

EUROPEAN ARC
ALMA Regional Centre

The ALMA Observing Tool



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European ALMA Regional Centre
ESO, Garching



Introduction

- Responsible for project **Proposal Preparation and Submission (Phase I)** and **Accepted Program Observation Preparation (Phase II)**
- Main requirements
 - Needs to run on “all” systems
 - Needs to support all observing modes
 - Needs to support “novice” and “expert” users
 - Needs to provide tools and feedback
- Implemented as a downloadable Java application
 - Connects to the ALMA system as appropriate (submission, user database, etc)
 - Version 7.1 just being released

The OT Team

- Development of tool based in Edinburgh, UK
 - UK Astronomy Technology Centre (UK ATC)
 - Lead developer is Alan Bridger
- Work spread over three countries
 - 2 programmers in Edinburgh
 - 1 at ESO, Germany (50%)
 - 1 at NAOJ, Japan (20%)
 - Documentation compiled at ESO
 - ESO also provides 2 astronomers (Sub-System Scientist is Andy Biggs)

Fundamentals

- Basic unit of ALMA observations is the Scheduling Block (SB)
 - Contains all information required to run the observing scripts (modes)
 - Most observations will consist of multiple SBs
- OT will create SBs from Science Goals
 - User need only enter minimal technical information
 - Fields, line frequencies, desired sensitivity, etc.
 - The OT does the rest!
- Lots of feedback is provided – project must validate!

Installation: 2 clicks

ALMA Observing Tool - Installations

From the list below, pick the installation package that's most suitable for you.

WebStart

[Click here to continue](#) With this, the OT is installed and run automatically on your computer.

Tarball

[Click here to continue](#) With this you download and install the OT manually.


Observing Tool Web Start

<http://www.eso.org/~mschilli/UT7.0/webstart.html>

Starting up

*Note: You will be **warned** strongly when the application is about to start that you should not run the application. This is due to the non-official security certificate we are currently using to authenticate the application. Please do not be worried (though in general you should be!) and run the application anyhow*

Click the OT Logo to start the ALMA OT. Be sure to read the OT User Guide for more information on using it.



See no logo? Click [here](#).

When you run the Observing Tool for the first time, it will create a folder `.almaot` in your home to hold your user preferences.

User Guide

The OT User Guide is also available as online help within the program. You can invoke it through the Help menu or with the `F1` key.

Overview

Project (0) - Observing Tool for ALMA (Early Science), version [Apr22,1500UTC]

File Edit Tool Search Options Help

Perspective 1

Project Structure

Proposal Program

(unnamed project)

Project (0)

Science Plan

Editors

Spectral Spatial Forms Catalog

Feedback

Problems Information Log

Description	Suggestion	Resource
-------------	------------	----------

Overview

Contextual Help

Retrieve your science proposal from the ALMA server by

- Selecting File > Open Project > From ALMA Archive
- Or click on this [link](#)

Phase I: Science Proposal

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

Phase II: Observing Program

Retrieve Science Proposal → Configure System Setup → Validate Observing Program → Submit Observing Program

Click on the overview steps to view the contextual help

Importing And Exporting Need More Help?

Overview

Project Overview Pane

Project (0) - Observing Tool for ALMA (Early Science), version [Apr22,1500UTC]

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Description Suggestion Resource

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

Phase II: Observing Program

Retrieve Science Proposal → Configure System Setup → Validate Observing Program → Submit Observing Program

Click on the overview steps to view the contextual help

Importing And Exporting Need More Help?

Overview

The screenshot shows the 'Observing Tool for ALMA (Early Science)' interface. The title bar indicates 'Project (0) - Observing Tool for ALMA (Early Science), version [Apr22,1500UTC]' and 'Perspective 1'. The menu bar includes File, Edit, Tool, Search, Options, and Help. The toolbar contains various icons for file operations and editing.

Project Structure Pane: Located on the left, it shows a tree view with '(unnamed project)' and 'Project (0)' containing a 'Science Plan'.

Editors: The main workspace, currently showing the 'Catalog' tab. A red text overlay states: **Here is where to fill in project information**.

Feedback: Below the editors, there are tabs for 'Problems', 'Information', and 'Log'. A table with columns 'Description', 'Suggestion', and 'Resource' is visible. A red text overlay states: **Here is where to get feedback e.g. error messages**.

Overview: At the bottom, there is a 'Contextual Help' section and a workflow diagram.

