



EUROPEAN ARC
ALMA Regional Centre || IRAM

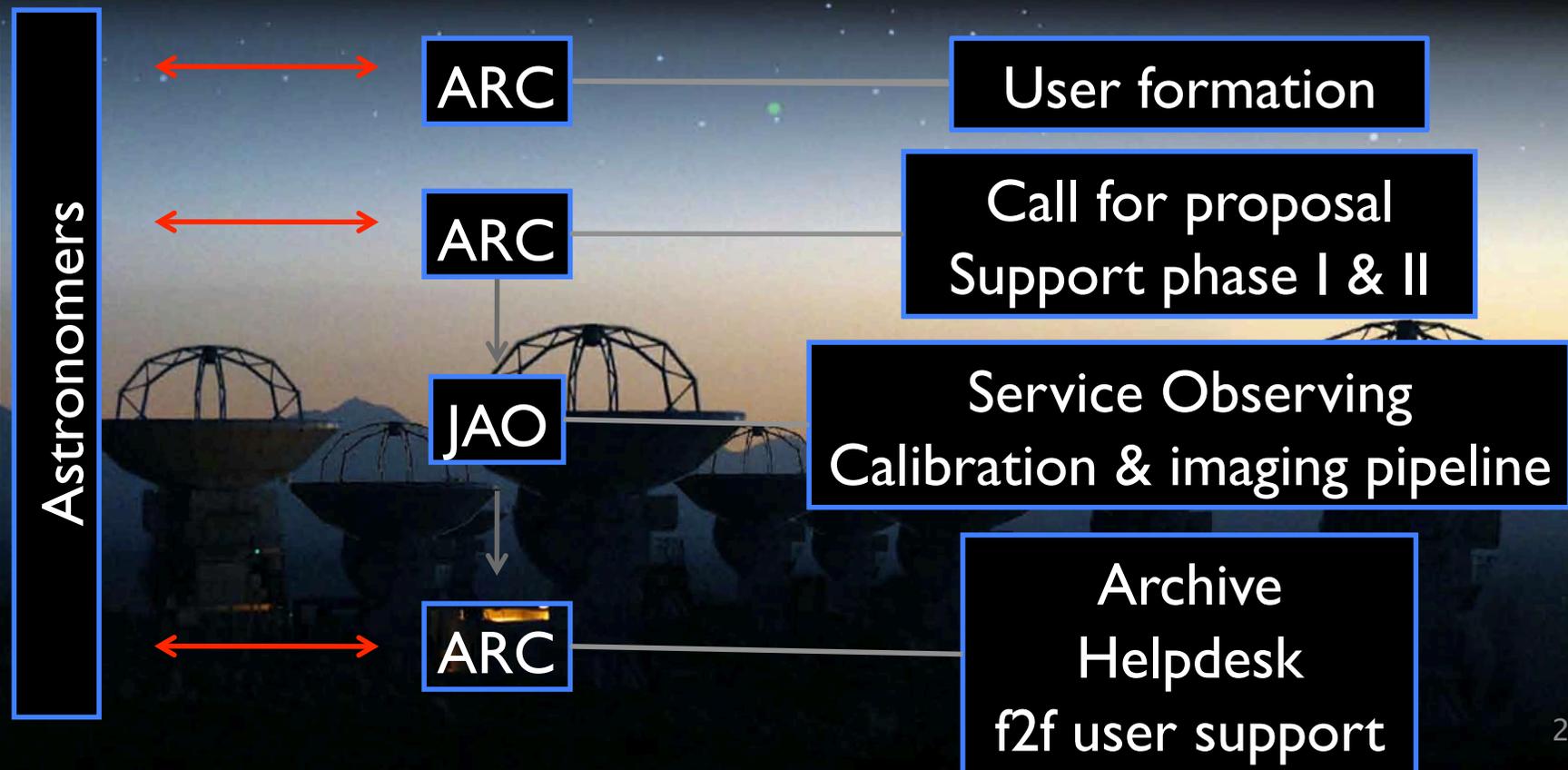
How to use ALMA

Gaelle Dumas



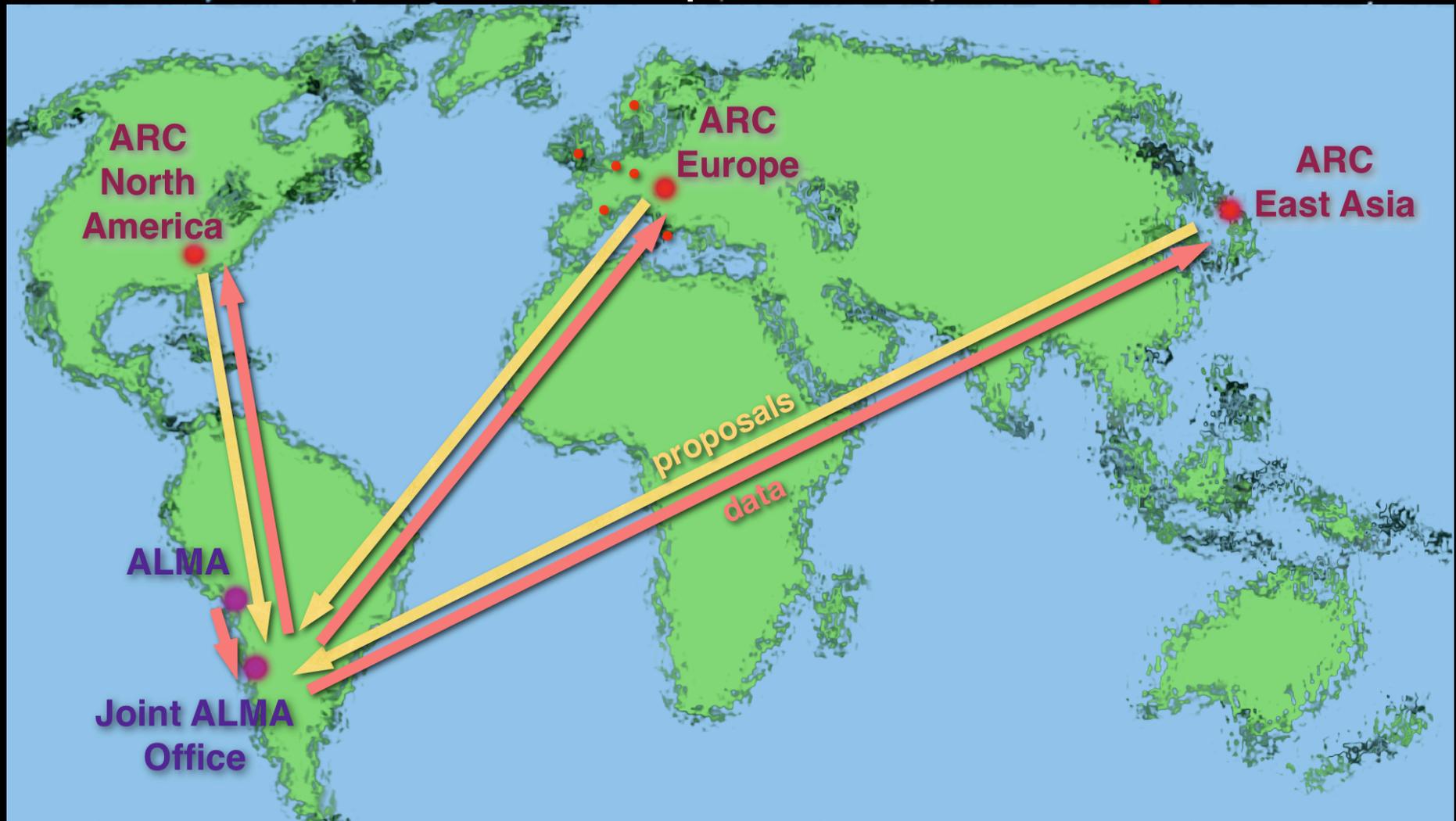
ALMA Organization

- ALMA Regional Centers (ARC)
 - North America, Europe, East Asia
 - Scientific operations & user support
 - Contact point between users and ALMA



ALMA Organization

- ALMA Regional Centers (ARC)
 - North America, Europe, East Asia



European ARC

- ESO Garching
 - Call for proposals
 - Phase I & phase II
 - Helpdesk
 - Data and software delivery
 - Data archive
- ARC nodes
 - Users formation
 - Face-to-face support
 - Specific projects



European ARC

- Seven ARC nodes
 - INAF Bologna
 - Univ. Bonn
 - IRAM
 - Leiden Obs.
 - Manchester Obs.
 - Onsala Obs.
 - Prague
- All nodes open to all European institutes
- Target own community
- IRAM: French, Spanish and German (MPI) communities



Face-to-face support

- Main goal of the ARC nodes
- @ IRAM: extend the PdBI f2f support to ALMA
 - Local contact assigned to each project
 - Phase II : preparation of the SBs
 - Data reduction
 - Travels to Grenoble funded by IRAM (same rules as PdBI)
 - Use existing procedures and infrastructures

Tools for using ALMA

- ALMA science portal
- Helpdesk
- Sensitivity estimator
- Data simulation: CASA, Gildas, on-line
- Observing Tool (OT)
 - Phase I: proposal
 - Phase II: SB preparation
- CASA: see next talk

The ALMA science portal

<http://almascience.org/>

- Interaction between ALMA and science users
- 3 identical portals



Atacama Large Millimeter/Submillimeter Array
In search of our Cosmic Origins

Welcome to the ALMA Science Portal

Please select your preferred ALMA Regional Center (ARC) to access the Science Portal.

The ARCs provide the interface between ALMA and the astronomy community. They are located at NAOJ, in Mitaka, Japan for the East Asian partnership, at ESO in Garching, Germany for the European partnership and at NRAO in Charlottesville, USA for the North American partnership.

Portals:



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Image credit: C. Mayhew & R. Simmon

The ALMA science portal

<http://almascience.org/>

Atacama Large Millimeter/Submillimeter Array
In search of our Cosmic Origins

Search Site

Portals: [ESO](#) [NRAO](#) [NAOJ](#) [Log in](#) [Register](#) [Reset password](#)

Home
About ALMA
ALMA Science
Call for Proposals
ALMA Data
Documents & Tools

User Services at ARCs

- [Helpdesk](#)
- [ALMA@ESO](#)
- [ALMA@NRAO](#)
- [ALMA@NAOJ](#)

Welcome to the ALMA Science Portal at ESO

Overview

The **Atacama Large Millimeter/submillimeter Array (ALMA)** is a major new facility for world astronomy. When completed in 2013, ALMA will consist of a giant array of 12-m antennas, with baselines up to 16 km, and an additional compact array of 7-m and 12-m antennas to greatly enhance ALMA's ability to image extended targets. ALMA is outfitted with state-of-the-art receivers that cover atmospheric windows from 84–950 GHz (3mm – 300 micron). Construction of ALMA started in 2003 and will be completed in 2013. Science observations will start in 2011 with 16 antennas and four receiver bands. The ALMA project is an international collaboration between Europe, East Asia and North America in cooperation with the Republic of Chile. More details can be found via the **About ALMA** link in the left menu.

This is the website for **The ALMA Science Portal**, served from one of the **ALMA Regional Centers (ARCs)** of the ALMA partner organizations: ESO, NRAO or NAOJ. You may switch between the different instances of the portal through the links to the appropriate ALMA partner at the top banner. Through this portal you can find details about the technical capabilities of ALMA, how to propose for observing time, and how to access ALMA data. It includes links to all official ALMA documents and tools, including those for preparing and submitting proposals and processing ALMA data. In order to access some of the tools, users must register with the project and login to the portal via the links at the top banner.

Each of the three ARCs provides additional **User Services**, including a **Helpdesk** for all user queries. Each ARC maintains additional web pages with information on region-specific user services, such as visitor and student programs, schools, workshops, financial programs and public outreach activities. These are accessed via the links under the **User Services at the ARCs** area in the left menu.

[Print this](#) [Toggle full screen mode](#)

General News

Updated ALMA Science Portal
[May 16, 2011](#)

ALMA Cycle 0 Call for Proposals is now open
[Mar 30, 2011](#)

[More...](#)

Local News

The Nordic ARC invites applications for an indefinite Staff Astronomer position.
[Feb 16, 2011](#)

ALMA Community Days 6-7 April 2011: Towards Early Science
[Dec 17, 2010](#)

ESO Takes Delivery of State-of-the-art Receiver
[Dec 15, 2010](#)

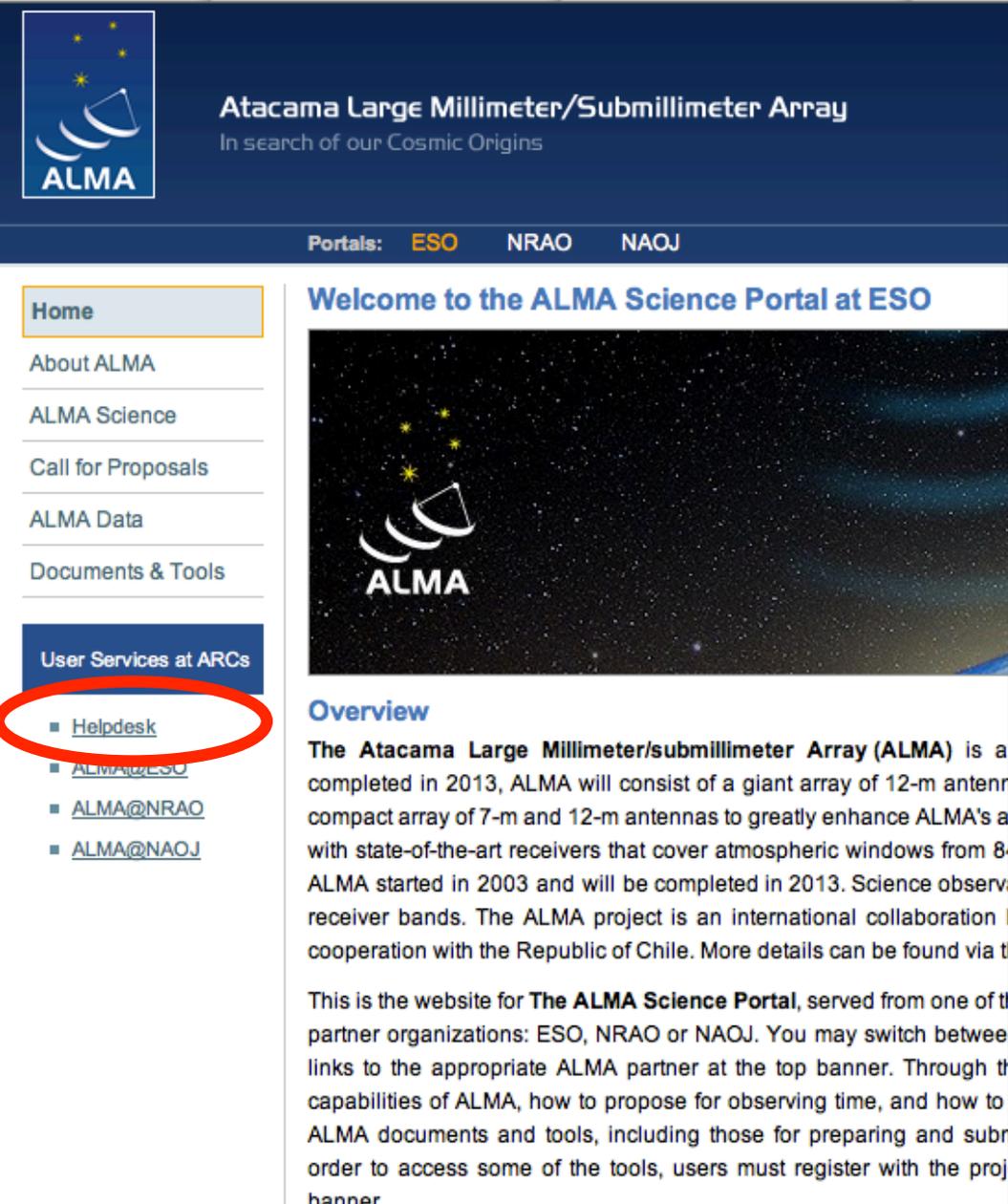
Dutch ALMA Workshop, Leiden, Netherlands, 20-21 April 2011
[Dec 10, 2010](#)

ESO hands over the ALMA Santiago Central Office headquarters to the Joint ALMA Observatory
[Nov 05, 2010](#)

[More...](#)

The Helpdesk

- Ask questions
- FAQ and knowledgebase
- Maintained by ARC staff
- Expect an answer within 2 working days
- Emergency tickets before the proposal submission deadline



Atacama Large Millimeter/Submillimeter Array
In search of our Cosmic Origins

Portals: [ESO](#) [NRAO](#) [NAOJ](#)

[Home](#)

[About ALMA](#)

[ALMA Science](#)

[Call for Proposals](#)

[ALMA Data](#)

[Documents & Tools](#)

User Services at ARCs

- [Helpdesk](#)
- [ALMA@ESO](#)
- [ALMA@NRAO](#)
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Welcome to the ALMA Science Portal at ESO

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The Helpdesk



EUROPEAN ARC
ALMA Regional Centre

18 May 2011

Support Center

Logged in successfully

 **View Tickets**
Submit new tickets, view existing tickets or create new replies.

 **Submit a Ticket**
Submit a new ticket.

 **Knowledgebase**
Search support articles and find answers to frequently asked questions.

 **Downloads**
View our library of file downloads and links.

My Account [Logout]
Logged In: **Gaelle Dumas**

Search

-- Entire Support Site --

Popular Knowledgebase Articles	Views
 What do I do if I can't get the OT to work?	620
 How do I arrange a visit to one of the ARCs?	483
 Can I reduce ALMA data in software packages other than CASA, and is there support for that?	425
 Where can I find ALMA documentation and manuals?	362
 Where can I find data reduction tutorials and recipes using CASA?	343
 What translations will be available for user documentation from ALMA?	338
 Can I submit a ticket in Japanese?	297
 Why do I see a "Login" screen within the helpdesk when I already logged in via the ALMA User Portal?	258
 What array configurations are available for ALMA Early Science in Cycle 0?	223
 I want to observe 4 lines/bandpasses, 3 in one sideband and 1 in the other. Why can I not set this up in the OT?	221

