASTRO> cata all\_sources.cat  
ASTRO> time 00:00:00.00 07-sep-2016  
ASTRO> hori /sou

Taurus



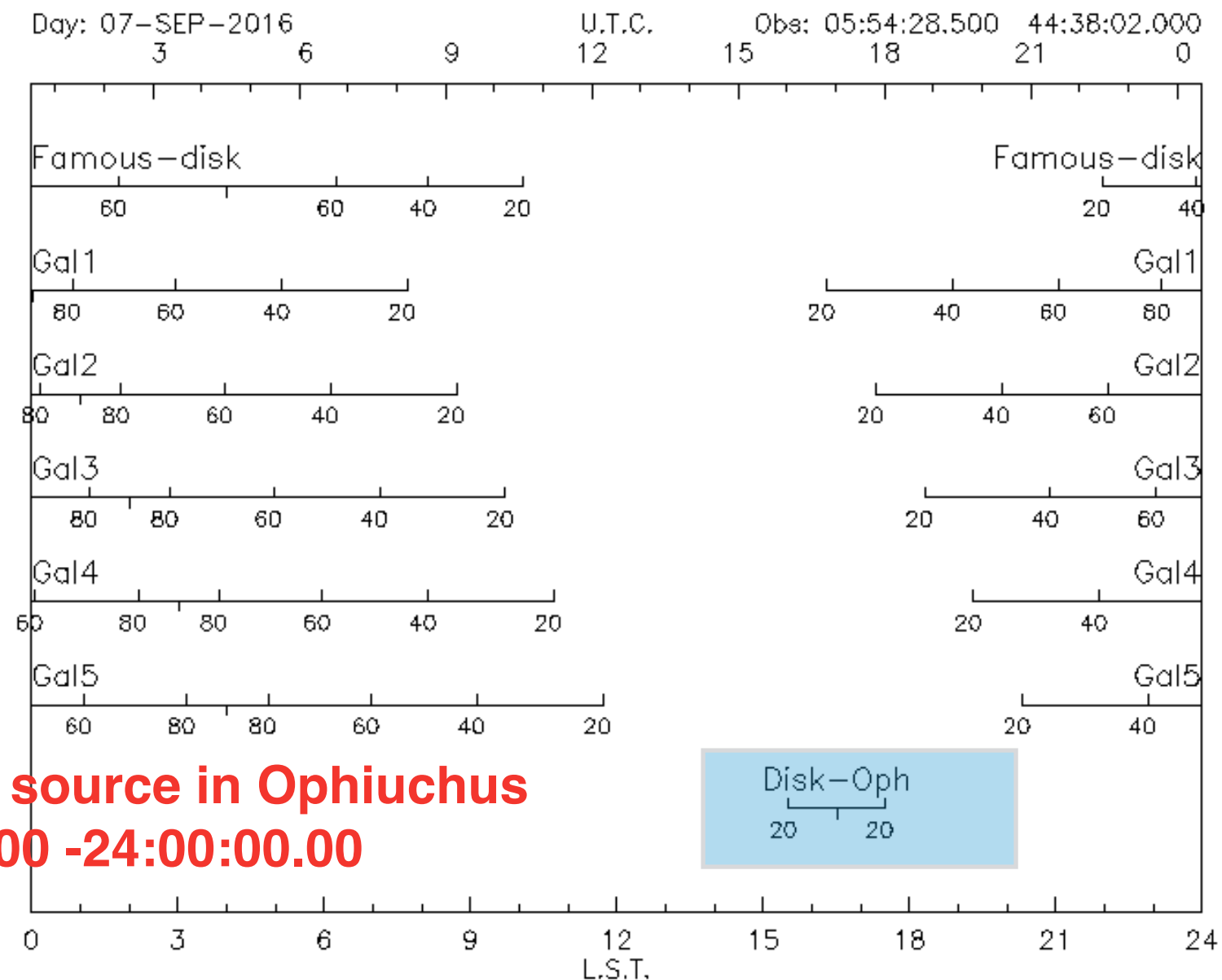
Famous-disk	Sun distance	133.9	Avoidance 22-APR-2017 to 27-JUN-2017
Gal1	Sun distance	134.9	No Avoidance
Gal2	Sun distance	137.3	No Avoidance
Gal3	Sun distance	136.0	No Avoidance
Gal4	Sun distance	131.4	Avoidance 11-MAY-2017 to 26-MAY-2017
Gal5	Sun distance	124.4	Avoidance 13-MAY-2017 to 15-JUN-2017