Contextual Help: A text box on the left of the overview section provides instructions: 'Retrieve your science proposal from the ALMA server by' followed by two bullet points: 'Selecting File > Open Project > From ALMA Archive' and 'Or click on this [link](#)'.

Workflow Diagram: A horizontal flowchart showing the process from 'Phase I: Science Proposal' to 'Phase II: Observing Program'. The steps are: New Science Proposal, Create Science Goals, Validate Science Proposal, Submit Science Proposal, Retrieve Science Proposal, Configure System Setup, Validate Observing Program, and Submit Observing Program. Below the main flow, there are two yellow boxes: 'Importing And Exporting' and 'Need More Help?'.

Overview

Project (0) - Observing Tool for ALMA (Early Science), version [Apr22,1500UTC]

File Edit Tool Search Options Help

Perspective 1

Project Structure

Proposal Program

(unnamed project)

Project (0)

Science Plan

Editors

Spectral Spatial Forms Catalog

Here is where to fill in project information

Feedback

Problems Information Log

Description Suggestion Resource

Here is where to get feedback e.g. error messages

Overview

Contextual Help

Retrieve your science proposal from the ALMA server by

- Selecting File > Open Project > From ALMA Archive
- Or click on this [link](#)

Phase I: Science Proposal

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

Phase II: Observing Program

Retrieve Science Proposal → Configure System Setup → Validate Observing Program → Submit Observing Program

Click on the overview steps to view the contextual help

Importing And Exporting Need More Help?

Important pane - walks through the whole process

Overview

Project Overview Pane

Here is where to fill in project information

Here is where to get feedback e.g. error messages

Close/open panes by clicking on these arrows

Important pane – walks through the whole process

Project (0) – Observing Tool for ALMA (Early Science), version [Apr22,1500UTC]

File Edit Tool Search Options Help

Perspective 1

Project Structure

Proposal Program

(unnamed project)

Project (0)

Science Plan

Editors

Spectral Spatial Forms Catalog

Feedback

Problems Information Log

Description Suggestion Resource

Overview

Phase I: Science Proposal

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

Phase II: Observing Program

Retrieve Science Proposal Configure System Setup Validate Observing Program Submit Observing Program

Click on the overview steps to view the contextual help

Importing And Exporting Need More Help?

Save at any point

Overview

Project Overview Pane

Here is where to fill in project information

Here is where to get feedback e.g. error messages

Close/open panes by clicking on these arrows

Important pane – walks through the whole process

Project Structure

- Proposal
- Program
- (unnamed project)
- Project (0)
- Science Plan

Editors

- Spectral
- Spatial
- Forms
- Catalog

Feedback

- Problems
- Information
- Log

Description	Suggestion	Resource
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Overview

Phase I: Science Proposal

- New Science Proposal
- Create Science Goals
- Validate Science Proposal
- Submit Science Proposal

Phase II: Observing Program

- Retrieve Science Proposal
- Configure System Setup
- Validate Observing Program
- Submit Observing Program

Click on the overview steps to view the contextual help

- Importing And Exporting
- Need More Help?

Phase I: New Science Proposal

Project (0) - Observing Tool for ALMA (Early Science), version [Apr22,1500UTC]

File Edit Tool Search Options Help

Perspective 1

Project Structure

Proposal Program

(unnamed project)

Project (0)

Proposal

Editors

Spectral Spatial Forms Catalog

Proposal Information

Proposal Title

Proposal Cycle 2010.2

Edit

Abstract (max. 300 words)

Scientific Category Cosmology and the High Redshift Universe

Proposal Type Standard

Student Project

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the [ALMA user portal](#)
2. Create a new proposal by
 - Selecting **File > New Proposal**
 - Click on the icon in the toolbar
 - Or click on this [link](#)
3. 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

Phase II: Observing Program

Retrieve Science Proposal → Configure System Setup → Validate Observing Program → Submit Observing Program

Click on the overview steps to view the contextual help

Importing And Exporting Need More Help?