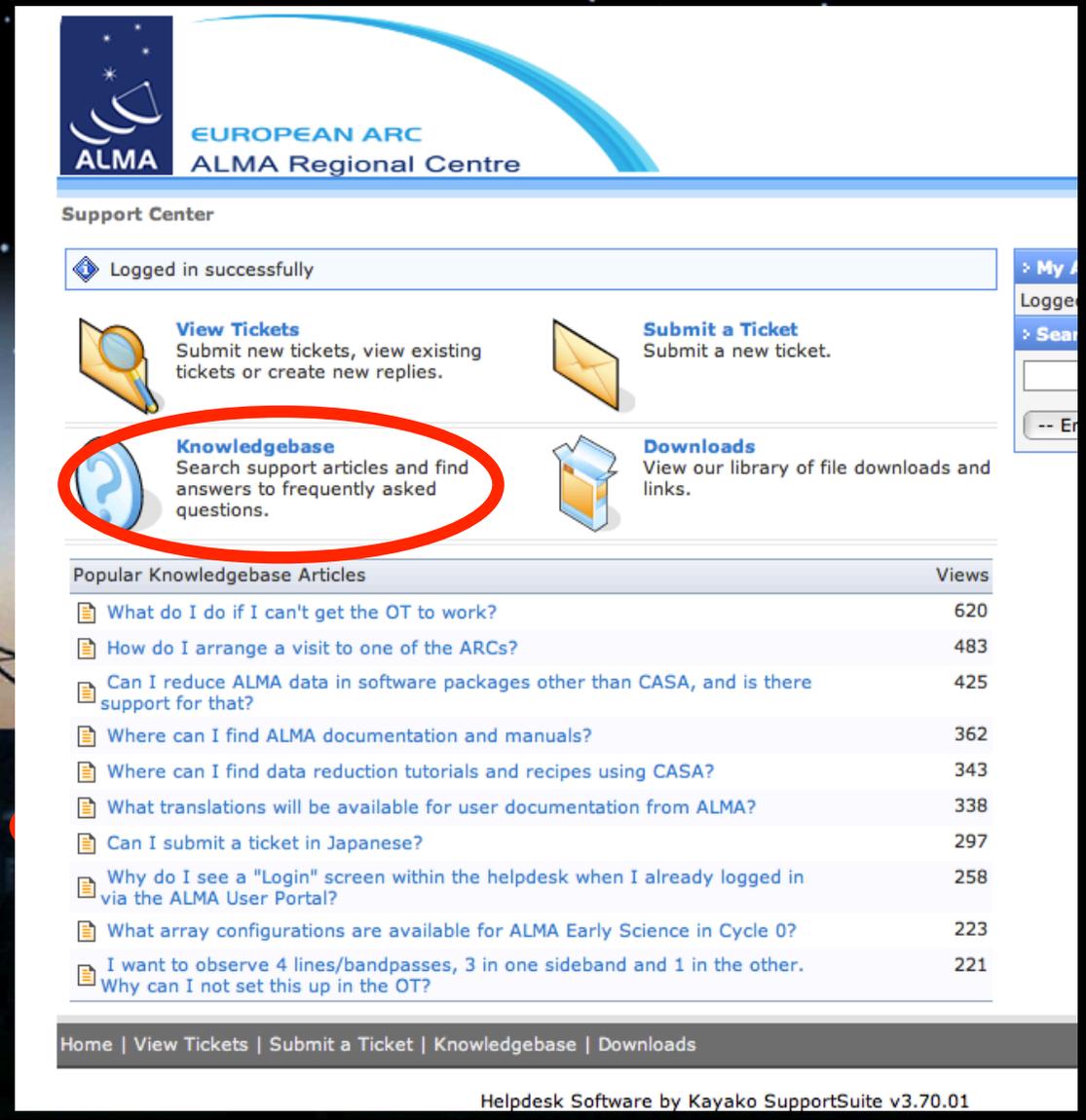
Home | [View Tickets](#) | [Submit a Ticket](#) | [Knowledgebase](#) | [Downloads](#) Language: **English**

Helpdesk Software by Kayako SupportSuite v3.70.01

The Helpdesk

The knowledgebase

- General knowledge
- FAQ
- Different categories



The screenshot shows the ALMA European ARC Support Center interface. The header includes the ALMA logo and the text "EUROPEAN ARC ALMA Regional Centre". Below the header, a "Support Center" section contains a notification "Logged in successfully". There are four main action buttons: "View Tickets" (with a magnifying glass icon), "Submit a Ticket" (with an envelope icon), "Knowledgebase" (with a question mark icon, circled in red), and "Downloads" (with a folder icon). Below these buttons is a table titled "Popular Knowledgebase Articles" with columns for the article title and "Views".

Popular Knowledgebase Articles	Views
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Home | View Tickets | Submit a Ticket | Knowledgebase | Downloads

Helpdesk Software by Kayako SupportSuite v3.70.01

The Helpdesk

The knowledgebase

- General knowledge
- FAQ
- Different categories
- Comment and rate articles

ALMA EUROPEAN ARC ALMA Regional Centre

18 May 2011

Support Center » Knowledgebase » Early Science - Cycle 0 » What array configurations are available for ALMA Early Science in Cycle 0?

What array configurations are available for ALMA Early Science in Cycle 0?

Article

There will be 2 array configurations for Early Science in Cycle 0. One will have maximum baselines of 125 m and the other of 400 m.

For more information about the capabilities for early science, visit:

<http://almascience.nao.ac.jp/call-for-proposals/capabilities>
<http://almascience.eso.org/call-for-proposals/capabilities>
<https://almascience.nrao.edu/call-for-proposals/capabilities>

Article Details

Article ID: 47 Created On: 30 Aug 2010 8:19 PM

This article was helpful This article was not helpful ☆☆☆☆☆

User Comments

[Back](#)

[Add a Comment](#)

Home | [View Tickets](#) | [Submit a Ticket](#) | [Knowledgebase](#) | [Downloads](#) Language: [English](#)

Helpdesk Software by Kayako SupportSuite v3.70.01

The Helpdesk

The knowledgebase

- General knowledge
- FAQ
- Different categories
- Comment and rate articles
- Search engine

The screenshot shows the ALMA European ARC Knowledgebase interface. At the top, the ALMA logo and 'EUROPEAN ARC ALMA Regional Centre' are visible, along with the date '18 May 2011'. The main content area is titled 'Support Center >> Knowledgebase' and contains a grid of category links with article counts. A search bar is located at the bottom right, highlighted with a red circle. The search bar includes a text input field, a 'Search' button, and a dropdown menu currently set to '-- Entire Support Site --'.

The Helpdesk

Ask a question

- Login as an ALMA user
- Submit a ticket



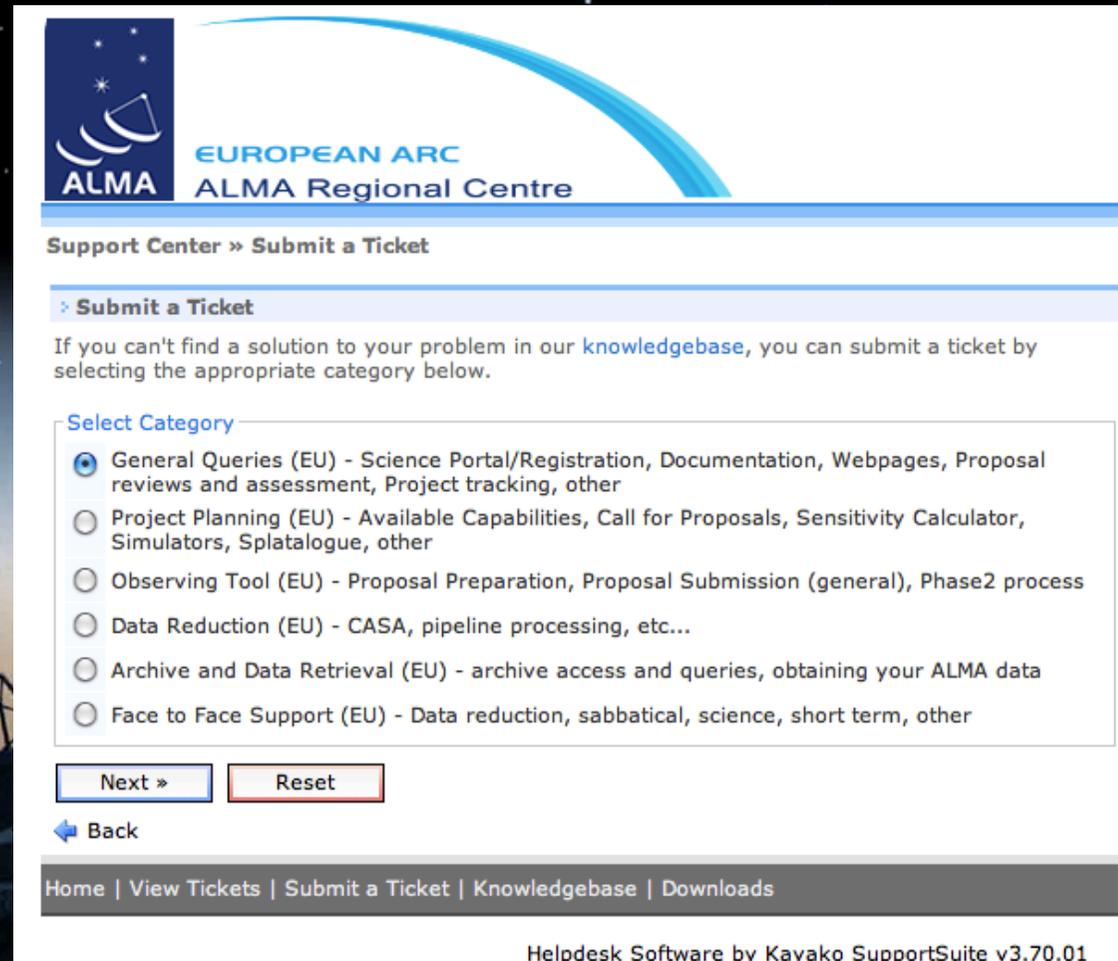
The screenshot shows the ALMA European ARC Support Center interface. At the top left is the ALMA logo, and to its right is the text 'EUROPEAN ARC ALMA Regional Centre'. Below this is a 'Support Center' header. A status bar indicates 'Logged in successfully'. There are four main navigation options: 'View Tickets' (with a magnifying glass icon), 'Submit a Ticket' (with an envelope icon, circled in red), 'Knowledgebase' (with a question mark icon), and 'Downloads' (with a folder icon). Below these is a table of 'Popular Knowledgebase Articles' with columns for the article title and 'Views'. At the bottom, there is a navigation bar with links: 'Home | View Tickets | Submit a Ticket | Knowledgebase | Downloads'.

Popular Knowledgebase Articles	Views
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The Helpdesk

Ask a question

- Login as an ALMA user
- Submit a ticket
- Different categories
- Written in English
- As much information as possible
- Email confirmation and email alerts



The screenshot shows the 'Submit a Ticket' page of the ALMA European ARC Regional Centre helpdesk. The page features the ALMA logo and the text 'EUROPEAN ARC ALMA Regional Centre'. Below the header, there is a navigation bar with 'Support Center » Submit a Ticket'. The main content area is titled 'Submit a Ticket' and includes a brief instruction: 'If you can't find a solution to your problem in our [knowledgebase](#), you can submit a ticket by selecting the appropriate category below.' A 'Select Category' section contains a list of radio buttons for various categories: 'General Queries (EU) - Science Portal/Registration, Documentation, Webpages, Proposal reviews and assessment, Project tracking, other' (selected), 'Project Planning (EU) - Available Capabilities, Call for Proposals, Sensitivity Calculator, Simulators, Splatologue, other', 'Observing Tool (EU) - Proposal Preparation, Proposal Submission (general), Phase2 process', 'Data Reduction (EU) - CASA, pipeline processing, etc...', 'Archive and Data Retrieval (EU) - archive access and queries, obtaining your ALMA data', and 'Face to Face Support (EU) - Data reduction, sabbatical, science, short term, other'. At the bottom of the category list are 'Next »' and 'Reset' buttons, and a 'Back' button with a left-pointing arrow. A footer navigation bar contains links for 'Home | View Tickets | Submit a Ticket | Knowledgebase | Downloads'. The footer text reads 'Helpdesk Software by Kayako SupportSuite v3.70.01'.

» **Submit a Ticket**

If you can't find a solution to your problem in our [knowledgebase](#), you can fill in the fields below with as much detailed information as possible and send it to our agents.

General Information

Priority: ▾

General

- Sub-Categories:**
Please specify areas of concern
- Science Portal/Registration
 - Documentation
 - Webpages
 - Proposal reviews and assessment (science and technical)
 - Project tracking
 - Other

Message Details

Subject: *

Upload File(s)

no file selected

no file selected

no file selected

→ Max 6MB

Recipients

You can specify custom recipients in the field below, multiple e-mail addresses can be separated using empty space or , (comma). The added recipients will only receive updates sent by our agents.

CC:

[← Back](#)

» **My Account**

[\[Logout\]](#)

Logged In: **Gaelle Dumas**

» **Search**

-- Entire Support Site -- ▾

The Helpdesk

Emergency tickets

ALMA EUROPEAN ARC
ALMA Regional Centre

27 Jan 2011

Support Center » Submit a Ticket

> Submit a Ticket

If you can't find a solution to your problem in our [knowledgebase](#), you can submit a ticket by selecting the appropriate category below.

Select Category

- General Queries (EU)
- Project Planning (EU)
- Observing Tool (EU)
- Data Reduction (EU)
- Archive and Data Retrieval (EU)
- Face to Face Support (EU)
- Proposal Submission Emergency

Next » Reset

Back

Home | View Tickets | Submit a Ticket | Knowledgebase | Downloads

Language: English

Helpdesk Software by Kayako SupportSuite v3.70.01

My Account [Logout]
Logged In: **Suzanna Randall**

Search

Search

-- Entire Support Site --

- New category
- Visible 3 days before the proposal deadline

The Helpdesk

Viewing your tickets



ALMA EUROPEAN ARC
ALMA Regional Centre

Support Center

Logged in successfully

View Tickets
Submit new tickets, view existing tickets or create new replies.

Submit a Ticket
Submit a new ticket.

Knowledgebase
Search support articles and find answers to frequently asked questions.

Downloads
View our library of file downloads and links.

Popular Knowledgebase Articles

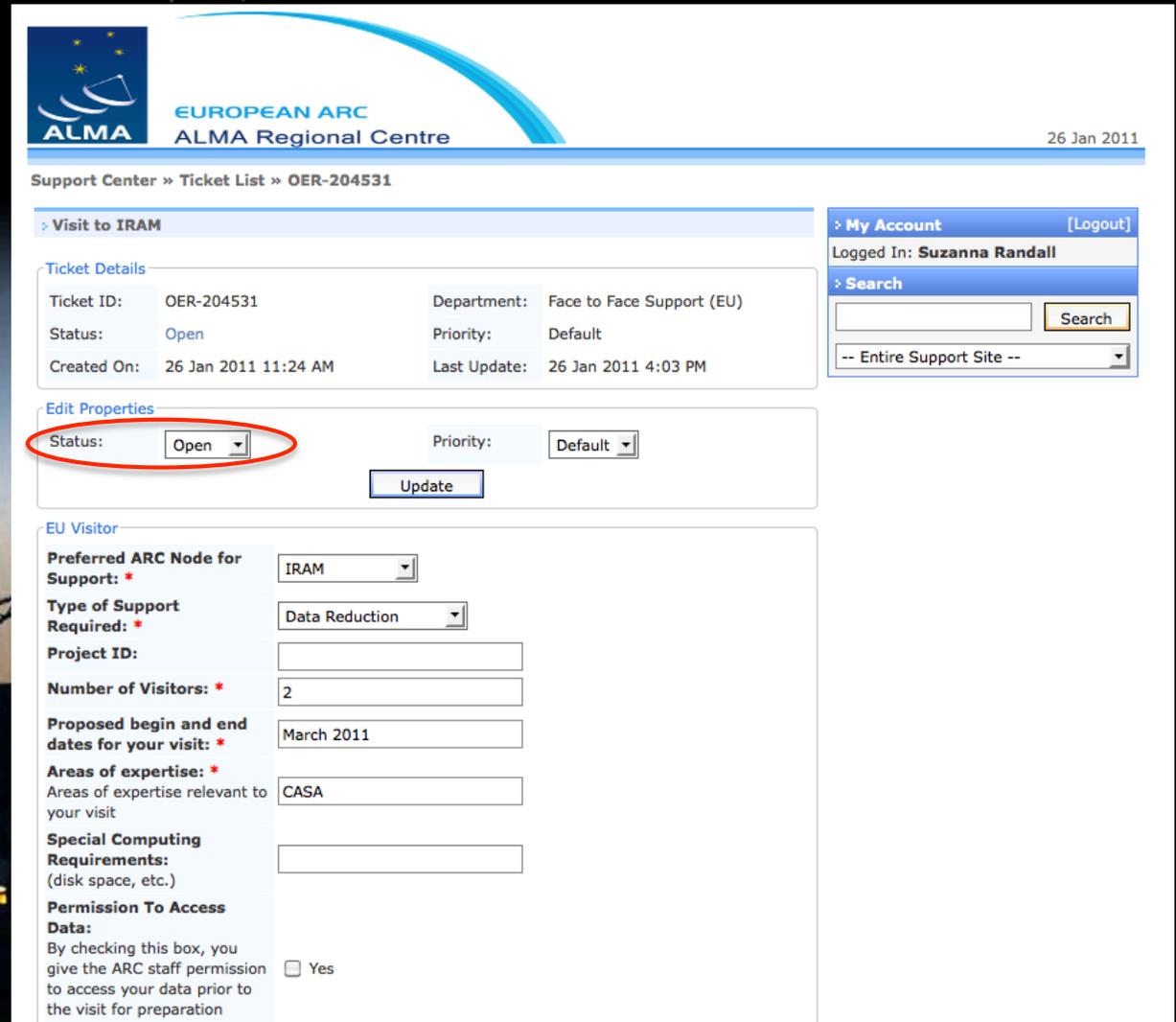
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Home | [View Tickets](#) | [Submit a Ticket](#) | [Knowledgebase](#) | [Downloads](#)

The Helpdesk

Viewing your tickets

- Status = open, pending, resolved, closed



ALMA EUROPEAN ARC
ALMA Regional Centre

26 Jan 2011

Support Center » Ticket List » OER-204531

› Visit to IRAM

My Account [Logout]
Logged In: Suzanna Randall

Search
-- Entire Support Site --

Ticket Details

Ticket ID:	OER-204531	Department:	Face to Face Support (EU)
Status:	Open	Priority:	Default
Created On:	26 Jan 2011 11:24 AM	Last Update:	26 Jan 2011 4:03 PM

Edit Properties

Status: Priority:

Update

EU Visitor

Preferred ARC Node for Support: *

Type of Support Required: *

Project ID:

Number of Visitors: *

Proposed begin and end dates for your visit: *

Areas of expertise: *
Areas of expertise relevant to your visit

Special Computing Requirements:
(disk space, etc.)

Permission To Access Data:
By checking this box, you give the ARC staff permission to access your data prior to the visit for preparation Yes

The Helpdesk

Viewing your tickets

- Status
- Reply & update

Project ID:	<input type="text"/>
Number of Visitors: *	<input type="text" value="2"/>
Proposed begin and end dates for your visit: *	<input type="text" value="March 2011"/>
Areas of expertise: * Areas of expertise relevant to your visit	<input type="text" value="CASA"/>
Special Computing Requirements: (disk space, etc.)	<input type="text"/>
Permission To Access Data: By checking this box, you give the ARC staff permission to access your data prior to the visit for preparation purposes.	<input type="checkbox"/> Yes
Financial Support Required:	<input checked="" type="checkbox"/> Yes
Justification for Financial Support: This field is required if the visitor requests financial support	<input type="text"/>

Conversation

Suzanna Randall USER

Posted On: 26 Jan 2011 11:24 AM

Hello,

I would like to arrange a visit to IRAM for help with my fictitious data reduction problem. Could you please arrange this?