## What about low declination source?

**Taurus**

```
ASTRO> obs noema
ASTRO> cata all_sources.cat
ASTRO> time 00:00:00.00 07-sep-2016
ASTRO> hori /sou
```

**Low declination source in Ophiuchus**  
**16:30:00.00 -24:00:00.00**



**IT IS DOABLE WITH NOEMA BUT CHALLENGING !**  
**YOU NEED TO ADAPT TIME ON SOURCE!**







# TOS calculated by PMS

Do not hesitate to read online help !

assumed 8 antennas and Tsys = 200.0 K.  
Please visit [NOEMA time/sensitivity estimator](#) for details.

Technical sheet 1

Proposal: P293730

Type: ☒ Detection ☐ Mapping ☐ Size measurement

Number of sources: 1

Settings

Line name[?]: cont-3mm      Tuning frequency[?]: 230.538 GHz    On

Requested sensitivity: 0.10 mJy/beam    Spectral resolution: 3600.0 MHz    → On source time per source[?]: 5.27 hours

Distribution of time per configuration:

A:  %    C: 100.0 %    D:  %    or Any:  %    from: ☐ A ☐ C ☐ D

Size of largest structure[?]: < 1.0 arcsec

Continuum part

Expected continuum flux[?]: 1.0 mJy

Expected continuum source size[?]: 1.0 arcsec

For line projects

Line name	Rest frequency [?] GHz	Width [?] km/s	Size [?] arcsec	Strength [?] mJy	
CO(2-1)	230.538	20.0	< 1.0	10.0	<input type="button" value="delete"/>

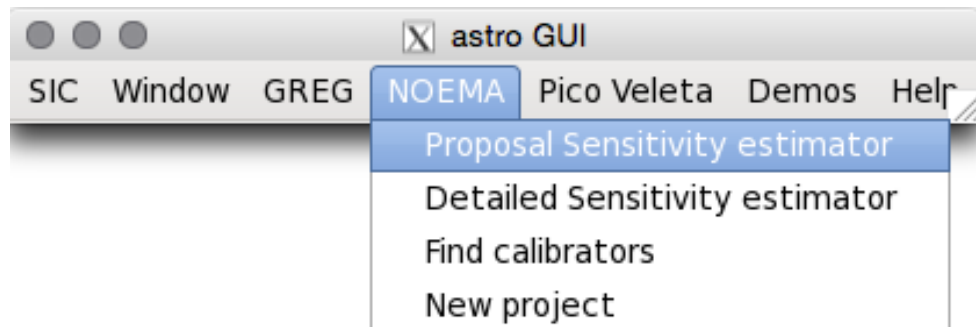
Do you need narrow band correlator?