Phase I: New Science Proposal

The screenshot displays the ALMAOTES software interface. The title bar reads 'Project (0) - Observing Tool for ALMA (Early Science), version [Apr22,1500UTC]'. The menu bar includes 'File', 'Edit', 'Tool', 'Search', 'Options', and 'Help'. The toolbar contains various icons for file operations and editing. The 'Project Structure' pane on the left shows a tree view with '(unnamed project)', 'Project (0)', and 'Proposal'. The 'Editors' pane on the right has tabs for 'Spectral', 'Spatial', 'Forms', and 'Catalog'. The 'Forms' tab is active, showing the 'Proposal Information' form. The form fields include: 'Proposal Title' (text input), 'Proposal Cycle' (text input with value '2010.2' and an 'Edit' button), 'Abstract (max. 300 words)' (text area), 'Scientific Category' (dropdown menu with value 'Cosmology and the High Redshift Universe'), 'Proposal Type' (dropdown menu with value 'Standard'), and 'Student Project' (checkbox). To the right of the form, a list of red text items is shown: '•Title', '•Abstract', '•Author Information', and '•Scientific Justification'. The 'Overview' pane at the bottom contains 'Contextual Help' text, a workflow diagram, and buttons for 'Importing And Exporting' and 'Need More Help?'. The workflow diagram is divided into two phases: 'Phase I: Science Proposal' (green background) and 'Phase II: Observing Program' (blue background). Phase I steps are 'New Science Proposal' (highlighted with a red box), 'Create Science Goals', 'Validate Science Proposal', and 'Submit Science Proposal'. Phase II steps are 'Retrieve Science Proposal', 'Configure System Setup', 'Validate Observing Program', and 'Submit Observing Program'. Arrows connect the steps in sequence. Below the Phase I steps, text reads 'Click on the overview steps to view the contextual help'.

Project (0) - Observing Tool for ALMA (Early Science), version [Apr22,1500UTC]

File Edit Tool Search Options Help

Perspective 1

Project Structure

Proposal Program

(unnamed project)

Project (0)

Proposal

Editors

Spectral Spatial Forms Catalog

Proposal Information

Proposal Title

Proposal Cycle 2010.2

Edit

Abstract (max. 300 words)

Scientific Category Cosmology and the High Redshift Universe

Proposal Type Standard

Student Project

- Title
- Abstract
- Author Information
- Scientific Justification

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the [ALMA user portal](#)
2. Create a new proposal by
 - Selecting **File > New Proposal**
 - Click on the icon in the toolbar
 - Or click on this [link](#)
3. 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

Phase II: Observing Program

Retrieve Science Proposal

Configure System Setup

Validate Observing Program

Submit Observing Program

Click on the overview steps to view the contextual help

Importing And Exporting


Need More Help?

Phase I: Create Science Goals

The screenshot displays the 'Observing Tool for ALMA (Early Science)' software interface. The title bar indicates the version as [Apr26,1300UTC]. The interface is divided into several sections:

- Project Structure:** A tree view on the left showing the hierarchy: (unnamed project) > Project (0) > Proposal > Planned Observing > Science Goal (0). Under 'Science Goal (0)', there are sub-items: Description, Field Setup, Calibration Setup Parameters, Spectral Setup, and Control and Performance.
- Editors:** A central panel with tabs for Spectral, Spatial, Forms, and Catalog. The 'Forms' tab is active, showing a text input area for a description. The text entered is: 'This science goal is to map the distribution of ^{13}CO J=1-0 toward the central regions of NGC 1068.' Below the text area are buttons for 'Enable Editing' and 'Launch Editor'.
- Overview:** A bottom section containing 'Contextual Help' and a workflow diagram.

Contextual Help:

- Create your science goals by
 - Selecting *Edit > New Phase-I Science Goal*
 - Click on the  icon in the toolbar
 - Or click on this [link](#)
- Complete the field set-up and spectral set-up, etc. More than one science goal may be added.

Workflow Diagram:

The diagram shows two phases of the process:

- Phase I: Science Proposal** (highlighted in green):
 - New Science Proposal
 - Create Science Goals** (highlighted with a red box)
 - Validate Science Proposal
 - Submit Science Proposal
- Phase II: Observing Program** (highlighted in blue):
 - Retrieve Science Proposal
 - Configure System Setup
 - Validate Observing Program
 - Submit Observing Program

Additional buttons at the bottom include 'Importing And Exporting' and 'Need More Help?'. A note below the Phase I steps says: 'Click on the overview steps to view the contextual help'.