Cheers,
Suzanna

PS. This is a TEST!

IRAM node STAFF

Posted On: 26 Jan 2011 3:11 PM

Dear Suzanna,

Sounds like a great idea. There's certainly a web page somewhere

The Helpdesk

Closing your tickets

- when satisfied with the answer: close the ticket
- Status = closed

ALMA EUROPEAN ARC ALMA Regional Centre 26 Jan 2011

Support Center » Ticket List » MRK-514258

Test ticket for Martin

Ticket Details

Ticket ID:	MRK-514258	Department:	General Queries (EU)
Status:	Resolved	Priority:	Default
Created On:	26 Jan 2011 11:19 AM	Last Update:	26 Jan 2011 1:08 PM

Edit Properties

Status: Resolved Priority: Default

Open Closed Resolved Update

Post Reply

Conversation

Suzanna Randall USER

Posted On: 26 Jan 2011 11:19 AM

Hello,

please give me some information about the wonderful upcoming ARC retreat, and try to draft a knowledgebase article based on your reply!

Cheers,
Suzanna

PS. I have added a bogus attachment as a test...

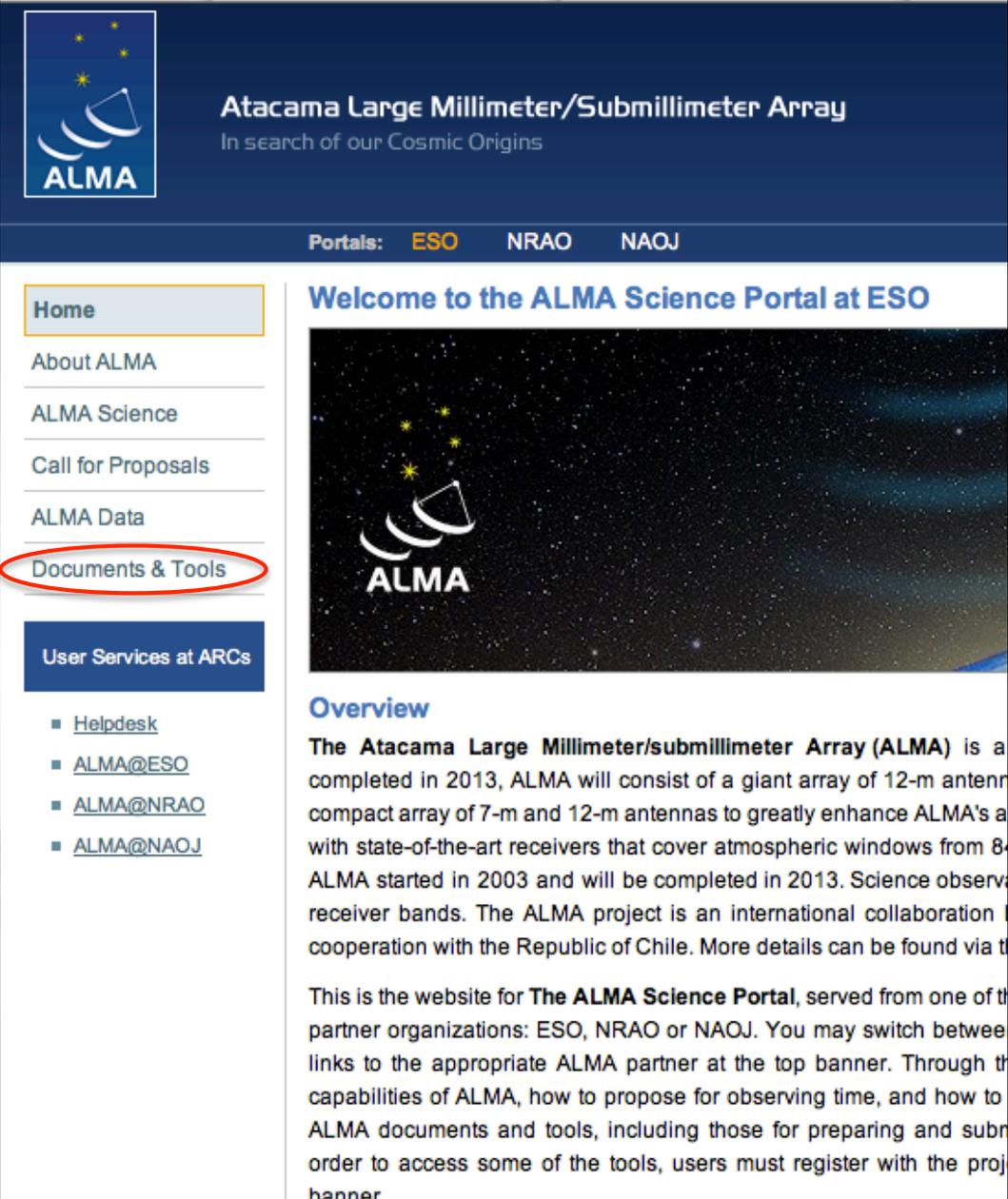
Attachments

Omcen_FieldA_1.out.jpg (1,020.36 KB)

Martin Zwaan STAFF

Sensitivity estimator

- Science portal
- Documents & Tools
- ALMA Sensitivity Calculator



The screenshot shows the ALMA Science Portal at ESO. The header includes the ALMA logo and the text "Atacama Large Millimeter/Submillimeter Array" and "In search of our Cosmic Origins". Below the header, there are portals for ESO, NRAO, and NAOJ. A navigation menu on the left lists "Home", "About ALMA", "ALMA Science", "Call for Proposals", "ALMA Data", and "Documents & Tools" (which is circled in red). Below the navigation menu is a section for "User Services at ARCs" with links to "Helpdesk", "ALMA@ESO", "ALMA@NRAO", and "ALMA@NAOJ". The main content area features a "Welcome to the ALMA Science Portal at ESO" message, a large image of the ALMA logo against a starry sky, and an "Overview" section. The overview text states: "The Atacama Large Millimeter/submillimeter Array (ALMA) is a completed in 2013, ALMA will consist of a giant array of 12-m antenn compact array of 7-m and 12-m antennas to greatly enhance ALMA's a with state-of-the-art receivers that cover atmospheric windows from 8- ALMA started in 2003 and will be completed in 2013. Science observ receiver bands. The ALMA project is an international collaboration cooperation with the Republic of Chile. More details can be found via t". Below this, it says: "This is the website for The ALMA Science Portal, served from one of the partner organizations: ESO, NRAO or NAOJ. You may switch between links to the appropriate ALMA partner at the top banner. Through the capabilities of ALMA, how to propose for observing time, and how to ALMA documents and tools, including those for preparing and sub order to access some of the tools, users must register with the proj banner."

Sensitivity estimator

Common Parameters

Dec	<input type="text" value="00:00:00.000"/>	
Polarization	<input type="text" value="Dual"/>	
Observing Frequency	<input type="text" value="345.00000"/>	<input type="text" value="GHz"/>
Bandwidth per Polarization	<input type="text" value="1.0"/>	<input type="text" value="GHz"/>
Water Vapour Column Density	<input checked="" type="radio"/> Automatic Choice <input type="radio"/> Manual Choice	
tau/Tsky	<input type="text" value="tau0=0.158, Tsky=39.538"/>	
Tsys	<input type="text" value="157.027 K"/>	

Individual Parameters

	12m Array	7m Array	Total Power Array
Number of Antennas	<input type="text" value="32"/>	<input type="text" value="9"/>	<input type="text" value="2"/>
Resolution	<input type="text" value="1.0"/> <input type="text" value="arcsec"/>	<input type="text" value="5.974554 arcsec"/>	<input type="text" value="17.923662 arcsec"/>
Sensitivity(rms)	<input type="text" value="1"/> <input type="text" value="mJy"/>	<input type="text" value="0.00000"/> <input type="text" value="Jy"/>	<input type="text" value="0.00000"/> <input type="text" value="Jy"/>
(equivalent to)	<input type="text" value="0.01027"/> <input type="text" value="K"/>	<input type="text" value="0.00000"/> <input type="text" value="K"/>	<input type="text" value="0.00000"/> <input type="text" value="K"/>
Integration Time	<input type="text" value="25.98237"/> <input type="text" value="s"/>	<input type="text" value="∞"/> <input type="text" value="d"/>	<input type="text" value="∞"/> <input type="text" value="d"/>
	Integration Time Unit Option <input type="text" value="Automatic"/>		

Calculate Integration Time

Calculate Sensitivity

ALMA data simulator

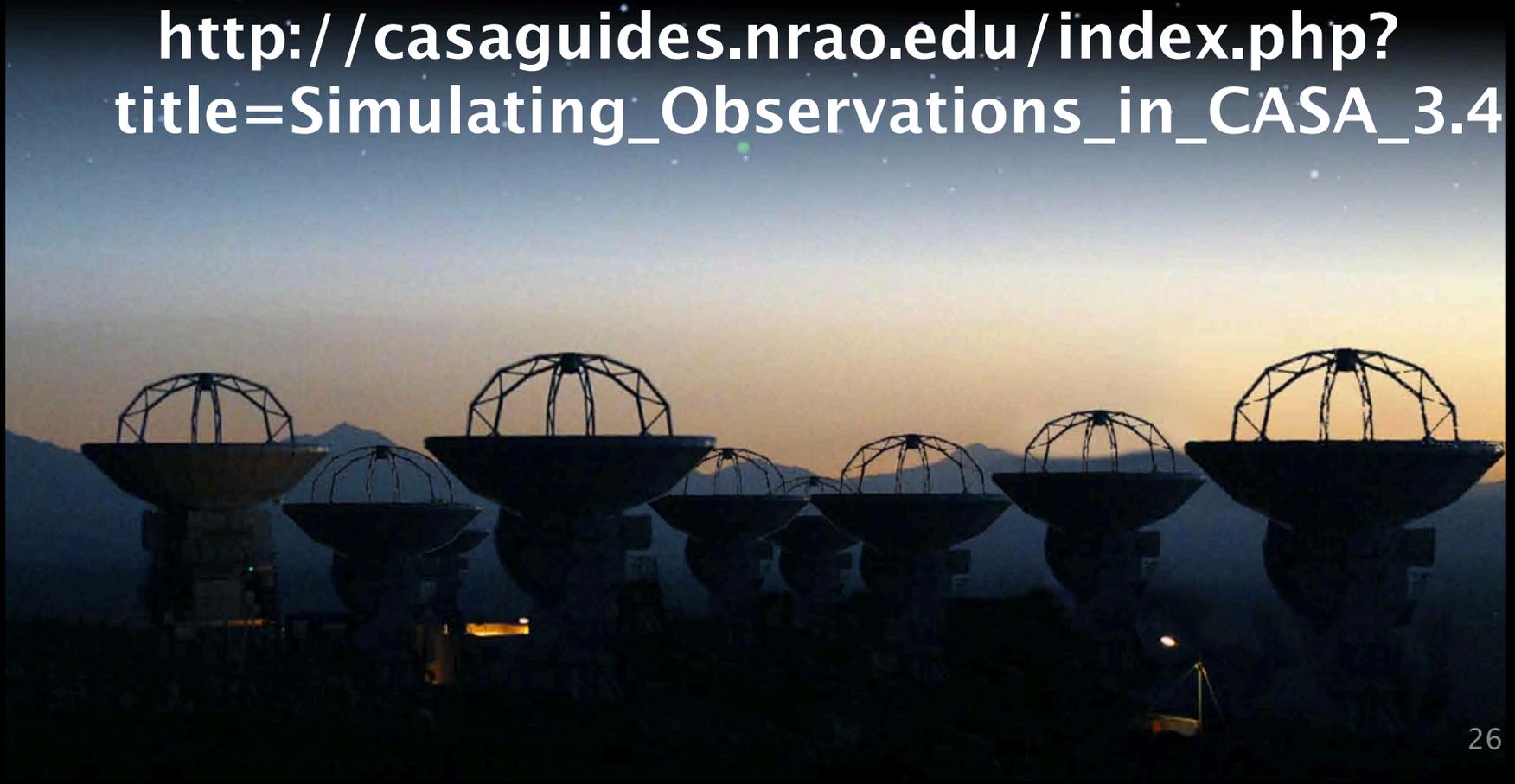
- CASA
- GILDAS
- On-line



ALMA data simulator

- CASA
- simobserve + simanalyze

http://casaguides.nrao.edu/index.php?title=Simulating_Observations_in_CASA_3.4



ALMA data simulator

- CASA

- simobserve

Create the visibilities that would be observed by ALMA

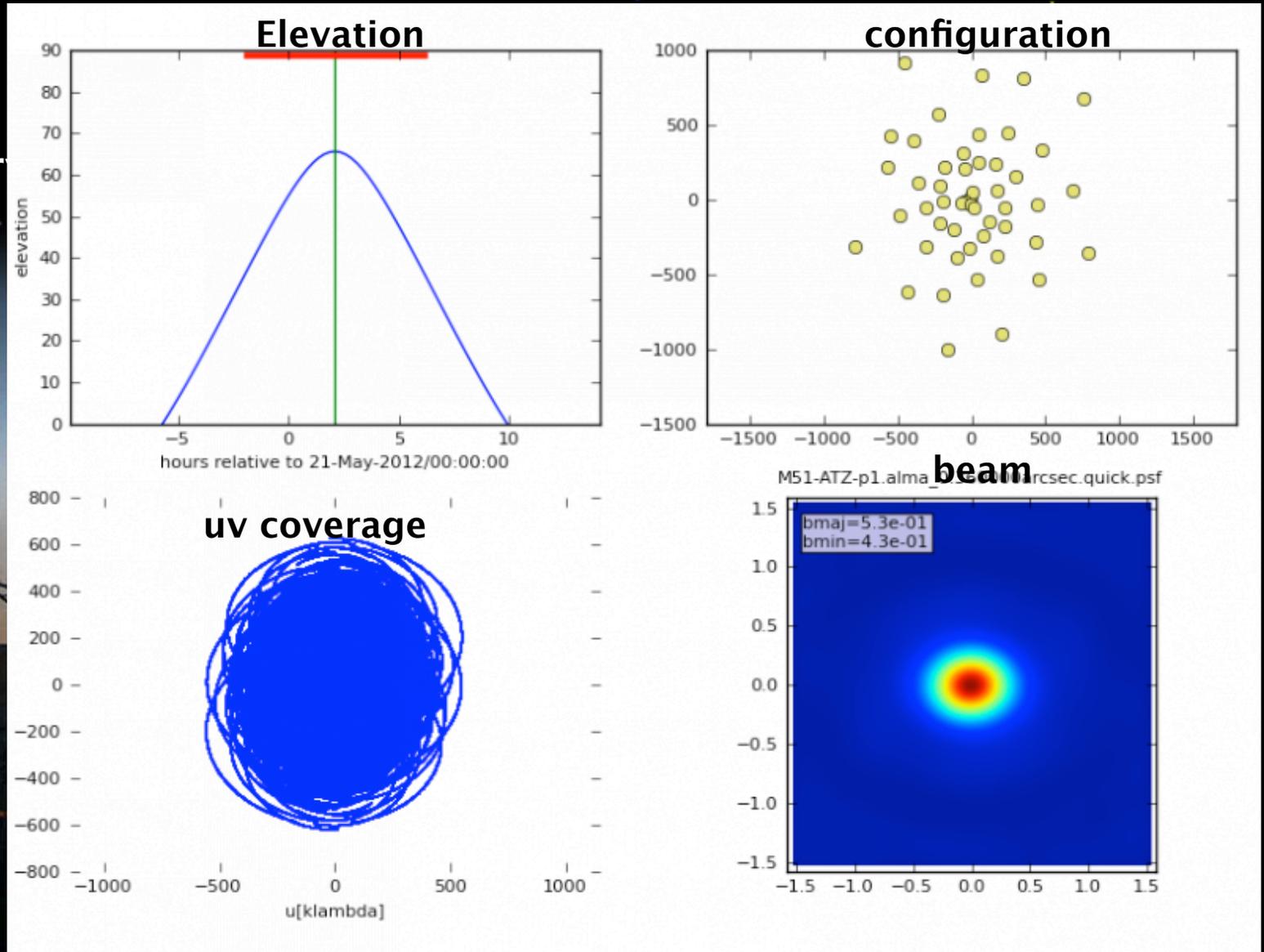
```
CASA <4>: inp simobserve
-----> inp(simobserve)
# simobserve :: mosaic simulation task:
project          = 'sim'          # root prefix for output file names
skymodel         = ''            # model image to observe
complist        = ''            # componentlist to observe
setpointings    = True          #
  integration    = '10s'        # integration (sampling) time
  direction     = ''            # "J2000 19h00m00 -40d00m00" or "" to center on model
  mapsize       = [' ', ' ']    # angular size of map or "" to cover model
  maptype       = 'ALMA'        # hexagonal, square, etc
  pointingspacing = ''          # spacing in between pointings or "0.25PB" or "" for 0.5 PB

obsmode         = 'int'          # observation mode to simulate
# [int(interferometer)|sd(singledish)|""(none)]
antennalist     = 'alma.out10.cfg' # interferometer antenna position file
refdate        = '2014/05/21'    # date of observation - not critical unless concatting
# simulations
hourangle       = 'transit'      # hour angle of observation center e.g. -3:00:00, or
# "transit"
totaltime       = '7200s'        # total time of observation or number of repetitions
caldirection    = ''            # pt source calibrator [experimental]
calflux         = '1Jy'

thermalnoise    = ''            # add thermal noise: [tsys-atm|tsys-manual|""]
leakage         = 0.0            # cross polarization (interferometer only)
graphics        = 'both'        # display graphics at each stage to [screen|file|both|none]
verbose         = False         #
overwrite       = True          # overwrite files starting with $project
async          = False          # If true the taskname must be started using
# simobserve(...)
```