Summary

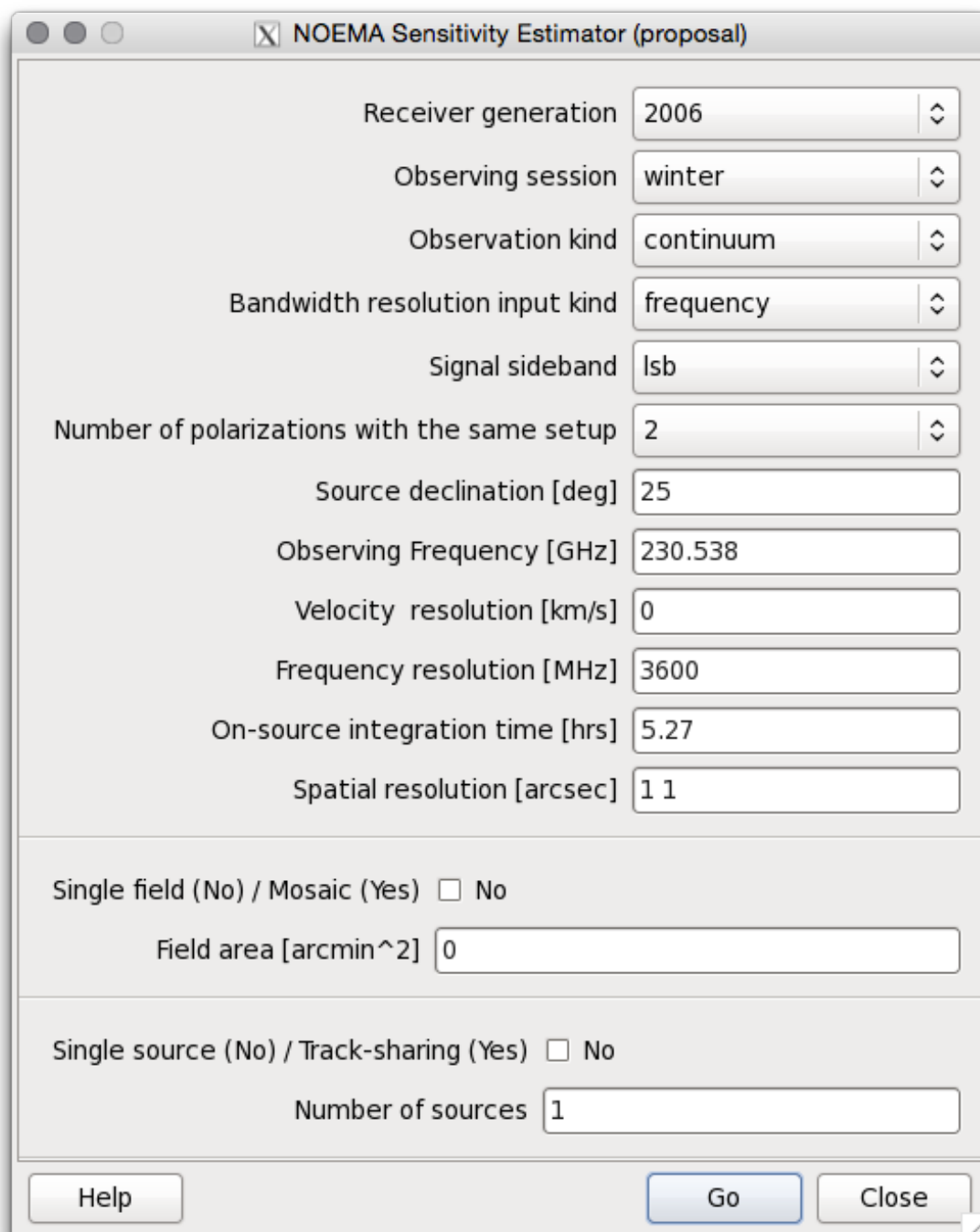
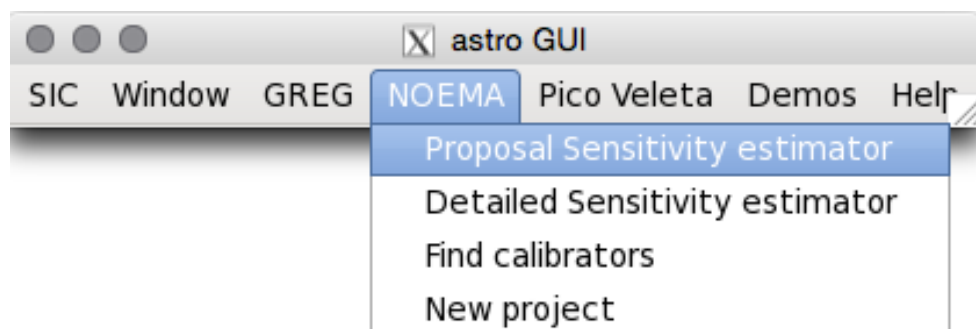
Total observing time[?]: 8.43 (5.27 \* 1.60) hours

Total number of tracks: C: 1.05 (assumed a standard track time of 8 hours)

# NOEMA sensitivity estimator (proposal):



# NOEMA sensitivity estimator (proposal):



A screenshot of the 'NOEMA Sensitivity Estimator (proposal)' window. The window contains several input fields and checkboxes for configuring a proposal.