Create Science Goals: Field Setup

Image Display - jsky1219813541564676856.fits

File Edit Tool Search Options Help

Perspective 1

Project Structure

- Proposal
- Program
- (unnamed project)
 - Project (0)
 - Proposal
 - Planned Observing
 - Science Goal (0)
 - Description
 - Field Setup
 - Calibration Setup
 - Spectral Setup
 - Control and Perfo

Editors

Spectral Spatial Forms Catalog

Target

ngc 1068

Source

Source Name: ngc 1068

Choose a Solar System Object? ☐ Name of object: Mercury

Source Coordinates

System: J2000 Sexagesimal display? ☒

RA: 02:42:40.831

Dec: -00:00:48.384

Proper Motion RA: 0.00000 mas/yr

Proper Motion Dec: 0.00000 mas/yr

Source Velocity: 1133.0 km/s hel OPTICAL z (optical) 0.003

Parallax: 0.00000 mas

Target Type: ☐ Single Point Field ☒ 1 rectangular field

Field Center Coordinates

Coords Type: ☐ ABSOLUTE ☒ RELATIVE

Offset[RA]: -0.71067 arcsec

Offset[Dec]: 2.13633 arcsec

Rectangle

Long: 74.57742 arcsec

Short: 111.93644 arcsec

Pitch: 54.96542 deg

image filename: .jsky3/cache/jsky1219813541564676856.fits

Fov Parameters

Frequency used: 109.78644 GHz Refresh

(source) ceParameters:representativeFrequency

Antenna Diameter: ☒ 12m ☐ 7m

Main beam size: 46.9 arcsec

Show Fov(circle) ☒

Create Science Goals: Field Setup

Image Display - jsky1219813541564676856.fits

File Edit Tool Search Options Help

Perspective 1

Project Structure

- Project (0)
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Source Name: **ngc 1068**

Choose a Solar System Object: ☐ Name of object: Mercury

Source Coordinates

System: J2000 Sexagesimal display? ☒

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Field Center Coordinates

Coords Type: ☐ ABSOLUTE ☒ RELATIVE

Offset[RA]: -0.71067 arcsec
Offset[Dec]: 2.13633 arcsec

Rectangle

Long: 74.57742 arcsec
Short: 111.93644 arcsec
Pitch: 54.96542 deg

Frequency used: 109.78644 GHz Refresh

(source) ceParameters:representativeFrequency

Antenna Diameter: ☒ 12m ☐ 7m

Main beam size: 46.9 arcsec

Show Fov(circle) ☒

02:42:41.864, -00:03:08.76 (J2000)

image filename: jsky3/cache/jsky1219813541564676856.fits

Fov Parameters

Automatically fills in the form for known sources

Create Science Goals: Field Setup

Image Display - jsky1219813541564676856.fits

File Edit Tool Search Options Help

Perspective 1

Project Structure

- Proposal
- Program
- (unnamed project)
 - Project (0)
 - Proposal
 - Planned Observing
 - Science Goal (0)
 - Description
 - Field Setup
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 - Control and Perfo