ALMA data simulator

- CASA
- simobserving



ALMA data simulator

- CASA

- simanalyze

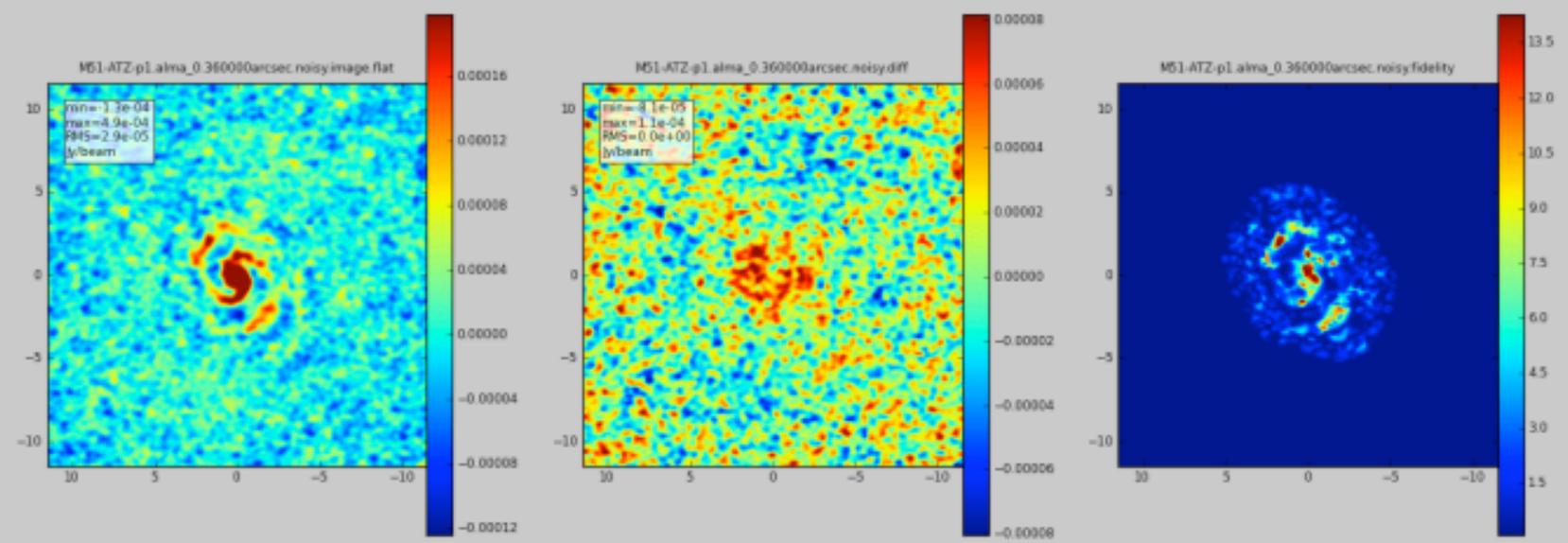
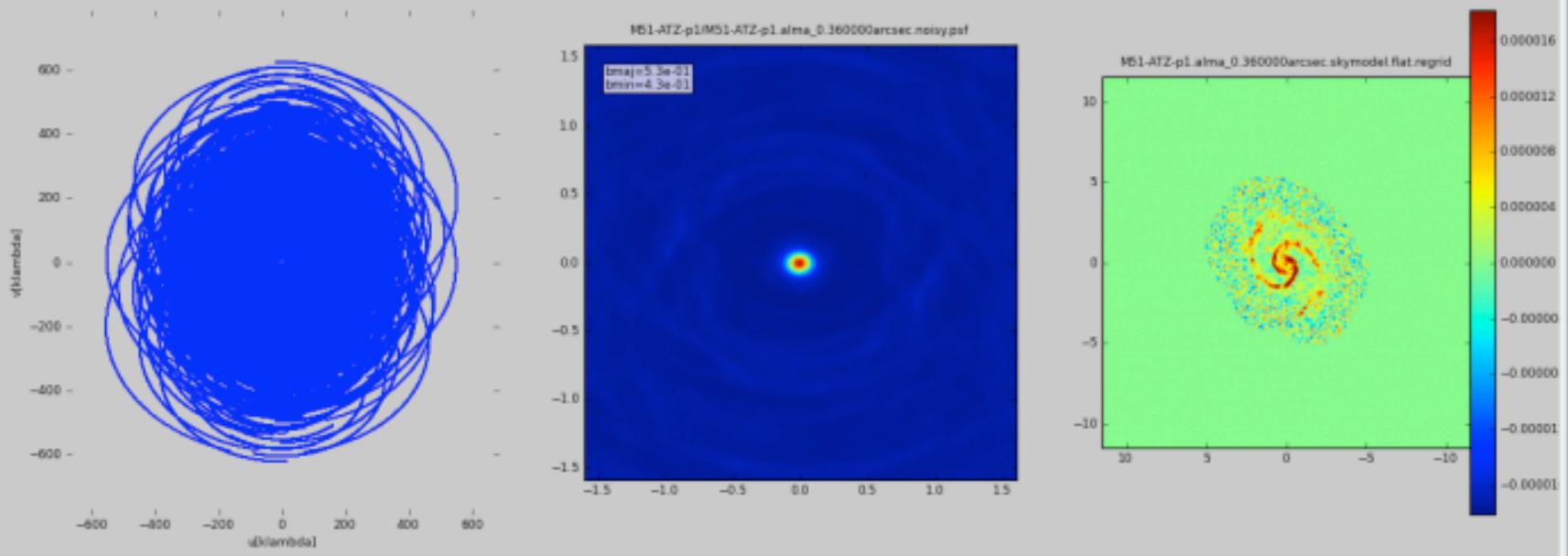
Imaging and
analyze the
data created
by
simobserve

```
CASA <11>: inp simanalyze
-----> inp(simanalyze)
# simanalyze :: image and analyze simulated datasets
project      = 'sim'          # root prefix for output file names
image        = True          # (re)image $project.*.ms to $project.image
vis          = 'default'     # Measurement Set(s) to image
modelimage   = ''           # prior image to use in clean e.g. existing single dish image
imsize       = 0            # output image size in pixels (x,y) or 0 to match model
imdirection  = ''           # set output image direction, (otherwise center on the model)
cell         = ''           # cell size with units or "" to equal model
niter        = 500          # maximum number of iterations (0 for dirty image)
threshold    = '0.1mJy'     # flux level (+units) to stop cleaning
weighting    = 'natural'     # weighting to apply to visibilities
mask         =  # Cleanbox(es), mask image(s), region(s), or a level
outertaper   =  # uv-taper on outer baselines in uv-plane
stokes       = 'I'          # Stokes params to image

analyze      = True         # (only first 6 selected outputs will be displayed)
showuv       = True         # display uv coverage
showpsf      = True         # display synthesized (dirty) beam (ignored in single dish
                             # simulation)
showmodel    = True         # display sky model at original resolution
showconvolved = False       # display sky model convolved with output beam
showclean    = True         # display the synthesized image
showresidual = False        # display the clean residual image (ignored in single dish
                             # simulation)
showdifference = True       # display difference image
showfidelity  = True        # display fidelity

graphics     = 'both'       # display graphics at each stage to [screen|file|both|none]
verbose      = False
overwrite    = True         # overwrite files starting with $project
async        = False        # If true the taskname must be started using simanalyze(...)
```

Figure 1

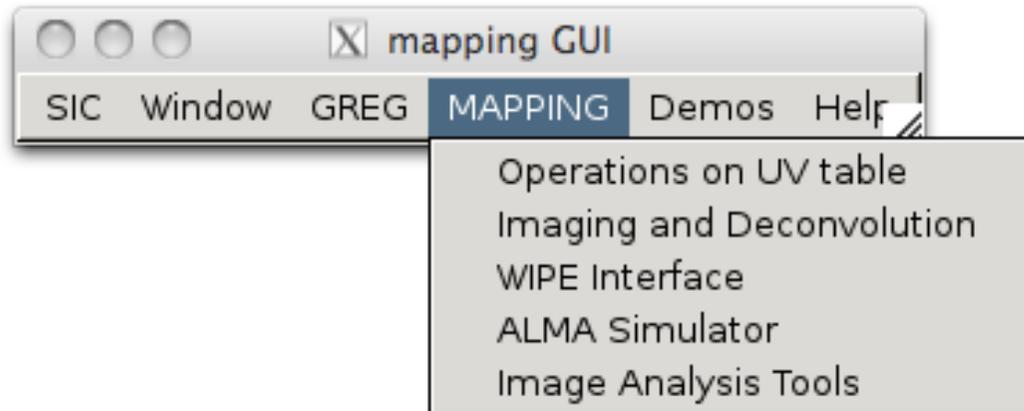


ALMA data simulator

- GILDAS

GILDAS – Mapping

- MAPPING
- ALMA simulator



ALMA+ACA Simulation (email: gildas@iram.fr)

LOAD COMPUTE COMPARE DISPLAY EXPERT

Input model file File

Output directory name File

Simulation kind ALMA only ▾

Observation Setup	SHOW SOURCE	Parameters	Help
Configuration Setup	SHOW CONF	Parameters	Help
Pointing Errors	SHOW POINT	Parameters	Help
Amplitude conditions	SHOW AMP	Parameters	Help
Phase conditions	SHOW PHASE	Parameters	Help
Deconvolution setup	COMPUTE	Parameters	Help
Display results	DISPLAY	Parameters	Help
Expert setup	EXPERT	Parameters	Help
File location	SETUP	Parameters	Help

Help

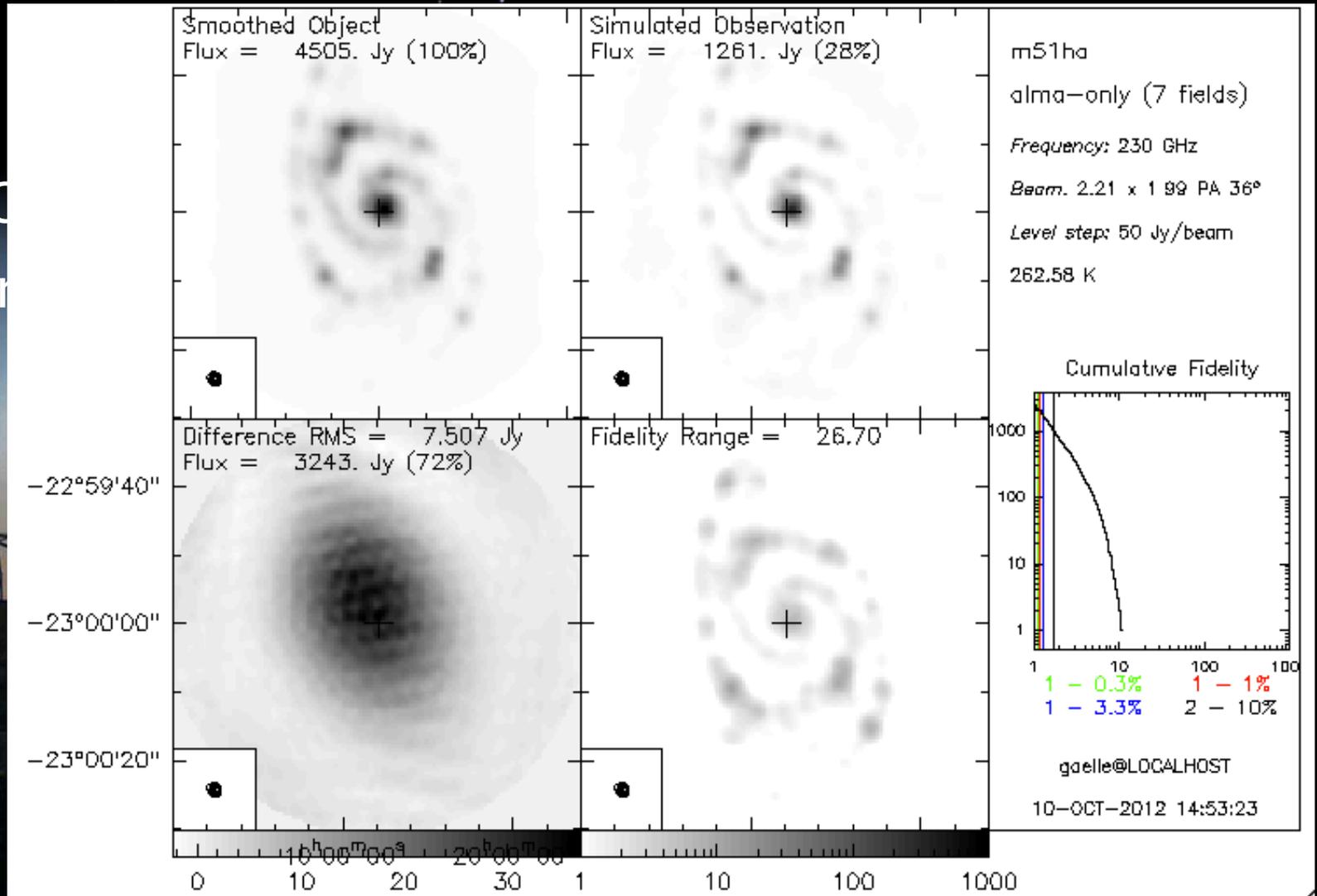
OK Close

ALMA data simulator

- GILDAS

GILDAS –

- MAPPING
- ALMA sim



ALMA data simulator

- On-line

ALMA Observation Support Tool

<http://almaost.jb.man.ac.uk/>





Version 1.2 (ALMA Cycle 1) **OST Downtime**

[Queue Status](#) • [Help](#) • [ALMA Helpdesk](#)
[OST Latest News](#)

• On-
ALMA

Array	Instrument	ALMA	
Sky Setup	Source model	OST Library: Central point source	Choose a library source model or supply your own
	Upload a FITS file	<input type="text"/> <input type="button" value="Browse..."/>	You may upload your own model here (max 10MB)
	Declination	-35d00m00.0s	Ensure correct formatting of this string (+/-00d00m00.0s)
	Image peak / point flux in <input type="text" value="mJy"/>	0.0	Set to 0.0 for no rescaling of source model
Observation Setup	Central frequency in GHz	90	The value entered must be within an ALMA band
	Bandwidth in <input type="text" value="MHz"/>	32	Use broad for continuum, narrow for single channel
	Required resolution in arcseconds	1.0	OST will choose config if instrument is set to ALMA
	Pointing strategy	Mosaic	Selecting single will apply primary beam attenuation
	Start hour angle	0.0	Deviation of start of observation from transit
	Phase Cycle in <input type="text" value="seconds"/>	0.0	The length of time between cutting to a phase calibrator (currently limited to either 0s or between 300s and 600s)
	On Phase Calibrator in <input type="text" value="seconds"/>	0.0	The length of time spent observing phase calibrator (currently limited to either 0s or between 30s and 600s)
	On-source time in <input type="text" value="hours"/>	3	Per pointing for Mosaics.
	Number of visits	1	How many times the observation is repeated
	Number of polarizations	2	This affects the noise in the final map
Corruption	Atmospheric conditions	PWV = 0.472 mm (1st Octile)	Determines level of noise due to water vapour
Imaging	Imaging weights	Natural	This allows a resolution / sensitivity trade-off
	Perform deconvolution?	No (Return dirty image)	Apply the CLEAN algorithm to deconvolve the image
	Output image format	FITS	CASA format images are returned as a tar file
	Your email address is	essential!	<input type="button" value="Submit"/>



Version 1.2 (ALMA Cycle 1) **OST Downtime**

[Queue Status](#) [Help](#) [ALMA Helpdesk](#)
[OST Latest News](#)

• On-
ALMA

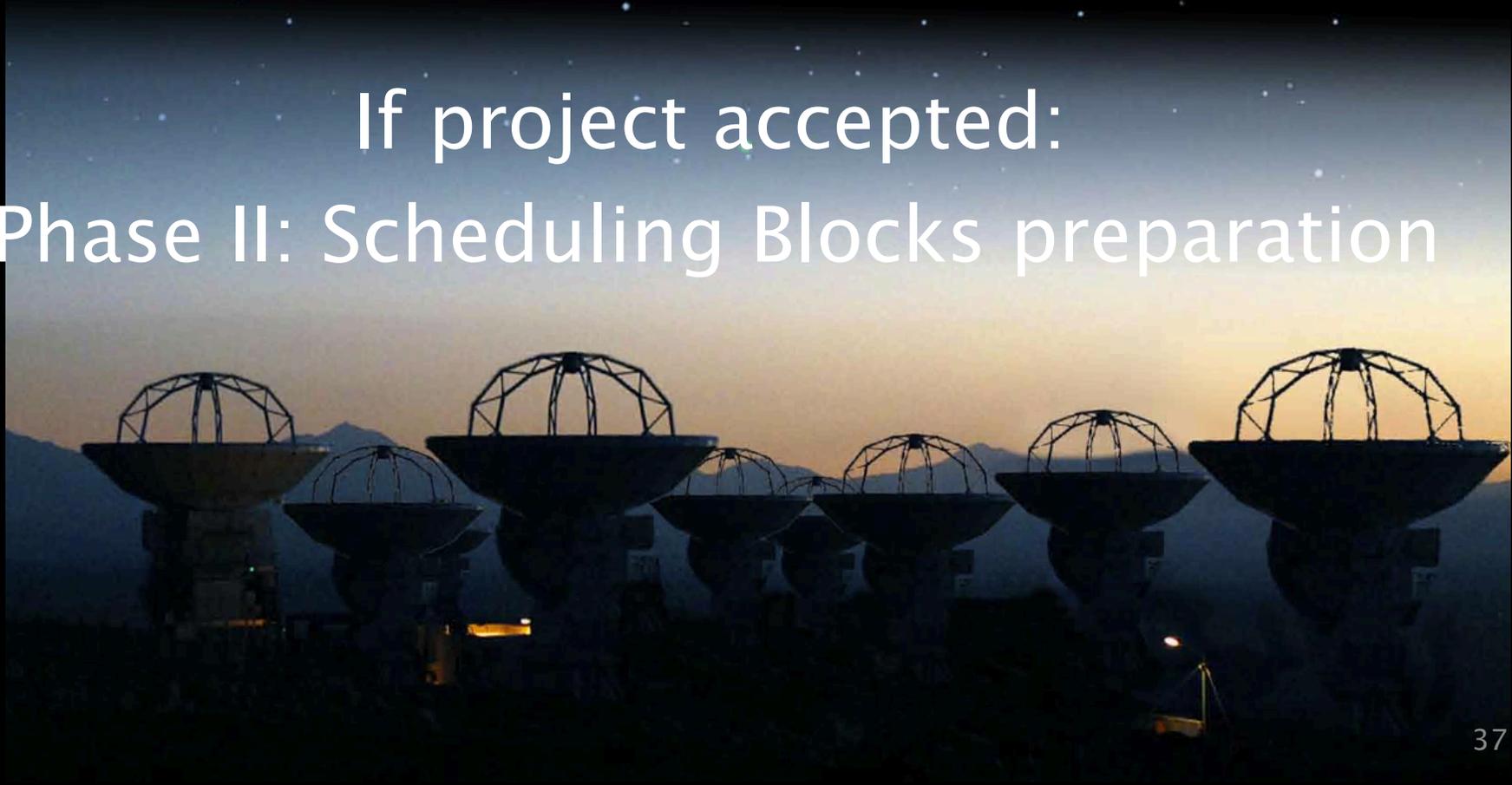
Array	Instrument	ALMA	
Sky Setup	Source model	OST Library: Central point source	Choose a library source model or supply your own
	Upload a FITS file	<input type="text"/> Browse...	You may upload your own model here (max 10MB)
	Declination	-35d00m00.0s	Ensure correct formatting of this string (+/-00d00m00.0s)
	Image peak / point flux in mJy	0.0	Set to 0.0 for no rescaling of source model
Observation Setup	Central frequency in GHz	90	The value entered must be within an ALMA band
	Bandwidth in MHz	32	Use broad for continuum, narrow for single channel
	Required resolution in arcseconds	1.0	OST will choose config if instrument is set to ALMA
	Pointing strategy	Mosaic	Selecting single will apply primary beam attenuation
	Start hour angle	0.0	Deviation of start of observation from transit
	Phase Cycle in seconds	0.0	The length of time between cutting to a phase calibrator (currently limited to either 0s or between 300s and 600s)
	On Phase Calibrator in seconds	0.0	The length of time spent observing phase calibrator (currently limited to either 0s or between 30s and 600s)
	On-source time in hours	3	Per pointing for Mosaics.
	Number of visits	1	How many times the observation is repeated
	Number of polarizations	2	This affects the noise in the final map
Corruption	Atmospheric conditions	PWV = 0.472 mm (1st Octile)	Determines level of noise due to water vapour
Imaging	Imaging weights	Natural	This allows a resolution / sensitivity trade-off
	Perform deconvolution?	No (Return dirty image)	Apply the CLEAN algorithm to deconvolve the image
	Output image format	FITS	CASA format images are returned as a tar file
	Your email address is	essential!	Submit

Observing Tool (OT)

- Phase I: Proposal preparation & submission

If project accepted:

- Phase II: Scheduling Blocks preparation





About ALMA

ALMA Science

Call for Proposals

ALMA Data

Documents & Tools

Previous Cycles

Knowledgebase/FAQ

User Services at ARCs

- Helpdesk
- EU ARC
- NA ARC
- EA ARC

You are here: [Home](#) > [Documents & Tools](#)

Summary of documents and tools available for ALMA

Call for Proposals

Documentation supporting the current ALMA Call for Proposals – **Cycle 1**.