Parameter	Value
Receiver generation	2006
Observing session	winter
Observation kind	continuum
Bandwidth resolution input kind	frequency
Signal sideband	lsb
Number of polarizations with the same setup	2
Source declination [deg]	25
Observing Frequency [GHz]	230.538
Velocity resolution [km/s]	0
Frequency resolution [MHz]	3600
On-source integration time [hrs]	5.27
Spatial resolution [arcsec]	1 1

Single field (No) / Mosaic (Yes) ☐ No

Field area [arcmin<sup>2</sup>]

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

Number of sources

Buttons: Help, Go, Close



# NOEMA sensitivity estimator (proposal):

astro GUI

SICWindowGREGNOEMAPico VeletaDemosHelp

Proposal Sensitivity estimatorDetailed Sensitivity estimatorFind calibratorsNew project

NOEMA Sensitivity Estimator (proposal)

Receiver generation2006

Observing sessionwinter

Observation kindcontinuum

Bandwidth resolution input kindfrequency

Signal sidebandlsb

Number of polarizations with the same setup2

Source declination [deg]25

Observing Frequency [GHz]230.538

Velocity resolution [km/s]0

Frequency resolution [MHz]3600

On-source integration time [hrs]5.27

Spatial resolution [arcsec]1 1

Single field (No) / Mosaic (Yes) ☐ No

Field area [arcmin^2]0

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

Number of sources1

Help

Go

Close

Interferometer Sensitivity

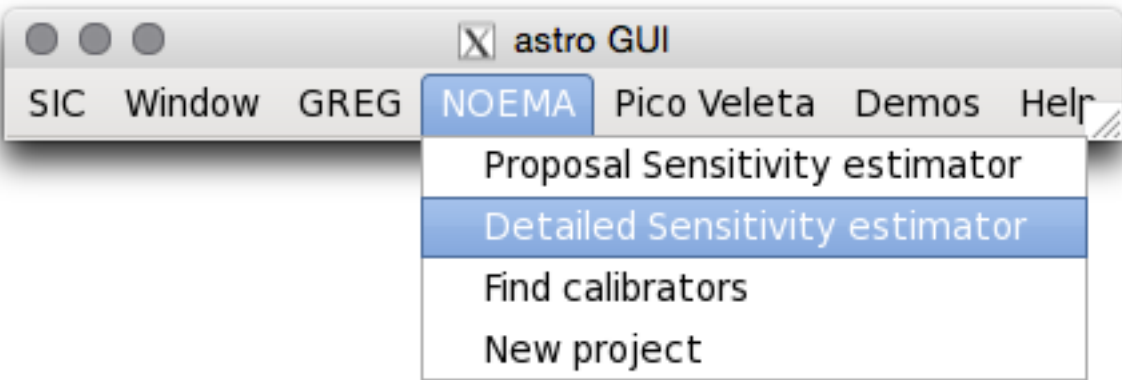
Frequency:	230.538 GHz
wavelength:	1.300 mm
Number of polarizations:	2
Frequency resolution:	3600.000 MHz
Velocity resolution:	4681.453 km/s
Tsys:	200.000 K
Decorrelation coefficient:	0.800
On-source integration time:	5.270 hrs
Number of available antennas:	8
Antenna efficiency:	35.000 Jy/K
Beam:	1.0 x 1.0 arcsec
Conversion factor:	22.995 K[Tmb] per Jy/beam
Point source sensitivity:	100.044 microJy
rms brightness temperature:	2.300 mK[Tmb]

Constitent with PMS





# NOEMA sensitivity estimator (detailed):



Declination = 25deg

## Interferometer Sensitivity

Frequency:	230.538 GHz
wavelength:	1.300 mm
Number of polarizations:	2
Frequency resolution:	3600.000 MHz
Velocity resolution:	4681.453 km/s
Tsys:	200.010 K
Decorrelation coefficient:	0.800
On-source integration time:	5.270 hrs
Number of available antennas:	8
Antenna efficiency:	35.000 Jy/K
Beam:	1.0 x 1.0 arcsec
Conversion factor:	22.995 K[Tmb] per Jy/beam
Point source sensitivity:	100.049 microJy
rms brightness temperature:	2.301 mK[Tmb]

NOEMA Sensitivity Estimator (detailed)

Number of antennas

8

Receiver generation

2006

Observing session

winter

Observation kind

continuum

Bandwidth resolution input kind

velocity

Signal sideband

lsb

Number of polarizations with the same setup

2

Source declination [deg]