Editors

Spectral Spatial Forms Catalog

Target

ngc 1068

Source

Source Name: **ngc 1068**

Choose a Solar System Object: ☐ Name of object: Mercury

Source Coordinates

System: J2000 Sexagesimal display? ☒

RA: 02:42:40.831

Dec: -00:00:48.384

Proper Motion RA: 0.00000 mas/yr

Proper Motion Dec: 0.00000 mas/yr

Source Velocity: 1133.0 km/s hel OPTICAL z (optical) 0.003

Parallax: 0.00000 mas

Target Type: ☐ Single Point Field ☒ 1 rectangular field

Field Center Coordinates

Coords Type: ☐ ABSOLUTE ☒ RELATIVE

Offset[RA]: -0.71067 arcsec

Offset[Dec]: 2.13633 arcsec

Rectangle

Long: 74.57742 arcsec

Short: 111.93644 arcsec

Pitch: 54.96542 deg

Shows image of source

Draw on region to be mapped

image filename: jsky3/cache/jsky1219813541564676856.fits

Fov Parameters

Frequency used: 109.78644 GHz Refresh

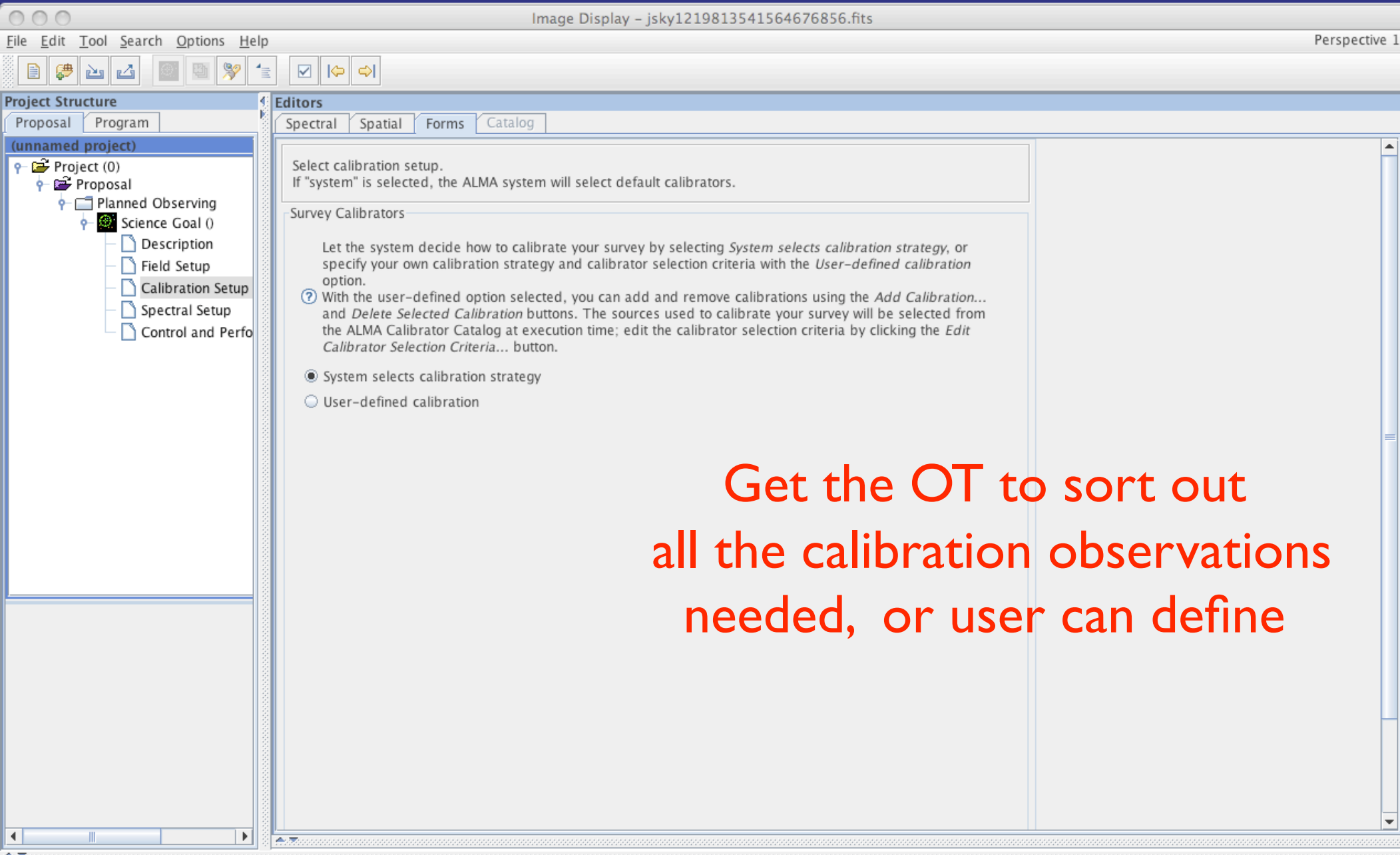
(source) ceParameters:representativeFrequency

Antenna Diameter: ☒ 12m ☐ 7m

Main beam size: 46.9 arcsec

Show Fov(circle) ☒

Create Science Goals: Calibration Setup



Get the OT to sort out
all the calibration observations
needed, or user can define

Create Science Goals: Spectral Setup

Image Display - jsky1219813541564676856.fits

File Edit Tool Search Options Help

Perspective 1

Project Structure

- Proposal
- Program
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 - Description
 - Field Setup
 - Calibration Setup
 - Spectral Setup
 - Control and Perfo

Editors

Spectral Spatial Forms Catalog

Visualisation

Observed Frequency

100|00 200|00 300|00 400|00 500|00 600|00 700|00

03 06 07 09

LO1

(13)CO v=0 J=1-0 (ngc 1068)

Frequency in Target Frame

☒ Receiver Bands ☒ Transmission ☐ Other Transitions

Select Other Transitions Pan To Line Zoom To Band Reset

Spectral Type

☒ Up to 4 spectral elements/windows

☐ More than 4 spectral elements/windows

Spectral Type ☐ Single continuum (average frequency)