- [ALMA Proposers Guide](#) (Contains all pertinent information regarding the ALMA Call for Proposals)
- [ALMA Technical Handbook](#) (A comprehensive description of the ALMA observatory and its components)
- [Early Science Primer](#) (Introduction to interferometry and how to use ALMA during Early Science)
- [ALMA Proposal Template](#) (LaTeX format. Recommended but not mandatory)

Observing Tool (OT)

The ALMA Observing Tool (OT) is a Java application used for the preparation and submission of ALMA P (telescope runfiles for accepted proposals) materials. The current release of the OT is configured for the in order to submit proposals you will have to register with the ALMA Science Portal beforehand.

- [ALMA Observing Tool](#) (takes you to the OT page on the Science Portal)
- [OT Quickstart](#) (A Quick Start Guide for using the Observing Tool)
- [OT User Manual](#) (Describes how to use the Observing Tool for preparing ALMA proposals)
- [OT Reference Manual](#) (An in-depth description of the Observing Tool)
- [Video Tutorials](#) on how to use the Observing Tool
- [Known OT issues](#) (for those instances when OT problems are encountered)

Observing Tool (OT)

The screenshot displays the Observing Tool (OT) interface, which is used for creating and managing astronomical proposals. The interface is divided into several sections:

- Project Structure:** A tree view on the left showing the hierarchy of the proposal, including 'Unsubmitted Proposal', 'Planned Observing', and 'Science Goal'.
- Editors:** The main workspace for editing the proposal. It includes tabs for 'Spectral', 'Spatial', and 'Proposal'. The 'Proposal' tab is active, showing fields for 'Proposal Title', 'Proposal Cycle', 'Abstract', 'Proposal Type', and 'Scientific Category'.
- Feedback:** A section at the bottom of the main workspace showing validation errors and warnings. It includes a table with columns for 'Description' and 'Suggestion'.
- Overview:** A section at the bottom of the interface providing contextual help and a flowchart for the proposal process.

Proposal Information:

Proposal Title: Search for origin of life in evolved stars with ALMA

Proposal Cycle: TEST.6

Abstract (max. 4000 characters):
The formation of organic molecules which lead to life in the universe, e.g. amino acids, are still to be understood. Chemistry reaction to create such complex molecules require stringent physical conditions, that can be reached in the atmosphere of evolved stars. Here we propose to detect with ALMA complex carbon and silicon-based molecules in the outer atmosphere and the circumstellar shell of three evolved stars. These molecules could be the elementary brick to the formation of organic molecules detected in dense molecular clouds and leading to the future development of life.

Proposal Type: Standard Target Of Opportunity

Scientific Category: Cosmology and the High Redshift Universe Galaxies and Galactic Nuclei ISM, star formation and astrochemistry Stellar Evolution and the Circumstellar disks, exoplanets and the solar

Feedback:

17 errors, 1 warning

Description	Suggestion
No document found - you must add a Science Case to your proposal	Select the proposal node in the Proposal tab and add your document
taiwan1 is not a registered ALMA user	Remove 'taiwan1' from your proposal and search for this investigator again.
southafrica is not a registered ALMA user	Remove 'southafrica' from your proposal and search for this investigator again.
chile is not a registered ALMA user	Remove 'chile' from your proposal and search for this investigator again.
Your spectral setup is not compatible with one or more of your targets in this ScienceGoal	Revise the spectral setup or move some of the targets to a different Science Goal
Desired Angular resolution is outside the range of possible resolutions for the representative	Select the Control Parameters in the Science Goal and enter a valid value
Can not observe these spectral elements in one ScienceGoal	Revise spectral elements so that all of them fit in sidebands
Can not allocate these spectral windows in one receiver band	Revise spectral elements so that all of them fit in sidebands

Contextual Help:

- Please ensure you and your co-Is are registered with the [ALMA Science Portal](#)
- Create a new proposal by either:
 - Selecting *File > New Proposal*
 - Clicking on the icon in the toolbar
 - Or clicking on this [link](#)
- Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal

New Science Proposal → Create Science Goals → Validate Science Proposal → Submit Science Proposal

Click on the overview steps to view the contextual help

Importing And Exporting | Template Library | Need More Help? | View Phase 2 Steps

Observing Tool (OT)

The screenshot displays the Observing Tool (OT) interface. On the left, a **Project Tree** is highlighted with a red border, showing a hierarchy of folders: **Unsubmitted Proposal**, **Proposal**, **Planned Observing**, **CW Leonis**, **General**, **Field Setup**, **Spectral Setup**, **Calibration Setup**, **Control and Performance**, **Science Goal**, **General**, **Field Setup**, **Spectral Setup**, **Calibration Setup**, and **Control and Performance**.

The main area is titled **Editors** and contains a **Proposal** form. The **Proposal Information** section includes:

- Proposal Title:** Search for origin of life in evolved stars with ALMA
- Proposal Cycle:** TEST.6
- Abstract (max. 4000 characters):** The formation of organic molecules which lead to life in the universe, e.g. amino acids, are still to be understood. Chemistry reaction to create such complex molecules require stringent physical conditions, that can be reached in the atmosphere of evolved stars. Here we propose to detect with ALMA complex carbon and silicon-based molecules in the outer atmosphere and the circumstellar shell of three evolved stars. These molecules could be the elementary brick to the formation of organic molecules detected in dense molecular clouds and leading to the future development of life.
- Launch Editor** button
- Proposal Type:** Standard Target Of Opportunity
- Scientific Category:** Cosmology and the High Redshift Universe Galaxies and Galactic Nuclei ISM, star formation and astrochemistry Circumstellar disks, exoplanets and the solar Stellar Evolution and the

The **Feedback** section shows 7 errors and 1 warning:

Description	Suggestion
No document found - you must add a Science Case to your proposal	Select the proposal node in the Proposal tab and add your document
taiwan1 is not a registered ALMA user	Remove 'taiwan1' from your proposal and search for this investigator again.
southafrica is not a registered ALMA user	Remove 'southafrica' from your proposal and search for this investigator again.
chile is not a registered ALMA user	Remove 'chile' from your proposal and search for this investigator again.
Your spectral setup is not compatible with one or more of your targets in this ScienceGoal	Revise the spectral setup or move some of the targets to a different Science Goal
Desired Angular resolution is outside the range of possible resolutions for the representative	Select the Control Parameters in the Science Goal and enter a valid value
Can not observe these spectral elements in one ScienceGoal	Revise spectral elements so that all of them fit in sidebands
Can not allocate these spectral windows in one receiver band	Revise spectral elements so that all of them fit in sidebands

The **Overview** section at the bottom includes:

- Contextual Help:**
 - Please ensure you and your co-Is are registered with the [ALMA Science Portal](#)
 - Create a new proposal by either:
 - Selecting **File > New Proposal**
 - Clicking on the icon in the toolbar
 - Or clicking on this [link](#)
 - Click on the **proposal** tree node and complete the relevant fields.
- Phase I: Science Proposal** flowchart:

```
graph LR; A[New Science Proposal] --> B[Create Science Goals]; B --> C[Validate Science Proposal]; C --> D[Submit Science Proposal];
```
- Buttons: **Importing And Exporting**, **Template Library**, **Need More Help?**, **View Phase 2 Steps**

Observing Tool (OT)

The screenshot displays the Observing Tool (OT) interface. A red rounded rectangle highlights the **Editor window**, which is used for editing proposal details. The editor contains the following information:

- Proposal Title:** Search for origin of life in evolved stars with ALMA
- Proposal Cycle:** TEST.6
- Abstract (max. 4000 characters):** The formation of organic molecules which lead to life in the universe, e.g. amino acids, are still to be understood. Chemistry reaction to create such complex molecules require stringent physical conditions, that can be reached in the atmosphere of evolved stars. Here we propose to detect with ALMA complex carbon and silicon-based molecules in the outer atmosphere and the circumstellar shell of three evolved stars. These molecules could be the elementary brick to the formation of organic molecules detected in dense molecular clouds and leading to the future development of life.
- Launch Editor:** A button to open the editor.
- Proposal Type:** Radio buttons for Standard and Target Of Opportunity.
- Scientific Category:** Radio buttons for Cosmology and the High Redshift Universe, Galaxies and Galactic Nuclei, ISM, star formation and astrochemistry, Circumstellar disks, exoplanets and the solar, and Stellar Evolution and the.

Below the editor is the **Feedback** section, which includes a **Validation** tab and a **Validation History** tab. It shows 17 errors and 1 warning:

Description	Suggestion
✗ No document found - you must add a Science Case to your proposal	Select the proposal node in the Proposal tab and add your document
✗ taiwan1 is not a registered ALMA user	Remove 'taiwan1' from your proposal and search for this investigator again.
✗ southafrica is not a registered ALMA user	Remove 'southafrica' from your proposal and search for this investigator again.
✗ chile is not a registered ALMA user	Remove 'chile' from your proposal and search for this investigator again.
✗ Your spectral setup is not compatible with one or more of your targets in this ScienceGoal	Revise the spectral setup or move some of the targets to a different Science Goal
✗ Desired Angular resolution is outside the range of possible resolutions for the representative	Select the Control Parameters in the Science Goal and enter a valid value
✗ Can not observe these spectral elements in one ScienceGoal	Revise spectral elements so that all of them fit in sidebands
✗ Can not allocate these spectral windows in one receiver band	Revise spectral elements so that all of them fit in sidebands

At the bottom of the interface is the **Overview** section, which includes **Contextual Help** and a **Phase I: Science Proposal** flowchart.

Contextual Help:

- Please ensure you and your co-Is are registered with the [ALMA Science Portal](#)
- Create a new proposal by either:
 - Selecting **File > New Proposal**
 - Clicking on the icon in the toolbar
 - Or clicking on this [link](#)
- Click on the **proposal** tree node and complete the relevant fields.

Phase I: Science Proposal flowchart:

```
graph LR; A[New Science Proposal] --> B[Create Science Goals]; B --> C[Validate Science Proposal]; C --> D[Submit Science Proposal];
```

Click on the overview steps to view the contextual help

Buttons: **Importing And Exporting**, **Template Library**, **Need More Help?**, **View Phase 2 Steps**

**Editor
window**

Observing Tool (OT)

The screenshot displays the Observing Tool (OT) interface. On the left is the 'Project Structure' tree, showing a hierarchy from 'Unsubmitted Proposal' to 'Science Goal' and its sub-items. The main area is the 'Editors' pane, currently on the 'Proposal' tab. It contains a 'Proposal Information' form with fields for 'Proposal Title' (filled with 'Search for origin of life in evolved stars with ALMA'), 'Proposal Cycle' (filled with 'TEST.6'), and an 'Abstract' text area. Below these are radio buttons for 'Proposal Type' (Standard selected) and 'Scientific Category' (Stellar Evolution and the selected). A 'Launch Editor' button is positioned below the abstract. At the bottom of the interface is the 'Feedback panel', which is highlighted with a red border. It shows '17 errors, 1 warning' and a table of error messages with suggestions. The bottom of the screen features an 'Overview' section with 'Contextual Help' instructions and a 'Phase I: Science Proposal' flowchart.

Feedback panel

Description	Suggestion
✗ No document found - you must add a Science Case to your proposal	Select the proposal node in the Proposal tab and add your document
✗ taiwan1 is not a registered ALMA user	Remove 'taiwan1' from your proposal and search for this investigator again
✗ southafrica is not a registered ALMA user	Remove 'southafrica' from your proposal and search for this investigator again
✗ chile is not a registered ALMA user	Remove 'chile' from your proposal and search for this investigator again
✗ Your spectral setup is not compatible with one or more of your targets in this ScienceGoal	Revise the spectral setup or move some of the targets to a different Science Goal
✗ Desired Angular resolution is outside the range of possible resolutions for the representative	Select the Control Parameters in the Science Goal and enter a valid value
✗ Can not observe these spectral elements in one ScienceGoal	Revise spectral elements so that all of them fit in sidebands
✗ Can not allocate these spectral windows in one receiver band	Revise spectral elements so that all of them fit in sidebands

Contextual Help

- Please ensure you and your co-Is are registered with the [ALMA Science Portal](#)
- Create a new proposal by either:
 - Selecting *File > New Proposal*
 - Clicking on the icon in the toolbar
 - Or clicking on this [link](#)
- Click on the [proposal](#) tree node and complete the relevant fields.

Phase I: Science Proposal

New Science Proposal → Create Science Goals → Validate Science Proposal → Submit Science Proposal

Click on the overview steps to view the contextual help

Importing And Exporting | Template Library | Need More Help? | View Phase 2 Steps

Observing Tool (OT)

The screenshot displays the Observing Tool (OT) interface. On the left is the 'Project Structure' tree, showing a hierarchy from 'Unsubmitted Proposal' to 'Science Goal' and its sub-items. The main area is the 'Editors' pane, currently showing the 'Proposal' tab. The 'Proposal Information' form includes fields for 'Proposal Title' (Search for origin of life in evolved stars with ALMA), 'Proposal Cycle' (TEST.6), and an 'Abstract' (max. 4000 characters) containing text about the formation of organic molecules. Below these are radio buttons for 'Proposal Type' (Standard selected) and 'Scientific Category' (Stellar Evolution and the selected). At the bottom of the main area is the 'Feedback' section, which shows a table of 17 errors and 1 warning.

Description	Suggestion
No document found - you must add a Science Case to your proposal	Select the proposal node in the Proposal tab and add your document
taiwan1 is not a registered ALMA user	Remove 'taiwan1' from your proposal and search for this investigator again.
southafrica is not a registered ALMA user	Remove 'southafrica' from your proposal and search for this investigator again.
chile is not a registered ALMA user	Remove 'chile' from your proposal and search for this investigator again.
Your spectral setup is not compatible with one or more of your targets in this ScienceGoal	Revise the spectral setup or move some of the targets to a different Science Goal
Desired Angular resolution is outside the range of possible resolutions for the representative	Select the Control Parameters in the Science Goal and enter a valid value
Can not observe these spectral elements in one ScienceGoal	Revise spectral elements so that all of them fit in sidebands
Cannot observe these spectral elements in one ScienceGoal	Revise spectral elements so that all of them fit in sidebands

The 'Overview panel' is highlighted with a red border. It contains 'Contextual Help' instructions and a 'Phase I: Science Proposal' flowchart.

Contextual Help

- Please ensure you and your co-Is are registered with the [ALMA Science Portal](#)
- Create a new proposal by either:
 - Selecting *File > New Proposal*
 - Clicking on the icon in the toolbar
 - Or clicking on this [link](#)
- Click on the [proposal](#) tree node and complete the relevant fields.

Phase I: Science Proposal

```
graph LR; A[New Science Proposal] --> B[Create Science Goals]; B --> C[Validate Science Proposal]; C --> D[Submit Science Proposal];
```

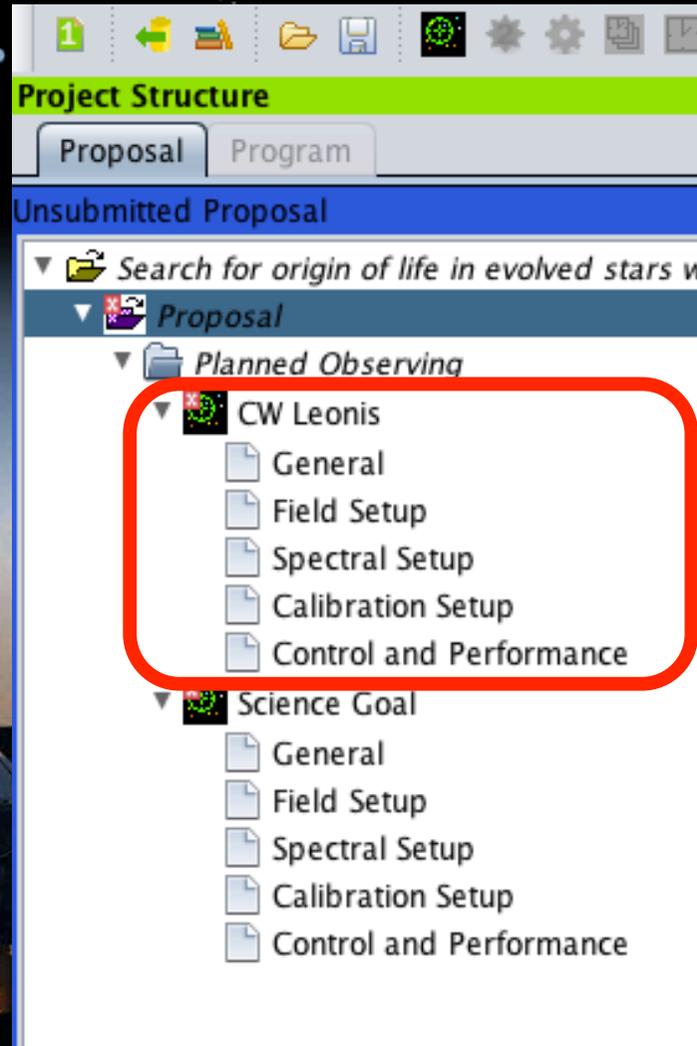
Click on the overview steps to view the contextual help

Buttons: Importing And Exporting, Template Library, Need More Help?, View Phase 2 Steps

Overview panel

Observing Tool (OT)

Phase I: proposal



Science goal

Field setup

- Display an image of the source
- Single pointing or mosaic rectangular mapping region can be defined
- Information of the source:
coordinates, redshift, velocity
peak flux, polarization, line width,...