25

Observing Frequency [GHz]

230.538

Velocity resolution [km/s]

0

Frequency resolution [MHz]

3600

On-source integration time [hrs]

5.27

Spatial resolution [arcsec]

1 1

Single field (No) / Mosaic (Yes)

☐ No

Field area [arcmin^2]

0

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

☐ No

Number of sources

1

Atmospheric temperature [K]

293

Precipitable water amount [mm]

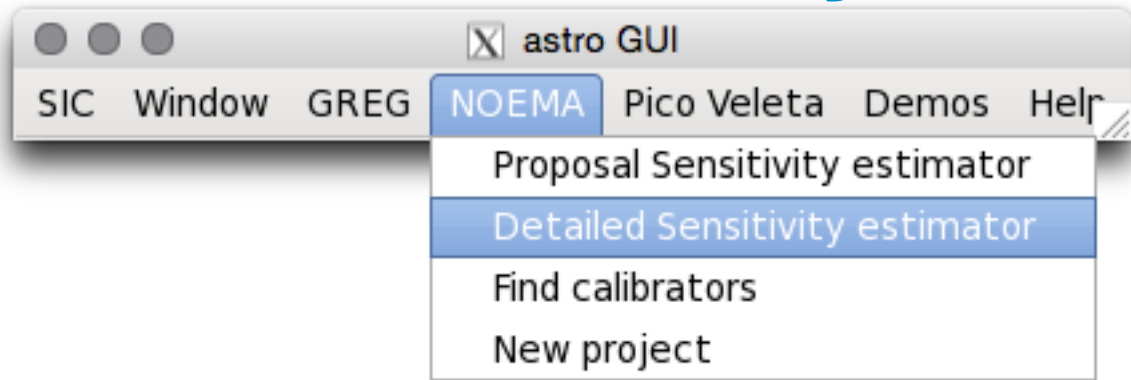
4.32

Help

Go

Close

# NOEMA sensitivity estimator (detailed):



Declination = 25deg

Declination = -24deg

Interferometer Sensitivity		Interferometer Sensitivity	
Frequency:	230.538 GHz	Frequency:	230.538 GHz
wavelength:	1.300 mm	wavelength:	1.300 mm
Number of polarizations:	2	Number of polarizations:	2
Frequency resolution:	3600.000 MHz	Frequency resolution:	3600.000 MHz
Velocity resolution:	4681.453 km/s	Velocity resolution:	4681.453 km/s
Tsys:	200.010 K	Tsys:	439.596 K
Decorrelation coefficient:	0.800	Decorrelation coefficient:	0.800
On-source integration time:	5.270 hrs	On-source integration time:	5.270 hrs
Number of available antennas:	8	Number of available antennas:	8
Antenna efficiency:	35.000 Jy/K	Antenna efficiency:	35.000 Jy/K
Beam:	1.0 x 1.0 arcsec	Beam:	1.0 x 1.0 arcsec
Conversion factor:	22.995 K[Tmb]	Conversion factor:	22.995 K[Tmb] per Jy/beam
Point source sensitivity:	100.049 microJy	Point source sensitivity:	219.895 microJy
rms brightness temperature:	2.301 mK[Tmb]	rms brightness temperature:	5.056 mK[Tmb]



# NOEMA sensitivity estimator (detailed):

**True Time on Source = TOS(PMS)\*(SENSITIVITY RATIO)^2**  
**True Time on Source ~ 25.5h instead of 5.27h !!**

## Declination = 25deg

Interferometer Sensitivity	
-----	
Frequency:	230.538 GHz
wavelength:	1.300 mm
Number of polarizations:	2
Frequency resolution:	3600.000 MHz
Velocity resolution:	4681.453 km/s
Tsys:	200.010 K
Decorrelation coefficient:	0.800
On-source integration time:	5.270 hrs
Number of available antennas:	8
Antenna efficiency:	35.000 Jy/K
Beam:	1.0 x 1.0 arcsec
Conversion factor:	22.995 K[Tmb]
Point source sensitivity:	100.049 microJy
rms brightness temperature:	2.301 mK[Tmb]
-----	