☐ Spectral scan

Polarization ☐ SINGLE_X ☐ SINGLE_Y ☒ DOUBLE ☐ FULL

Up to 4 spectral elements/windows

Center Freq Rest	Center Freq Sky	Transition	Bandwidth, Resolution	Continuum
110.20135 GHz	109.78644 GHz	(13)CO v=0 J=1-0	62.5MHz, 15.259KHz (0.042 km/s)	<input type="checkbox"/>

Select Lines Add Delete

Feedback

Spectral Line Tool

Filter / Species

CO

ALMA Band

1 2 3 4 5 6 7 8 9 10

3

Frequency (GHz)

Min 84 Max 116

Search Online

Select Spectral Lines

Available

Transition	Frequency (G...	Catalog...
(13)CO v=0 J=1-0	110.201	CDMS
c-H2COCH2 6(2,4)-6(1,5)	84.283	CDMS
c-H2COCH2 8(5,4)-8(4,5)	84.505	CDMS
c-H2COCH2 11(9,2)-11(8,3)	84.536	CDMS
c-H2COCH2 7(4,4)-7(3,5)	84.58	CDMS
c-H2COCH2 12(2,10)-11(5,7)	84.599	CDMS
c-H2COCH2 9(4,6)-8(7,1)	84.611	CDMS
c-H2COCH2 12(3,10)-11(4,7)	84.681	CDMS
c-H2COCH2 16(10,6)-16(9,7)	84.754	CDMS
c-H2COCH2 6(3,4)-6(2,5)	85.062	CDMS
c-H2COCH2 22(3,19)-23(2,...	85.113	CDMS
c-H2COCH2 9(6,4)-9(5,5)	85.331	CDMS
c-H2COCH2 5(1,4)-5(0,5)	85.425	CDMS
c-H2COCH2 17(12,5)-17(11...	85.579	CDMS
c-H2COCH2 5(2,4)-5(1,5)	85.592	CDMS
c-H2COCH2 15(11,4)-15(10...	85.611	CDMS
c-H2COCH2 13(10,3)-13(9,4)	85.689	CDMS
c-H2COCH2 28(4,24)-29(3,...	86.662	CDMS
c-H2COCH2 19(13,6)-19(12...	87.006	CDMS
c-H2COCH2 10(8,3)-10(7,4)	87.094	CDMS
c-H2COCH2 9(8,2)-9(7,3)	87.363	CDMS
c-H2COCH2 10(7,4)-10(6,5)	87.574	CDMS
c-H2COCH2 35(7,29)-34(8,...	87.639	CDMS
c-H2COCH2 8(8,0)-8(7,1)	88.819	CDMS
c-H2COCH2 29(5,24)-28(8,...	88.896	CDMS
c-H2COCH2 29(6,24)-28(7,...	88.896	CDMS
c-H2COCH2 20(13,7)-20(12...	89.232	CDMS
c-H2COCH2 8(8,1)-8(7,2)	89.929	CDMS
c-H2COCH2 23(4,19)-22(7,...	90.504	CDMS
c-H2COCH2 23(5,19)-22(6,...	90.504	CDMS
c-H2COCH2 2(2,1)-1(1,0)	90.548	CDMS
c-H2COCH2 11(6,5)-11(5,6)	90.842	CDMS
c-H2COCH2 21(14,7)-21(13...	91.161	CDMS

Add

Selected

Transition	Frequency (GHz)	Catalogue
(13)CO v=0 J=...	110.201	CDMS

Remove

Done

Science Goal: Control/Performance Setup

Image Display - jsky1219813541564676856.fits

File Edit Tool Search Options Help

Perspective 1

Project Structure

- Proposal
- Program
- (unnamed project)
 - Project (0)
 - Proposal
 - Planned Observing
 - Science Goal (0)
 - Description
 - Field Setup
 - Calibration Setup
 - Spectral Setup
 - Control and Performance Setup

Editors

Spectral Spatial Forms Catalog

Input your control and performance parameters.