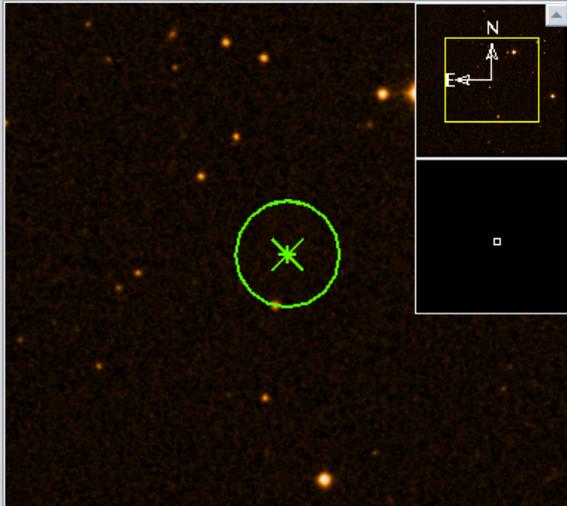
Field setup

Spatial visual editor

Editors

Spectral Spatial **Field Setup**

CW_Leonis



Source

Source Name: CW_Leonis Resolve

Choose a Solar System Object? Name of object: Unspecified

System: J2000 Sexagesimal display?

Source Coordinates: RA: 09:47:57.4061 Dec: 13:16:43.561

Parallax: 0.00000 mas

PM RA: 0.00000 mas/yr

PM Dec: 0.00000 mas/yr

Source Velocity: 0.000 km/s lsrk z: 0.000000000 Doppler Type: RADIO

Target Type: Multiple Pointings 1 Rectangular Field

Expected Source Properties

Peak Continuum Flux Density per Beam: 0.00000 Jy

Peak Line Flux Density per Beam: 0.00000 Jy

Polarisation Percentage: 0.0 %

Line Width: 0.00000 km/s

Field Center Coordinates

PointingPattern: Offset

Offset Unit: arcsec

#Pointings: 1

RA [arcsec]	Dec [arcsec]
0.00000	0.00000

FOV Parameters

Representative Frequency (Sky): 86.594 GHz

Antenna Diameter: 12m

Antenna Beamsize: 71.410 arcsec

Show FOV(circle):

Image Query

image filename: sky3/cache/jsky8102710282253922380.fits

1x 493, 617 0.0

Spectral setup

- Define spectral window

- Displays

LSB & USB and spectral windows
emission lines, atmospheric transmission



Spectral setup

Spectral visual editor

Editors

Spectral Spatial Spectral Setup

Observed Frequency

Rest Frequency

Overlays: Receiver Bands Transmission Overlay Lines [Select Lines to Overlay...](#)

Water Vapour Column Density: Automatic Choice Manual Choice 5.186mm (7th Octile)

Viewport: [Pan to Line](#) [Zoom to Band](#) [Reset](#)

Spectral Type

Spectral Type Spectral Line Single Continuum Spectral Scan

Polarization Products desired XX DUAL

Spectral Setup Errors

Spectral setup

Spectral visual editor

Editors

Spectral Spatial Spectral Setup

Observed Frequency

85,000 90,000 95,000 100,000 105,000 110,000 115,000

03

L01

SiC4 28-27
CCCS 15-14

Si13CC 4(1,3)-3(1,2)

Spectral Line

Baseband-0

Fraction	Center Freq (Rest)	Center Freq (Sky)	Transition	Bandwidth, Resolution (Hanning smoothed)	Representative Window
1(Full)	85.88612 GHz	85.88612 GHz	SiC4 28-27	58.594 MHz(205 km/s), 30.518 kHz(0.107 km/s)	<input type="radio"/>

Select Lines to Observe in Baseband-0... Add Delete

Baseband-1

1(Full)	86.70838 GHz	86.70838 GHz	CCCS 15-14	58.594 MHz(203 km/s), 30.518 kHz(0.106 km/s)	<input checked="" type="radio"/>
---------	--------------	--------------	------------	--	----------------------------------

Select Lines to Observe in Baseband-1... Add Delete

Baseband-2

1(Full)	97.29526 GHz	97.29526 GHz	Si13CC 4(1,3)-3(1,2)	58.594 MHz(181 km/s), 30.518 kHz(0.094 km/s)	<input type="radio"/>
---------	--------------	--------------	----------------------	--	-----------------------

Spectral setup spatalogue

Select Spectral Lines

Species Filter

e.g. CO*2-1 or *oxide

Include description

Frequency Filters

ALMA Band

Sky Frequency (GHz)

Min 31.3 Max 950

Receiver/Back End Configuration

Hide unobservable lines

Filtering unobservable lines

Maximum Upper-state Energy (K)

0 20 40 60 80 100 ∞

Molecule Filter / Environment

Show all atoms and molecules

Can't find the transition you're looking for in the offline pool? Find more in the online Splatalogue.

Find More...

Reset Filters

Transitions matching your filter settings

Transition ▲	Description	Rest Frequency ▲	Sky Frequency	Upper-state Energy	Lovas Intensity	Sij μ^2	Catalog
I-C5H J=35/2-33/2, $\Omega=3/2$, F=17-16, l=f	2,4-Pentadiynylidyne	84.108 GHz	84.108 GHz	71.86 K	4.7	401.71 D ²	Offline
I-C5H J=35/2-33/2, $\Omega=3/2$, F=18-17, l=f	2,4-Pentadiynylidyne	84.108 GHz	84.108 GHz	71.86 K	4.7	425.31 D ²	Offline
I-C5H J=35/2-33/2, $\Omega=3/2$, F=17-16, l=e	2,4-Pentadiynylidyne	84.11 GHz	84.11 GHz	71.86 K		401.69 D ²	Offline
I-C5H J=35/2-33/2, $\Omega=3/2$, F=18-17, l=e	2,4-Pentadiynylidyne	84.11 GHz	84.11 GHz	71.86 K		425.39 D ²	Offline
C4Hv7=1 J=17/2-15/2, $\Omega=1/2$, l=f	1,3-Butadiynyl radical	84.123 GHz	84.123 GHz	211.67 K	2.1	12.77 D ²	Offline
CH3CH2CN v=0 11(0,11)-10(1,10)	Ethyl Cyanide	84.152 GHz	84.152 GHz	28.1 K	0.1	10.33 D ²	Offline
U-84163	UNIDENTIFIED	84.163 GHz	84.163 GHz		0.06		Offline
c-H13CCCH 2(1,2)-1(0,1)	Cyclopropenylidene	84.186 GHz	84.186 GHz	6.33 K	0.13	17.24 D ²	Offline
U-84215	UNIDENTIFIED	84.215 GHz	84.215 GHz		0.08		Offline
CH3CHO v t=0 2(1,2)-1(0,1)A++	Acetaldehyde	84.22 GHz	84.22 GHz	4.97 K	0.05	1.71 D ²	Offline
CH3OCHO v=0 11(4,7)-11(3,8)A	Methyl Formate	84.233 GHz	84.233 GHz	49.8 K	0.06	2.96 D ²	Offline
SO2 v=0 32(5,27)-31(6,26)	Sulfur dioxide	84.321 GHz	84.321 GHz	549.36 K	0.1	13.46 D ²	Offline
U-84356	UNIDENTIFIED	84.356 GHz	84.356 GHz		0.07		Offline
U-84385	UNIDENTIFIED	84.385 GHz	84.385 GHz		0.08		Offline
34SO 2(2)-1(1)	Sulfur Monoxide	84.411 GHz	84.411 GHz	19.23 K	0.03	3.53 D ²	Offline
CH3OH v t=0 13(-3,11)-14(-2,13)	Methanol	84.424 GHz	84.424 GHz	273.9 K	0.8	4.3 D ²	Offline
CH3OCHO v=0 7(2,6)-6(2,5)E	Methyl Formate	84.449 GHz	84.449 GHz	19 K	0.45	17.18 D ²	Offline
CH3OCHO v=0 7(2,6)-6(2,5)A	Methyl Formate	84.455 GHz	84.455 GHz	18.98 K	0.45	17.18 D ²	Offline
U-84468	UNIDENTIFIED	84.468 GHz	84.468 GHz		0.18		Offline
U-84478	UNIDENTIFIED	84.478 GHz	84.478 GHz		0.18		Offline
U-84496	UNIDENTIFIED	84.496 GHz	84.496 GHz		0.1		Offline
c-H2COCH2 8(5,4)-8(4,5)	Ethylene Oxide	84.505 GHz	84.505 GHz	74.16 K	0.08	41.83 D ²	Offline
CH3OH v t=0 5(-1,5)-4(0,4)	Methanol	84.521 GHz	84.521 GHz	40.39 K	2.8	3.08 D ²	Offline
NH2CHO 4(0,4)-3(0,3)	Formamide	84.542 GHz	84.542 GHz	10.16 K	0.21	52.27 D ²	Offline
C6H J=61/2-59/2, $\Omega=3/2$, l=e	1,3,5-Hexatriynyl	84.55 GHz	84.55 GHz	63.66 K	0.04	1867.73 D ²	Offline
C6H J=61/2-59/2, $\Omega=3/2$, l=f	1,3,5-Hexatriynyl	84.575 GHz	84.575 GHz	63.68 K	0.03	1867.56 D ²	Offline
29SiO v=2 2-1	Silicon Monoxide	84.575 GHz	84.575 GHz	3505.4 K	0.07	19.69 D ²	Offline
t-CH3CH2OH 4(2,3)-4(1,4)	trans-Ethanol	84.596 GHz	84.596 GHz	13.41 K	0.06	4.33 D ²	Offline
CH3NH2 2(1)E1+1-2(0)E1+1, F=2-2	Methylamine	84.598 GHz	84.598 GHz	10.88 K		0.25 D ²	Offline
CH3NH2 2(1)E1+1-2(0)E1+1, F=3-2	Methylamine	84.598 GHz	84.598 GHz	10.88 K		0.06 D ²	Offline
CH3NH2 2(1)E1+1-2(0)E1+1, F=1-2	Methylamine	84.598 GHz	84.598 GHz	10.88 K		0.05 D ²	Offline
CH3NH2 2(1)E1+1-2(0)E1+1	Methylamine	84.598 GHz	84.598 GHz	10.88 K		1.07 D ²	Offline
CH3NH2 2(1)E1+1-2(0)E1+1, F=2-3	Methylamine	84.598 GHz	84.598 GHz	10.88 K		0.06 D ²	Offline
CH3NH2 2(1)E1+1-2(0)E1+1, F=3-3	Methylamine	84.598 GHz	84.598 GHz	10.88 K		0.44 D ²	Offline
CH3NH2 2(1)E1+1-2(0)E1+1, F=2-1	Methylamine	84.599 GHz	84.599 GHz	10.88 K		0.05 D ²	Offline
CH3NH2 2(1)E1+1-2(0)E1+1, F=1-1	Methylamine	84.599 GHz	84.599 GHz	10.88 K		0.16 D ²	Offline
U-84608	UNIDENTIFIED	84.608 GHz	84.608 GHz		0.12		Offline
U-84616	UNIDENTIFIED	84.616 GHz	84.616 GHz		0.1		Offline

Add to Selected Transitions

Selected transitions

Transition ▲	Description	Rest Frequency ▲	Sky Frequency
--------------	-------------	------------------	---------------

Remove from Selected Transitions

Cancel Ok

Calibration setup

- Normally should not be edited
- Calibrators picked automatically

Editors

Spectral Spatial **Calibration Setup**

Select calibration setup.
If "system" is selected, the ALMA system will select default calibrators.

Goal Calibrators

Select *User-defined calibration* to choose your own calibrators, or *System-defined calibration* to let the system automatically select the calibrators to be observed. We **STRONGLY** suggest that you leave this choice at 'System-defined' - the Observatory will ensure that suitable calibrators are selected. ?

System-defined calibration
 User-defined calibration

Control and Performance

Editors

Spectral Spatial **Control and Performance**

Configuration Information ?

Antenna Beamsize ($1.2 * \lambda / D$)	12m <input type="text" value="71.259 arcsec"/>	7m <input type="text" value="122.158 arcsec"/>
	Most Extended Configuration	Most Compact Configuration
Longest baseline (L_{max})	<input type="text" value="1.091 km"/>	<input type="text" value="165.6 m"/>
Synthesized beamsize (λ/L_{max})	<input type="text" value="0.653 arcsec"/>	<input type="text" value="4.303 arcsec"/>
Shortest baseline (L_{min})	<input type="text" value="43.3 m"/>	<input type="text" value="15.1 m"/>
Maximum recoverable scale ($0.6\lambda/L_{min}$)	<input type="text" value="9.874 arcsec"/>	<input type="text" value="28.315 arcsec"/>

Desired Performance

Desired Angular Resolution

Largest Angular Structure in source Point Source Extended Source

Desired sensitivity per pointing equivalent to

Bandwidth used for Sensitivity Frequency Width

Do you request complementary ACA Observations? Yes No

Science goal integration time estimate

Does your setup need more time than is indicated by the time estimate? Yes No

Is this observing time constrained (occultations, coordinated observing,...)? Yes No

Control and Performance

Editors

Spectral Spatial **Control and Performance**

Configuration Information ?

Antenna Beamsize ($1.2 * \lambda / D$)	12m <input type="text" value="71.259 arcsec"/>	7m <input type="text" value="122.158 arcsec"/>
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Control and Performance

Editors

Spectral Spatial **Control and Performance**

Configuration Information ?

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Does your setup need more time than is indicated by the time estimate? Yes No

Is this observing time constrained (occultations, coordinated observing,...)? Yes No

Proposal preparation

- Fill the proposal editor window
 - Title and abstract, science category, PI and co-I
- Attach science & technical justification
- Fill the science goals

Proposal submission

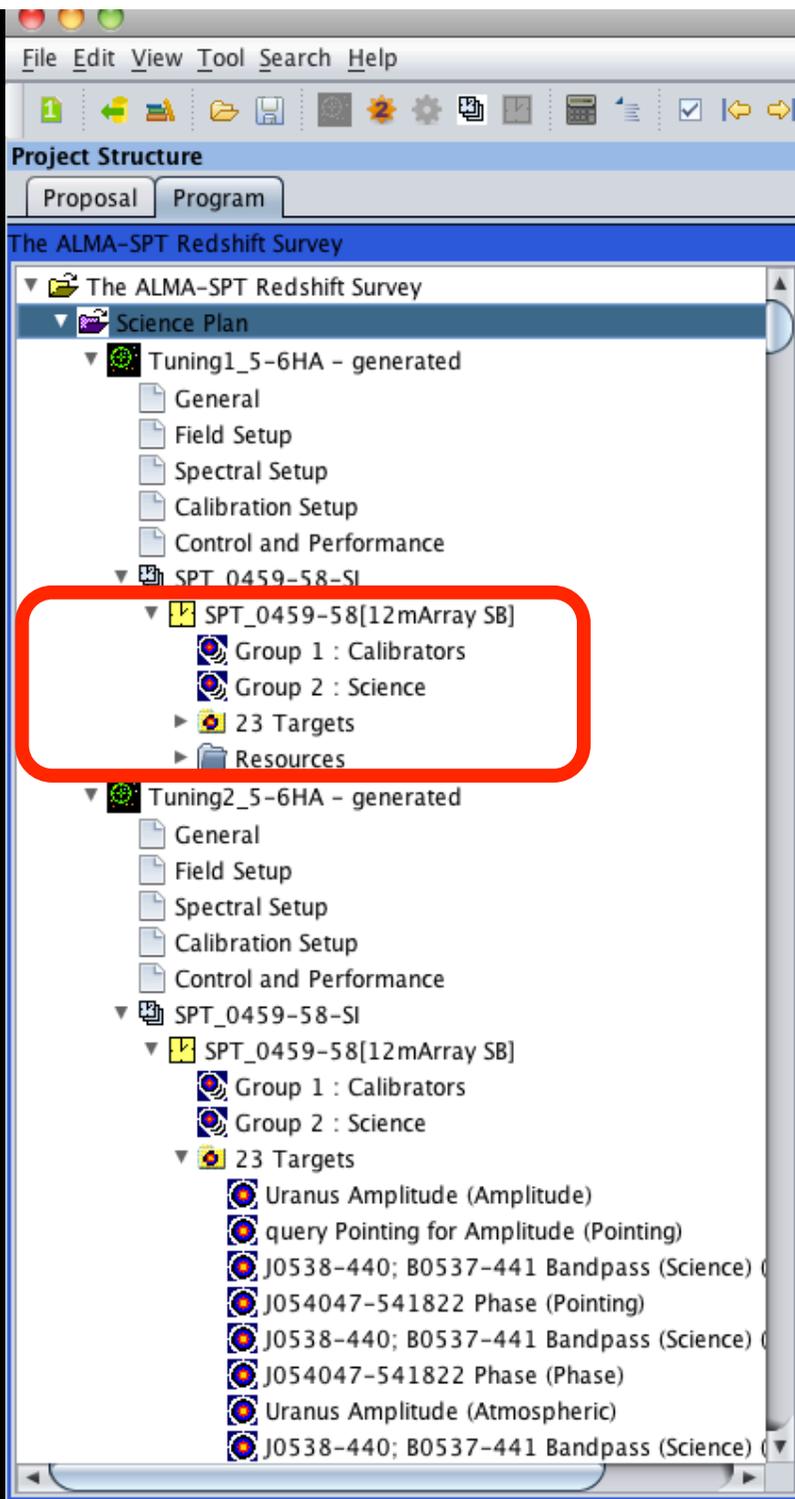
- Validate your proposal
 - Check by the OT
 - Potential errors and/or warning shown in the feedback panel
- Fix the errors then re-validate
- When submission is successful:
 - Email of confirmation
 - Summary of the proposal
- Re-submission is always possible until the deadline
 - Previous submission is overwritten

Observing Tool (OT)