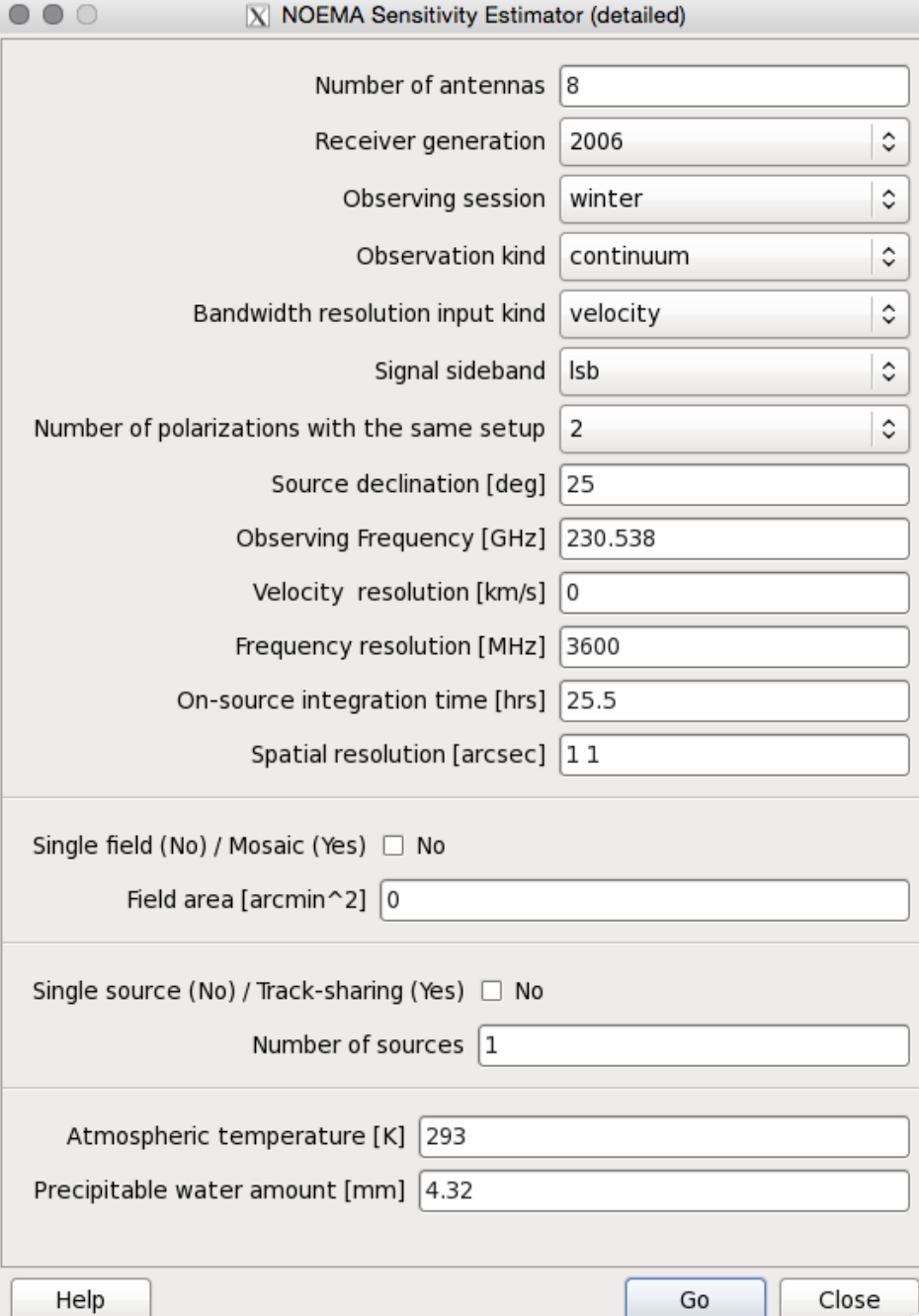
## Declination = -24deg

Interferometer Sensitivity	
-----	
Frequency:	230.538 GHz
wavelength:	1.300 mm
Number of polarizations:	2
Frequency resolution:	3600.000 MHz
Velocity resolution:	4681.453 km/s
Tsys:	439.596 K
Decorrelation coefficient:	0.800
On-source integration time:	5.270 hrs
Number of available antennas:	8
Antenna efficiency:	35.000 Jy/K
Beam:	1.0 x 1.0 arcsec
Conversion factor:	22.995 K[Tmb] per Jy/beam
Point source sensitivity:	219.895 microJy
rms brightness temperature:	5.056 mK[Tmb]
-----	