Single Field Control Parameters

Representative Frequency GHz

Antenna Beamsize (λ/D)

Angular Resolution arcsec

Largest Scale arcsec

Desired Sensitivity per Beam Jy equivalent to mK

Dynamic Range

Peak Flux Density Jy

Polarisation Percentage

Line Width km/s

Request ACA Obs. ☐ Yes ☒ No

Is Time Constrained ☐ Yes ☒ No

Values in red are unacceptable

Use the OT sensitivity calculator to work out time required

The OT will suggest whether the compact array is also required

ALMA Sensitivity Calculator

Sensitivity Calculator

Common Parameters

Dec	-12:34:56.700	
Polarization	Dual	
Observing Frequency	350.0	GHz
Bandwidth per Polarization	8.0	GHz
Water Vapour Column Density	Calculator Chooses	
tau/Tatm	tau=0.228, Tatm=59.335 K	
Tsys	207.026 K	

Individual Parameters

	12m Array		7m Array		Total Power Array	
Number of Antennas	50		12		4	
Resolution	0.05	arcsec	5.889203 arcsec		14.723008 arcsec	
Sensitivity(rms)	.01	mJy	1	mJy	1	mJy
	0.01101	K	0.00032	K	0.00003	K
Integration Time	7.46255	h	7.17734	min	42.47564	min
Integration Time Unit Option: Automatic						

Calculate Integration Time Calculate Sensitivity Close

Also available as a web application at ESO ALMA pages: <http://www.eso.org/sci/facilities/alma>

Project Validation & Submission

Image Display - jsky1219813541564676856.fits

File Edit Tool Search Options Help

Perspective 1

Project Structure

Proposal Program

(unnamed project)

- Project (0)
 - Proposal
 - Planned Observing
 - Science Goal (0)
 - Description
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 - Calibration Setup
 - Spectral Setup
 - Control and Parameters

Editors

Spectral Spatial Forms Catalog

Sci.Goal Name	Source Name	Field Type	RA	Dec	Spec.Type	Trans.	Frequency	Resolution	Sensitivity	Cal.
	ngc 1068	Rectangle	02:42:40.831	-00:00:48.384	full	(13)CO v=0...	109.78644 GHz	1.0 arcsec	0.0 Jy	sys...

Feedback

Problems Information Log

Project FAILED validation with 6 errors and 0 warnings

Description	Suggestion	Resource
No Principal Investigator specified	Select the top level Project node in the tree and fill in the Principal	ObsProject[eid=1065223778, name=nul...
No Project Name specified	Select the top level Project node in the tree and fill in the Project Name	ObsProject[eid=1065223778, name=nul...
Abstract appears to be empty	Select the proposal node in the Proposal tab and edit your abstract	obsproposal.ObsProposal[name=null, eid...
No documents found - you must at least add a	Select the proposal node in the Proposal tab and add your documents	obsproposal.ObsProposal[name=null, eid...
Desired sensitivity is too small	Select the Control Parameters in the Science Goal and enter a valid	obsproject.PerformanceParameters[name...
Expected line width is too small	Select the Control Parameters in the Science Goal and enter a valid	obsproject.PerformanceParameters[name...

Go back and fix any problems.....then submit!

Overview

Contextual Help

- Validate your science proposal by
 - Selecting File > Validate
 - Click on the ☒ icon in the toolbar
 - Or click on this [link](#)
- Look at the Feedback panel and view the list of reported problems. Please fix the reported problems before attempting to submit your science proposal.

Phase I: Science Proposal

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

Phase II: Observing Program

Retrieve Science Proposal → Configure System Setup → Validate Observing Program → Submit Observing Program

Click on the overview step to view the contextual help

Importing And Exporting Need More Help?

Project Validation & Submission

Image Display - jsky1219813541564676856.fits

File Edit Tool Search Options Help

Perspective 1

Project Structure

Proposal Program

(unnamed project)

- Project (0)
 - Proposal
 - Planned Observing
 - Science Goal (0)
 - Description
 - Field Setup
 - Calibration Setup
 - Spectral Setup
 - Control and Parameters

Editors

Spectral Spatial Forms Catalog

Sci.Goal Name	Source Name	Field Type	RA	Dec	Spec.Type	Trans.	Frequency	Resolution	Sensitivity	Cal.
	ngc 1068	Rectangle	02:42:40.831	-00:00:48.384	full	(13)CO v=0...	109.78644 GHz	1.0 arcsec	0.0 Jy	sys...

Feedback

Problems Information Log


Project FAILED validation with 6 errors and 0 warnings

Description	Suggestion	Resource
No Principal Investigator specified	Select the top level Project node in the tree and fill in the Principal	ObsProject[eid=1065223778, name=nul...
No Project Name specified	Select the top level Project node in the tree and fill in the Project Name	ObsProject[eid=1065223778, name=nul...
Abstract appears to be empty	Select the proposal node in the Proposal tab and edit your abstract	obsproposal.ObsProposal[name=null, eid...
No documents found - you must at least add a	Select the proposal node in the Proposal tab and add your documents	obsproposal.ObsProposal[name=null, eid...
Desired sensitivity is too small	Select the Control Parameters in the Science Goal and enter a valid	obsproject.PerformanceParameters[name...
Expected line width is too small	Select the Control Parameters in the Science Goal and enter a valid	obsproject.PerformanceParameters[name...