Phase II: SBs

- Congratulation! Your proposal has been accepted!
- Now it's time to work on the phase II: preparation of the scheduling block that will be observed
- P2G create the SBs





ing Tool (OT)

le II: SBs

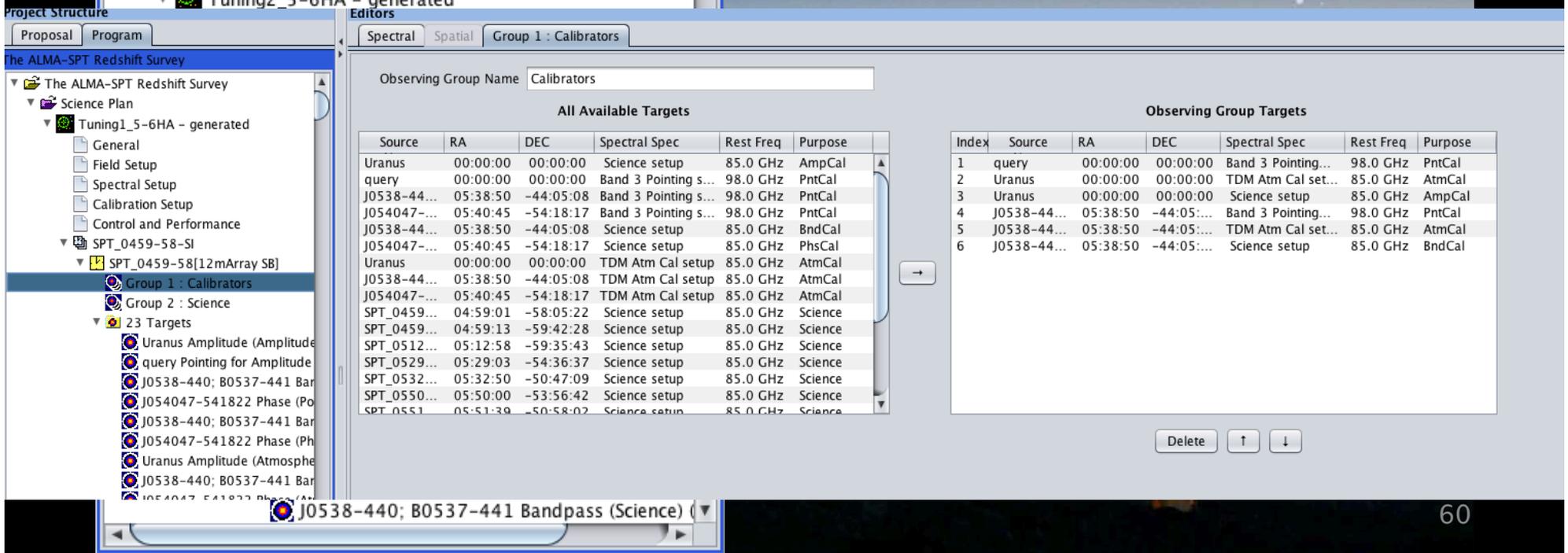
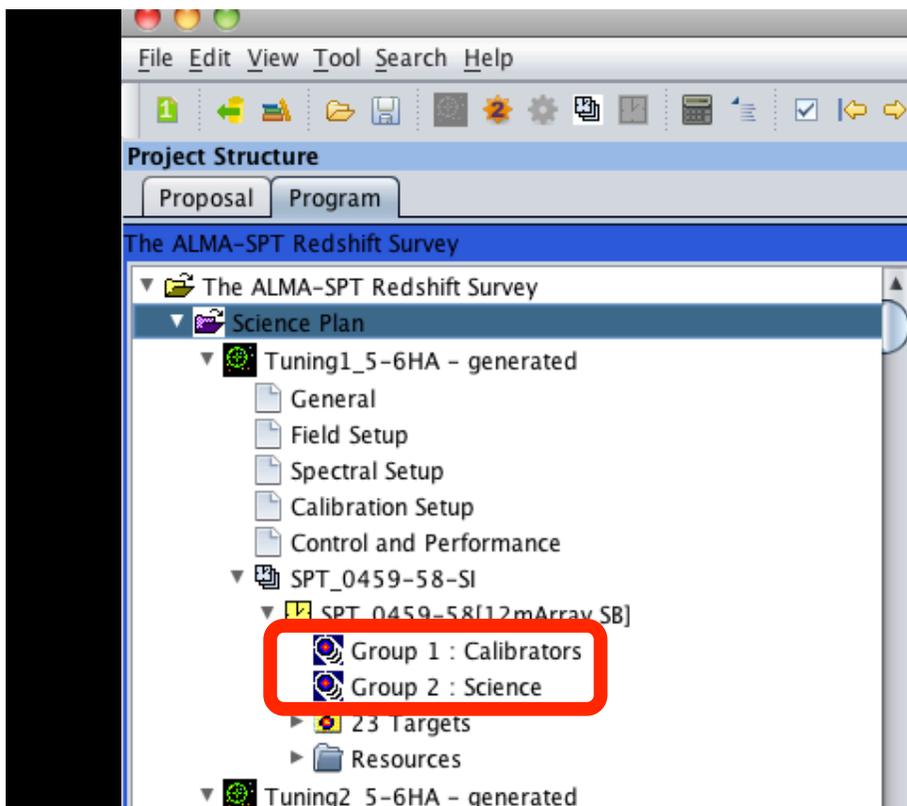
- SB contains:
 - Observing groups
 - Targets
 - Resources



ing Tool (OT)

le II: SBs

- Observing groups
 - Calibration
 - Science
 - The order matters!
Group n before n+1



Tool (OT)

: SBs

- Targets
 - Amplitude
 - Atm
 - pointing
 - BP
 - Phase
 - Science

Project Structure

Proposal Program

The ALMA-SPT Redshift Survey

- Calibration Setup
- Control and Performance
- ▼ SPT_0459-58-SI
 - ▼ SPT_0459-58[12mArray SB]
 - Group 1 : Calibrators
 - Group 2 : Science
 - ▼ 23 Targets
 - Uranus Amplitude (Amplitude)
 - query Pointing for Amplitude (Pointing)
 - J0538-440; B0537-441 Bandpass (Science) (Pointing)
 - J054047-541822 Phase (Pointing)
 - J0538-440; B0537-441 Bandpass (Science) (Bandpass)
 - J054047-541822 Phase (Phase)
 - Uranus Amplitude (Atmospheric)
 - J0538-440; B0537-441 Bandpass (Science) (Atmospheric)
 - J054047-541822 Phase (Atmospheric)
 - [R] SPT_0459-58 Primary: (Science)
 - SPT_0459-59 Primary: (Science)
 - SPT_0512-59 Primary: (Science)
 - SPT_0529-54 Primary: (Science)
 - SPT_0532-50 Primary: (Science)
 - SPT_0550-53 Primary: (Science)
 - SPT_0551-50 Primary: (Science)
 - SPT_0459-58 Primary: (Atmospheric)
 - SPT_0459-59 Primary: (Atmospheric)
 - SPT_0512-59 Primary: (Atmospheric)
 - SPT_0529-54 Primary: (Atmospheric)
 - SPT_0532-50 Primary: (Atmospheric)
 - SPT_0550-53 Primary: (Atmospheric)
 - SPT_0551-50 Primary: (Atmospheric)
 - Resources
- ▼ Tuning2_5-6HA - generated
 - General
 - Field Setup

Observing Tool (OT)

Phase II: SBs

The screenshot displays the Observing Tool (OT) interface, divided into two main sections: Project Structure and Editors.

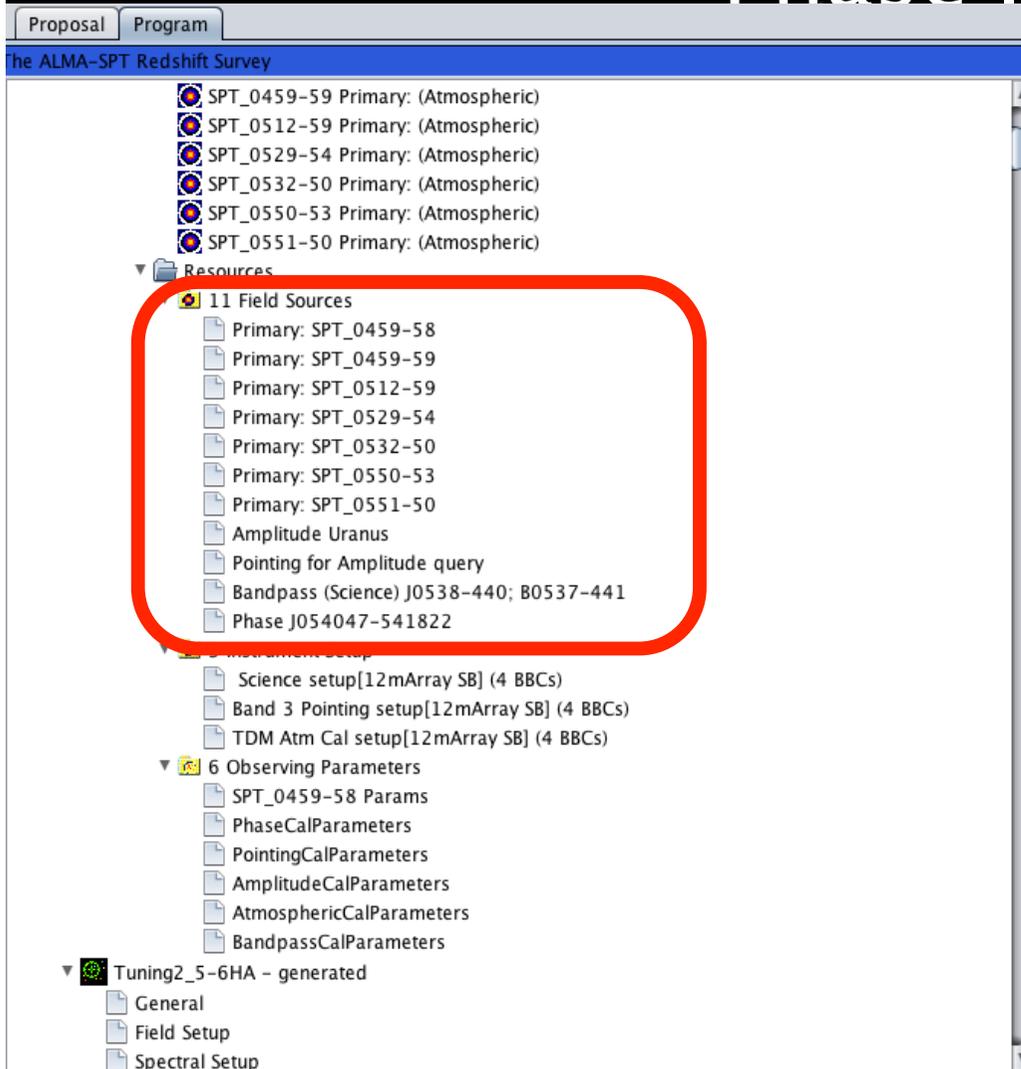
Project Structure: Shows a tree view of the project hierarchy. The selected path is: The ALMA-SPT Redshift Survey > Science Plan > Tuning1_5-6HA - generated > Spectral Setup > SPT_0459-58-SI > SPT_0459-58[12mArray SB] > Group 2 : Science > 23 Targets > SPT_0512-59 Primary: (Science).

Editors: Shows the configuration for the selected target, SPT_0512-59 Primary: (Science). The interface includes several panels:

- Query Status:** Select target from ALMA calibrator catalogue at execution time
- Field Source:** Field Source Name: Primary; Source Name: SPT_0512-59; Choose a Solar System Object?: Select Object Unspecified; System: J2000; Sexagesimal display?: ; Parallax: 0.00000 mas; Source Coordinates: RA: 05:12:58.2500, Dec: -59:35:43.500; PM RA: 0.00000 mas/yr, PM DEC: 0.00000 mas/yr; Source Radial Velocity: 0.000 km/s, z: 0.000000000, Doppler Type: OPTICAL; Source Properties table with columns Frequency, Flux, and Diameter; Visible Magnitude: ; Use Reference: ; Reference Position (Offset):
- Spectral Spec:** Spectral Spec Name: Science setup; Rest Frequency: 85.00542; Receiver Band: ALMA_RB_03; Receiver Type: 2; Add Total power with square law detectors to this co:
- Switching:** Switching Type: NO_SWITCHING
- Correlator Configuration:** Integration Duration: 6.04800 s; ADJUST Channel; Atmos. Phase Correction Data To Save: AP_UNCORRECTED; Accumulation Mode: NORMAL; LO Offsetting Mode: TWO_LC; Enable 90deg Walsh Function: ; Enable 180deg Walsh Function:

Observing Tool (OT)

Phase II: SBs



- Resources

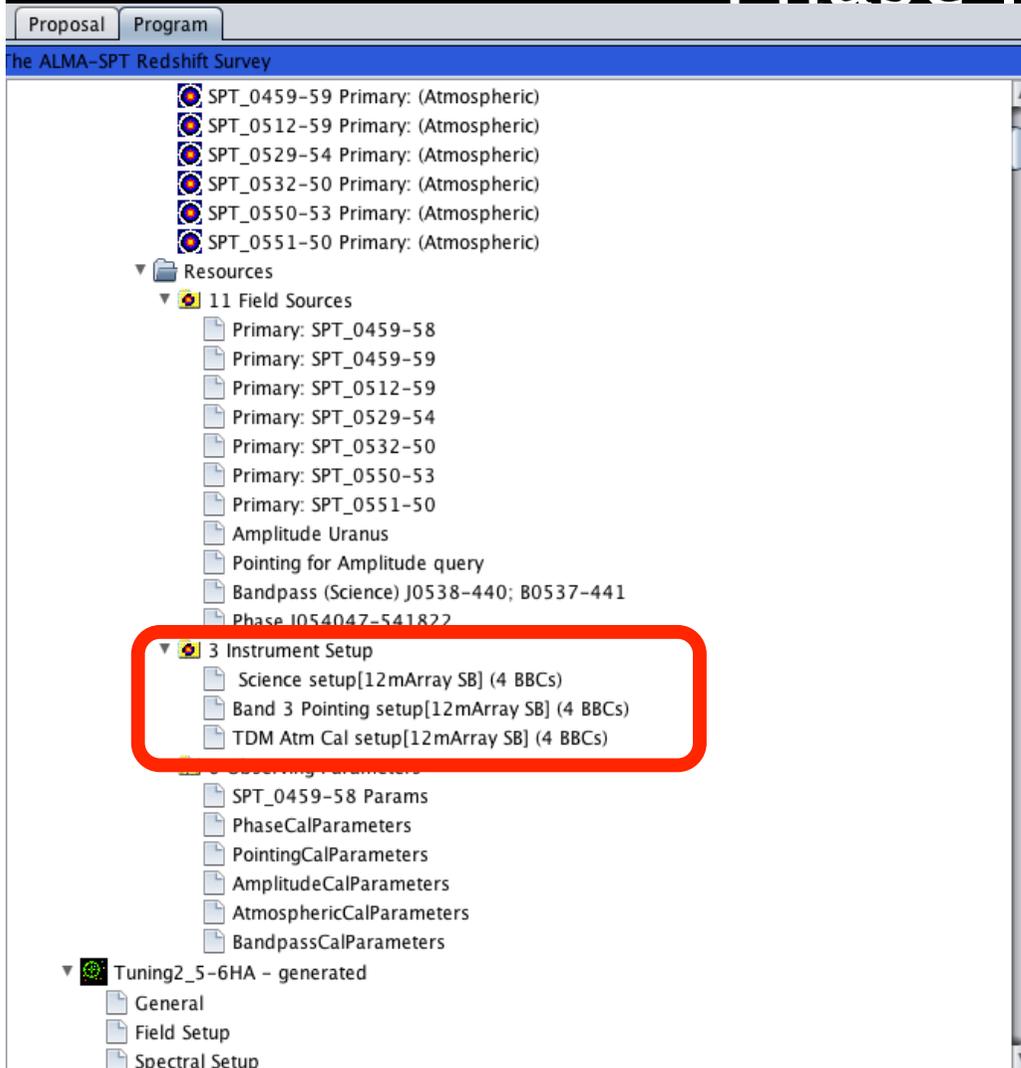
- Field sources

Similar to science goal



Observing Tool (OT)

Phase II: SBs



- Resources

- Field sources

Similar to science goal

- Instrument setup

More information,
correlator setup

Add Baseband

Delete Baseband

BB_1 BB_2 BB_3 BB_4

Baseband Name BB_4 Set another name

Desired Center Freq 98.87500 GHz

Actual Center Freq 98.88043 GHz

Actual Center Freq(Sky) 98.88043 GHz

Products CROSS_AND_AUTO

Use 12 GHz filter Use USB

LO2 Switching (Not Currently Implemented)

LO2 Frequency Switching

Number of Positions Unswitched

Dwell Time

Spectral Windows

Offset (MHz)	LSB(Rest)	use LSB	USB(Rest)	use USB	Bandwidth	Chs	Resolution	Polarization	Data Rate
3000.0	---	<input type="checkbox"/>	98.880 GHz	<input checked="" type="checkbox"/>	2000.0 MHz	4096	488.281 kHz	XX,YY	2.403 MB/s

Add Add From Catalog... Duplicate Selected Delete

SW-1

SpectralWindow Name SW-1

Center Offset Frequency 3.000000000000 GHz Adjust

Center Freq(Rest) LSB / USB --- 98.88043 GHz

Center Freq(Sky) LSB / USB --- 98.88043 GHz

Use LSB Use USB

Nominal BW / # Channels 2000.000 MHz 4096

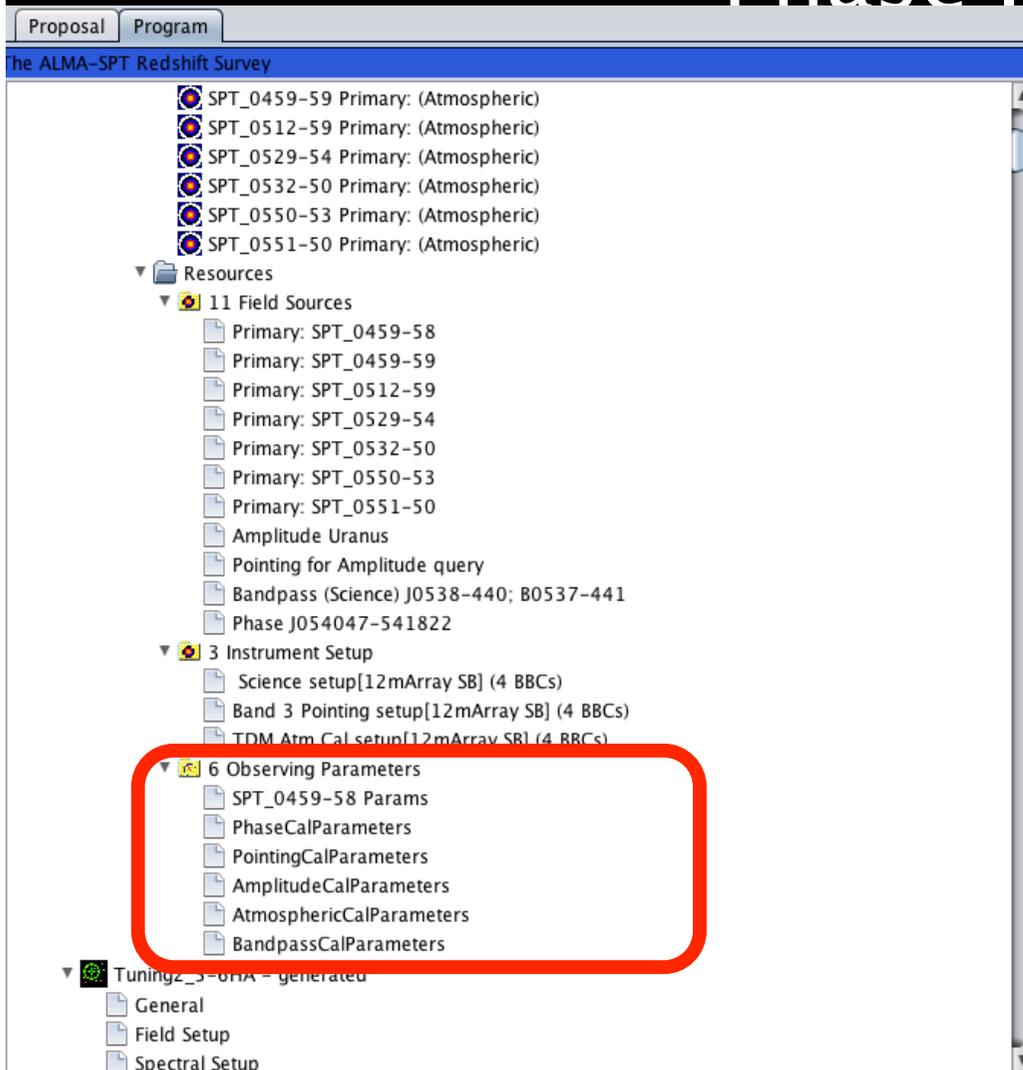
Effective BW / # Channels 1875.0 MHz 3840