**SENSITIVITY RATIO ~ 2.2**

# NOEMA sensitivity estimator (detailed):

**True Time on Source = TOS(PMS)\*(SENSITIVITY RATIO)^2**  
**True Time on Source ~ 25.5h instead of 5.27h !!**



NOEMA Sensitivity Estimator (detailed)

Number of antennas: 8

Receiver generation: 2006

Observing session: winter

Observation kind: continuum

Bandwidth resolution input kind: velocity

Signal sideband: lsb

Number of polarizations with the same setup: 2

Source declination [deg]: 25

Observing Frequency [GHz]: 230.538

Velocity resolution [km/s]: 0

Frequency resolution [MHz]: 3600

On-source integration time [hrs]: 25.5

Spatial resolution [arcsec]: 1 1

Single field (No) / Mosaic (Yes) ☐ No

Field area [arcmin^2]: 0

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

Number of sources: 1

Atmospheric temperature [K]: 293

Precipitable water amount [mm]: 4.32

Help Go Close

**Enter the Time on Source needed  
to reach the same sensitivity and dec = 25deg**





# NOEMA sensitivity estimator (detailed):

**True Time on Source = TOS(PMS)\*(SENSITIVITY RATIO)^2**  
**True Time on Source ~ 25.5h instead of 5.27h !!**

NOEMA Sensitivity Estimator (detailed)

Number of antennas

8

Receiver generation

2006

Observing session

winter

Observation kind

continuum

Bandwidth resolution input kind

velocity

Signal sideband

lsb

Number of polarizations with the same setup

2

Source declination [deg]

25

Observing Frequency [GHz]

230.538

Velocity resolution [km/s]

0

Frequency resolution [MHz]

3600

On-source integration time [hrs]

25.5

Spatial resolution [arcsec]

1 1

Single field (No) / Mosaic (Yes)

☐ No

Field area [arcmin^2]

0

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

☐ No

Number of sources

1

Atmospheric temperature [K]

293

Precipitable water amount [mm]

4.32

Help

Go

Close

## Interferometer Sensitivity

Frequency:	230.538 GHz
wavelength:	1.300 mm
Number of polarizations:	2
Frequency resolution:	3600.000 MHz
Velocity resolution:	4681.453 km/s
Tsys:	200.010 K
Decorrelation coefficient:	0.800
On-source integration time:	25.500 hrs
Number of available antennas:	8
Antenna efficiency:	35.000 Jy/K
Beam:	1.0 x 1.0 arcsec
Conversion factor:	22.995 K[Tmb] per Jy/beam
Point source sensitivity:	45.483 microJy
rms brightness temperature:	1.046 mK[Tmb]

**In PMS put the fake sensitivity to get the right TOS and explain in the technical justification part**



# NOEMA sensitivity estimator (detailed):

**True Time on Source = TOS(PMS)\*(SENSITIVITY RATIO)^2**  
**True Time on Source ~ 25.5h instead of 5.27h !!**

NOEMA Sensitivity Estimator (detailed)

Number of antennas8

Receiver generation2006

Observing sessionwinter

Observation kindcontinuum

Bandwidth resolution input kindvelocity

Signal sidebandlsb

Number of polarizations with the same setup2

Single field (No) / Mosaic (Yes) ☐ No

Field area [arcmin^2]0

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

Number of sources1

Atmospheric temperature [K]293

Precipitable water amount [mm]4.32

Help

Go

Close

Interferometer Sensitivity

Frequency: 230.538 GHz  
wavelength: 1.300 mm  
  
Number of polarizations: 2  
Frequency resolution: 3600.000 MHz  
Velocity resolution: 4681.453 km/s