Go back and fix any problems.....then submit!

Overview

Contextual Help

- Validate your science proposal by
 - Selecting File > Validate
 - Click on the  icon in the toolbar
 - Or click on this [link](#)
- Look at the Feedback panel and view the list of reported problems. Please fix the reported problems before attempting to submit your science proposal.

Phase I: Science Proposal

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

Phase II: Observing Program

Retrieve Science Proposal → Configure System Setup → Validate Observing Program → Submit Observing Program

Click on the overview step to view the contextual help

Importing And Exporting Need More Help?

Proposal preparation (phase I) - recap

- Captures all relevant info and submit to archive in Santiago
- Scientific justification and figures attached as pdf files
- Links to a central database for user information
- A number of tools are available
 - Sensitivity Calculator
 - Spectral Line Catalogue (Splatalog) search tool
 - Template Library
- User only needs fill in technical details as Science Goals
- Provides a complete printable record of proposal

Phase I Status

Project Structure

- (unnamed project)
 - A test (0)
 - Planned Observing
 - Science Goal (Nucleusmap)
 - Science Goal (sefertline)
 - Science Goal (funstuff)
 - Science Goal (Nuc cont)

Editors

Spectral Spatial Forms Catalog

Proposal Information

Proposal Title: A test

Proposal Cycle: This one

Abstract (max. 300 words)

Scientific Category: Cosmology and the High Redshift Universe - 10

Proposal Type: Normal

Related Proposals

Previous Proposals

Investigators

PI: George Harrison Co-I 1: John Lennon Co-I 2: Paul McCartney Co-I 3: Ringo Starr

User ID: george

Name: George Harrison

Email: gharrison@nothere.org

Feedback

Problems Information Log

Description	Suggestion	Resource

Overview

Contextual Help

- Please ensure you and your co-I's are registered with the [ALMA user portal](#)
- Create a new proposal by
 - Selecting **File > New Proposal**
 - Click on the icon in the toolbar
 - Or click on this [link](#)
- Click on the **proposal** tree node and complete the relevant fields.
- Click on the **project** tree node and complete all of the fields.

Phase 1: Science Proposal

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

Phase 2: Observing Program

Retrieve Science Proposal → Configure System Setup → Validate Observing Program → Submit Observing Program

Click on the overview steps to view the contextual help

Importing And Exporting Need More Help?

- Most required information fields present
- Ability to search a user database added
- Scientific Justification and figures can be attached
- Overview panel to guide users through steps
- Initial implementation of “Summary Panel”
- Web-based submission service tested

Phase II – observing preparation

- Re-use Science Goals from Phase I
- Observing mode scripts provided by project
 - On-the-fly, mosaicing, single-field interferometry, etc.
- Technical details/observing scripts editable by expert users/staff
- Other tools include:
 - Calibrator selection tool (OT can choose calibrators if required)
 - ACA necessity estimator (early version)
- User submits SBs to the archive in Santiago

Phase II Status

- Expert interface fully in place
- Holography and Optical Pointing supported (and used in Chile)
 - Feedback is being received from AIV/CSV teams
 - Bridger and Biggs visited Chile in January, Biggs is there now
- First user test of Phase II will be in May

Documentation

- Available on-line or within the OT are:
 - User Manual
 - Reference Guide
 - Cookbook
- ARCs will also be writing their own documentation

Preparing for Early Science

- Tests are held regularly (twice a year)
 - Testers usually come from within ALMA project
- A test using the archive in Chile was performed in Feb 2010
- Beta-testing taking place during May - some external testers
- “Public Preview” of OT this Jul
- ARCs to use OT for training and documentation May-Sep
- Version for first CfP ready Oct 2010

Demo

- Project from ALMA Design Reference Science Plan (DRSP)
- <http://www.eso.org/sci/facilities/alma/science/drsp>
- ^{12}CO J=2-1 observations of AGN NGC 1068 (Schinnerer)
- Single field interferometry
- Angular Scales reqd: 0.06 to 20 arcsec
- Rms 0.2 mJy/beam, 5 km/s channels, 1200 km/s linewidth
- Using OT v7.0