Spectral Average Region

Start Channel	Num. Channels
0	3840

Observing Tool (OT)

Phase II: SBs



- Resources

- Field sources

Similar to science goal

- Instrument setup

More information,
correlator setup

- Observing parameters

Proposal Program

The ALMA-SPT Redshift Survey

- SPT_0459-59 Prim.
- SPT_0512-59 Prim.
- SPT_0529-54 Prim.
- SPT_0532-50 Prim.
- SPT_0550-53 Prim.
- SPT_0551-50 Prim.
- Resources
 - 11 Field Sources
 - Primary: SPT_04:
 - Primary: SPT_04:
 - Primary: SPT_05:
 - Amplitude Uranu
 - Pointing for Amp
 - Bandpass (Scienc
 - Phase J054047-
 - 3 Instrument Setup
 - Science setup[12
 - Band 3 Pointing s
 - TDM Atm Cal set
 - 6 Observing Param
 - SPT_0459-58 Pa
 - PhaseCalParamer
 - PointingCalParam
 - AmplitudeCalPar
 - AtmosphericCalP
 - BandpassCalPara
- Tuning_3-6HA - generated
 - General
 - Field Setup
 - Spectral Setup

Editors

Spectral Spatial **SPT_0459-58 Params**

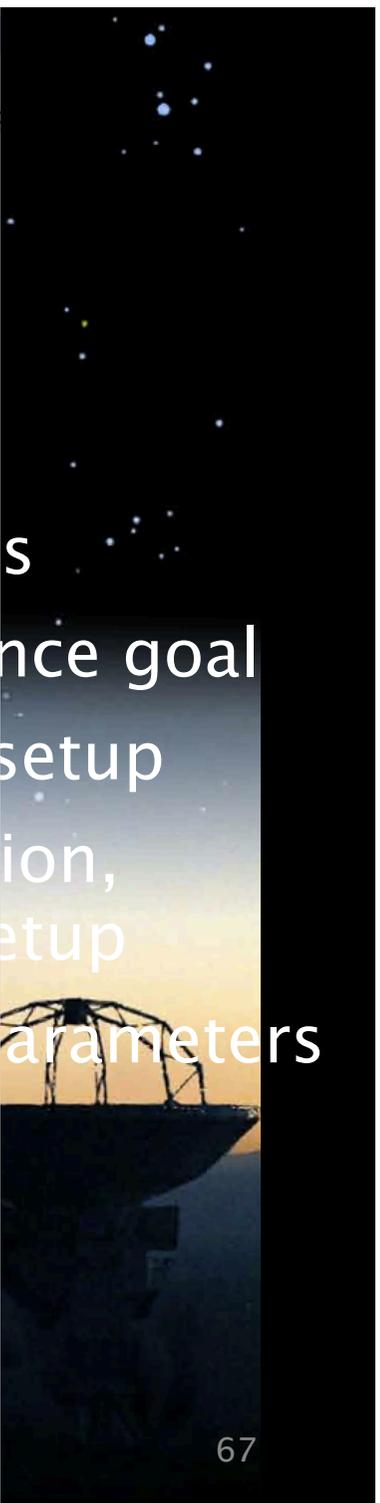
Observing Parameters

BandpassCal OpticalPointing RadiometricPointing Holography
 FocusCal AtmosphericCal DelayCal SidebandRatioCal
Science PhaseCal PointingCal AmplitudeCal PolarizationCal

 This ScienceParameters is used by 7 targets.

Science Parameters

Science Parameters Name	SPT_0459-58 Params	
Representative Bandwidth	0.02835	GHz
Representative Frequency	85.00000	GHz
Sensitivity Goal	2.00000	mJy
Integration Time on Source	149.45025	s
Sub Scan Duration	30.24000	s
Adjust subscanduration to a correct value:	ADJUST Subscan	



Science goal
 setup
 ion,
 etup
 parameters

Observing Tool (OT)

Phase II: SBs

- Congratulation! Your proposal has been accepted!
- Now it's time to work on the phase II: preparation of the scheduling block that will be observed
- P2G create the SBs
- CS check the SBs with the PI and report to P2G for any change
- P2G change the SBs status to “ready” once the PI is happy with them

Tips on OT

- The OT show a lot of information
 - Full screen mode to see most of them
 - Panels can be hiddenScroll down and to the right to see everything
- Extensive build-in help
 - Help menu
 - Question mark buttons
 - Tutorial links via the science portal

How to use ALMA

- Science portal
 - Find information, documents and tools
 - Helpdesk
 - Sensitivity calculator
 - Data archive
- ALMA simulation data
 - On-line
 - CASA or Gildas
- OT
 - Phase I & phase II

How to use ALMA

- Data reduction : CASA
 - Eric Villard's talk
 - Tutorial this afternoon





The Helpdesk

The knowledgebase

- General knowledge
- FAQ
- Different categories

ALMA EUROPEAN ARC
ALMA Regional Centre

18 May 2011

Support Center » Knowledgebase

Knowledgebase Categories

Knowledgebase articles are categorized. Please select which category you would like to browse. You can also search the knowledgebase using the search field beside this text.

General ALMA Queries (7) Early Science - Cycle 0 (5)

What do I do if I forgot my password or username?
Can I submit a ticket in Japanese?
» more topics

What array configurations are available for ALMA Early Science in Cycle 0?
What bands, frequencies, or wavelengths are available for Early Science?
» more topics

Helpdesk (1) Science Portal (0)

Why do I see a "Login" screen within the helpdesk when I already logged in via the ALMA User Portal?
» more topics

Documentation (2) Simulators (2)

Where can I find ALMA documentation and manuals?
What translations will be available for user documentation from ALMA?
» more topics

Where can I find the online ALMA observing simulator developed by the University of Manchester?
What pwv and delta-pwv should I use in my simdata simulations to prepare an ALMA proposal?
» more topics

Splatalogue (0) Sensitivity Calculator (1)

Does the sensitivity calculator account for shadowing?
» more topics

ALMA Observing Tool (OT) (8) Proposal Handling (0)

What do I do if I can't get the OT to work?
How do I deal with targets with unspecified coordinates in the OT?
» more topics

Accepted Observing Programs (0) Project Tracking (0)

Archive & Data Retrieval (0) Offline Data Reduction and/or CASA (3)

My Account [Logout]
Logged In: Gaelle Dumas

Main Categories

General ALMA Queries (7)
Early Science - Cycle 0 (5)
Helpdesk (1)
Science Portal (0)
Documentation (2)
Simulators (2)
Splatalogue (0)
Sensitivity Calculator (1)
ALMA Observing Tool (OT) (8)
Proposal Handling (0)
Accepted Observing Programs (0)
Project Tracking (0)
Archive & Data Retrieval (0)
Offline Data Reduction and/or CASA (3)
Visiting the ARCs (4)
Webpages (0)

Search

Search

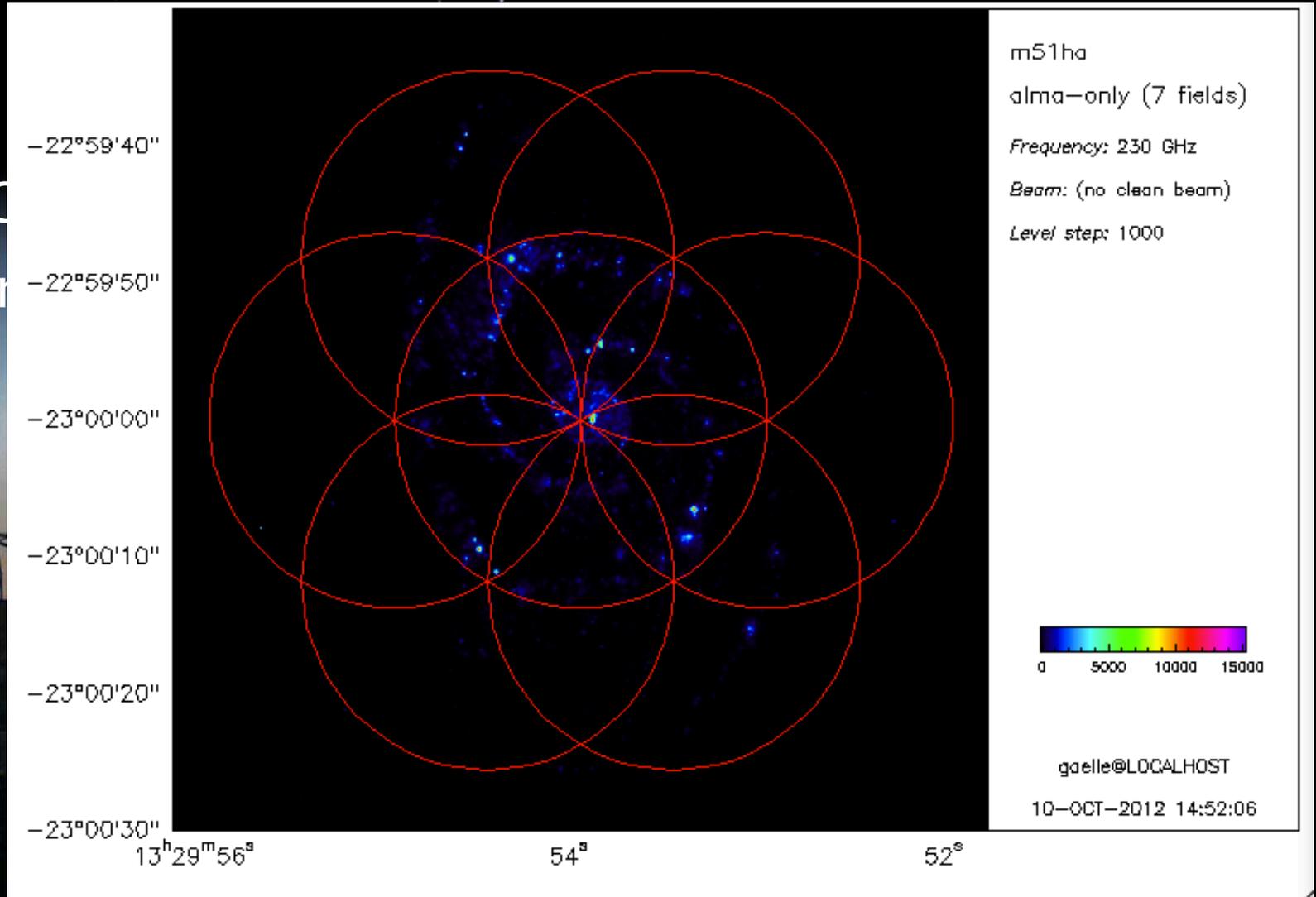
-- Entire Support Site --

How use ALMA

ALMA data simulator

GILDAS –

- MAPPING
- ALMA simulator



How use ALMA

ALMA data simulator

- Online



Guidelines

- Science user portal: <http://almascience.eso.org/>
- Need to register to submit proposal, use the helpdesk etc..
- Helpdesk: tickets in English, answer within 2 working days, close the ticket when satisfied emergency department open 3 days before proposal submission deadline

The ALMA science portal

<http://almascience.org/>

- Information about ALMA
- Call for proposals
- Data archive
- Documents and softwares
- Helpdesk
- Link to the ARCs

Atacama Large Millimeter/Submillimeter Array
In search of our Cosmic Origins

Search Site

Portals: ESO NRAO NAQJ Log In Register Reset password

Home
About ALMA
ALMA Science
Call for Proposals
ALMA Data
Documents & Tools

User Services at ARCs

- [Helpdesk](#)
- [ALMA@ESO](#)
- [ALMA@NRAO](#)
- [ALMA@NAOJ](#)

Welcome to the ALMA Science Portal at ESO

Overview

The Atacama Large Millimeter/submillimeter Array (ALMA) is a major new facility for world astronomy. When completed in 2013, ALMA will consist of a giant array of 12-m antennas, with baselines up to 16 km, and an additional compact array of 7-m and 12-m antennas to greatly enhance ALMA's ability to image extended targets. ALMA is outfitted with state-of-the-art receivers that cover atmospheric windows from 84–950 GHz (3mm – 300 micron). Construction of ALMA started in 2003 and will be completed in 2013. Science observations will start in 2011 with 16 antennas and four receiver bands. The ALMA project is an international collaboration between Europe, East Asia and North America in cooperation with the Republic of Chile. More details can be found via the **About ALMA** link in the left menu.

This is the website for The ALMA Science Portal, served from one of the ALMA Regional Centers (ARCs) of the ALMA partner organizations: ESO, NRAO or NAOJ. You may switch between the different instances of the portal through the links to the appropriate ALMA partner at the top banner. Through this portal you can find details about the technical capabilities of ALMA, how to propose for observing time, and how to access ALMA data. It includes links to all official ALMA documents and tools, including those for preparing and submitting proposals and processing ALMA data. In order to access some of the tools, users must register with the project and login to the portal via the links at the top banner.

Each of the three ARCs provides additional User Services, including a Helpdesk for all user queries. Each ARC maintains additional web pages with information on region-specific user services, such as visitor and student programs, schools, workshops, financial programs and public outreach activities. These are accessed via the links under the **User Services at the ARCs** area in the left menu.

Print this Toggle full screen mode

General News

Updated ALMA Science Portal
May 16, 2011

ALMA Cycle 0 Call for Proposals is now open
Mar 30, 2011

More...

Local News

The Nordic ARC invites applications for an indefinite Staff Astronomer position.
Feb 16, 2011

ALMA Community Days 6-7 April 2011: Towards Early Science
Dec 17, 2010

ESO Takes Delivery of State-of-the-art Receiver
Dec 15, 2010

Dutch ALMA Workshop, Leiden, Netherlands, 20-21 April 2011
Dec 10, 2010

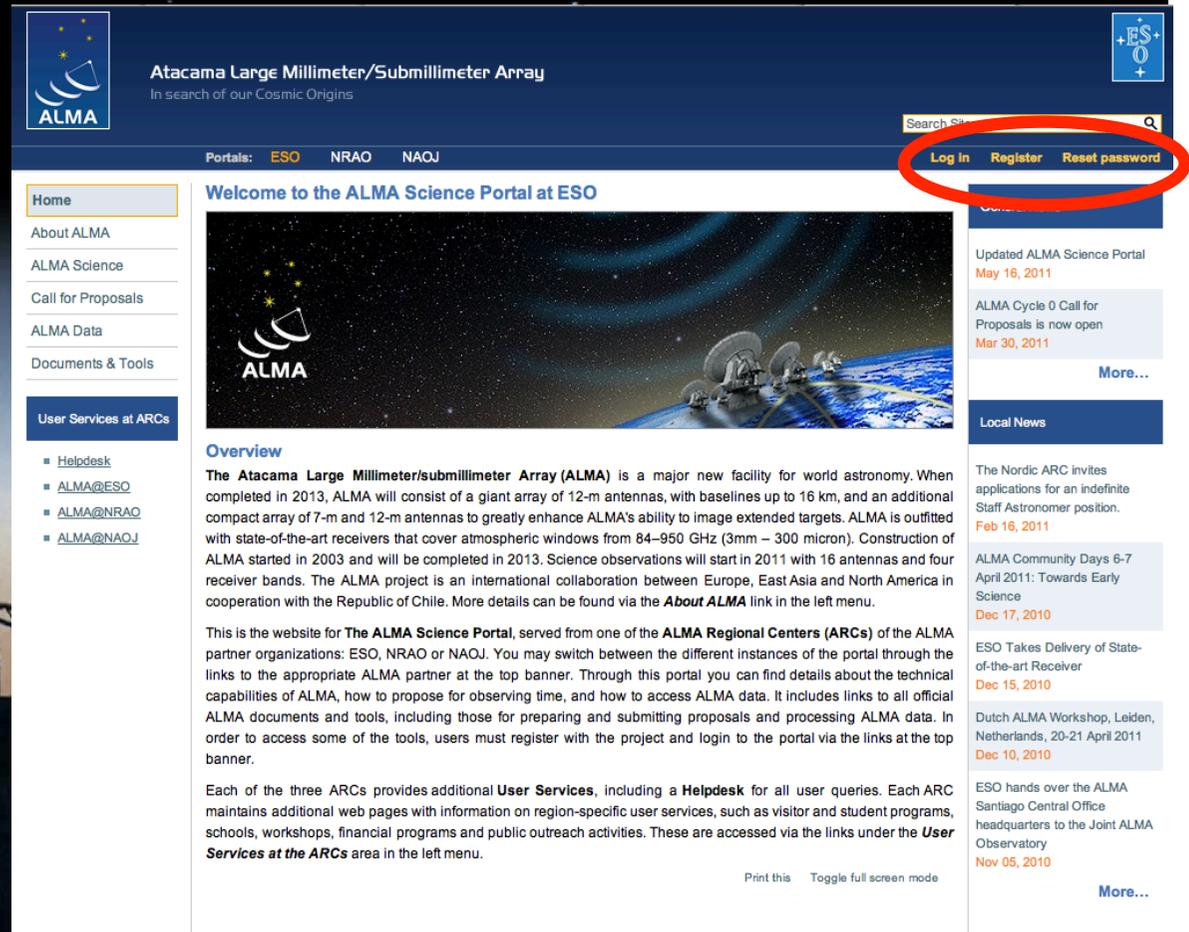
ESO hands over the ALMA Santiago Central Office headquarters to the Joint ALMA Observatory
Nov 05, 2010

More...

The ALMA science portal

User Registration

- Submit proposal
- Access data
- File a helpdesk ticket



The screenshot shows the ALMA Science Portal website. At the top, there is a navigation bar with the ALMA logo and the text "Atacama Large Millimeter/Submillimeter Array" and "In search of our Cosmic Origins". Below this, there are links for "Portals: ESO NRAO NAOJ" and a search bar. A red circle highlights the "Log In", "Register", and "Reset password" links. The main content area features a "Welcome to the ALMA Science Portal at ESO" banner with an image of the ALMA antennas. Below the banner is an "Overview" section with text about the ALMA project and its goals. On the left side, there is a "User Services at ARCs" section with links for "Helpdesk", "ALMA@ESO", "ALMA@NRAO", and "ALMA@NAOJ". On the right side, there are "Local News" items, including "Updated ALMA Science Portal May 16, 2011", "ALMA Cycle 0 Call for Proposals is now open Mar 30, 2011", "The Nordic ARC invites applications for an indefinite Staff Astronomer position. Feb 16, 2011", "ALMA Community Days 6-7 April 2011: Towards Early Science Dec 17, 2010", "ESO Takes Delivery of State-of-the-art Receiver Dec 15, 2010", "Dutch ALMA Workshop, Leiden, Netherlands, 20-21 April 2011 Dec 10, 2010", and "ESO hands over the ALMA Santiago Central Office headquarters to the Joint ALMA Observatory Nov 05, 2010".

- Not needed to:
find information, download softwares, access public data....