**Dec of -24 deg is an extreme case:  
Of course it would probably not be that worse  
for your favourite target !**

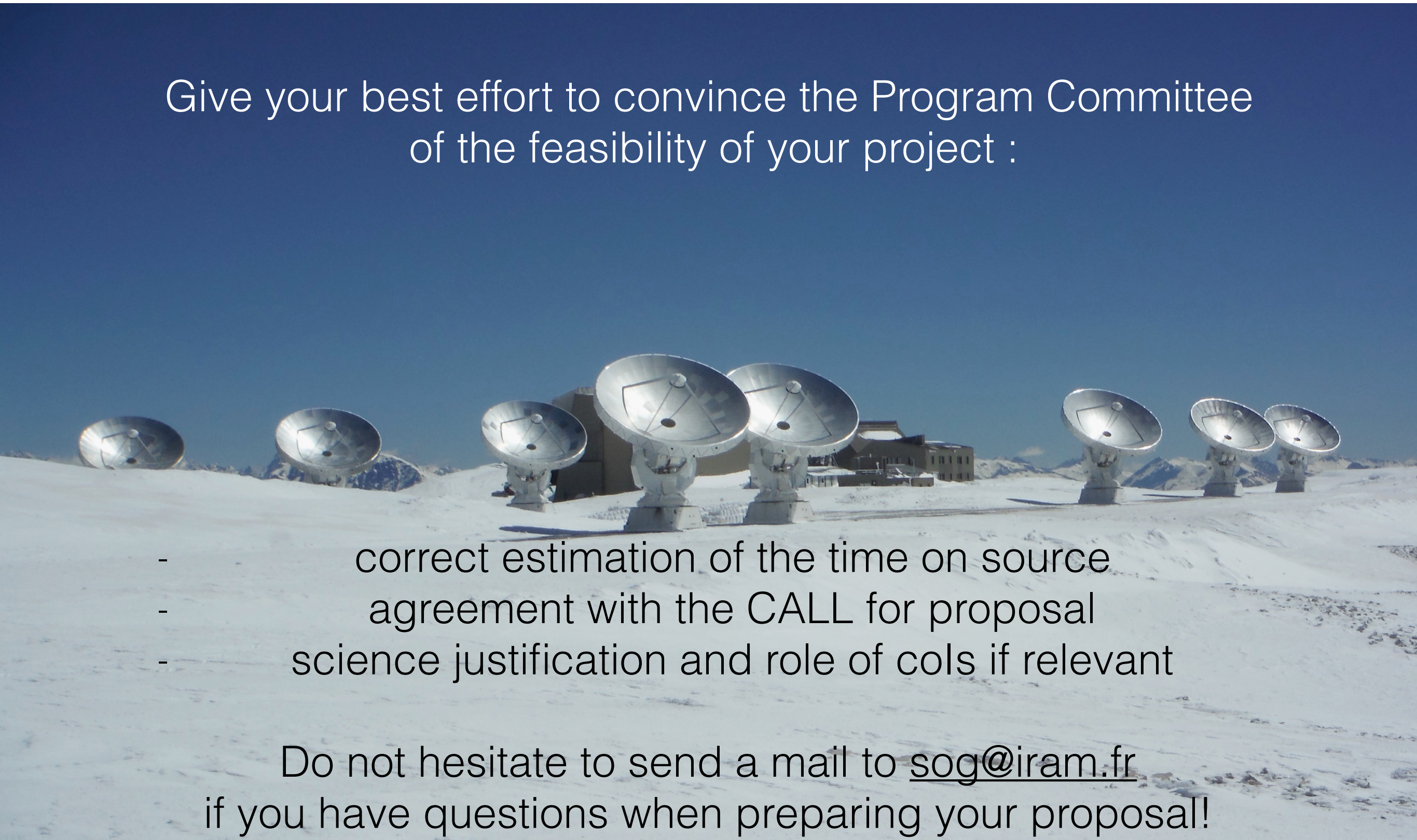
Conversion factor: 22.995 K[Tmb] per Jy/beam  
Point source sensitivity: 45.483 microJy  
rms brightness temperature: 1.046 mK[Tmb]

**In PMS put the fake sensitivity to get the right TOS  
and explain in the technical justification part**



# TAKE HOME MESSAGE

Give your best effort to convince the Program Committee  
of the feasibility of your project :

- 
- correct estimation of the time on source
  - agreement with the CALL for proposal
  - science justification and role of cols if relevant

Do not hesitate to send a mail to [sog@iram.fr](mailto:sog@iram.fr)  
if you have questions when preparing your proposal!