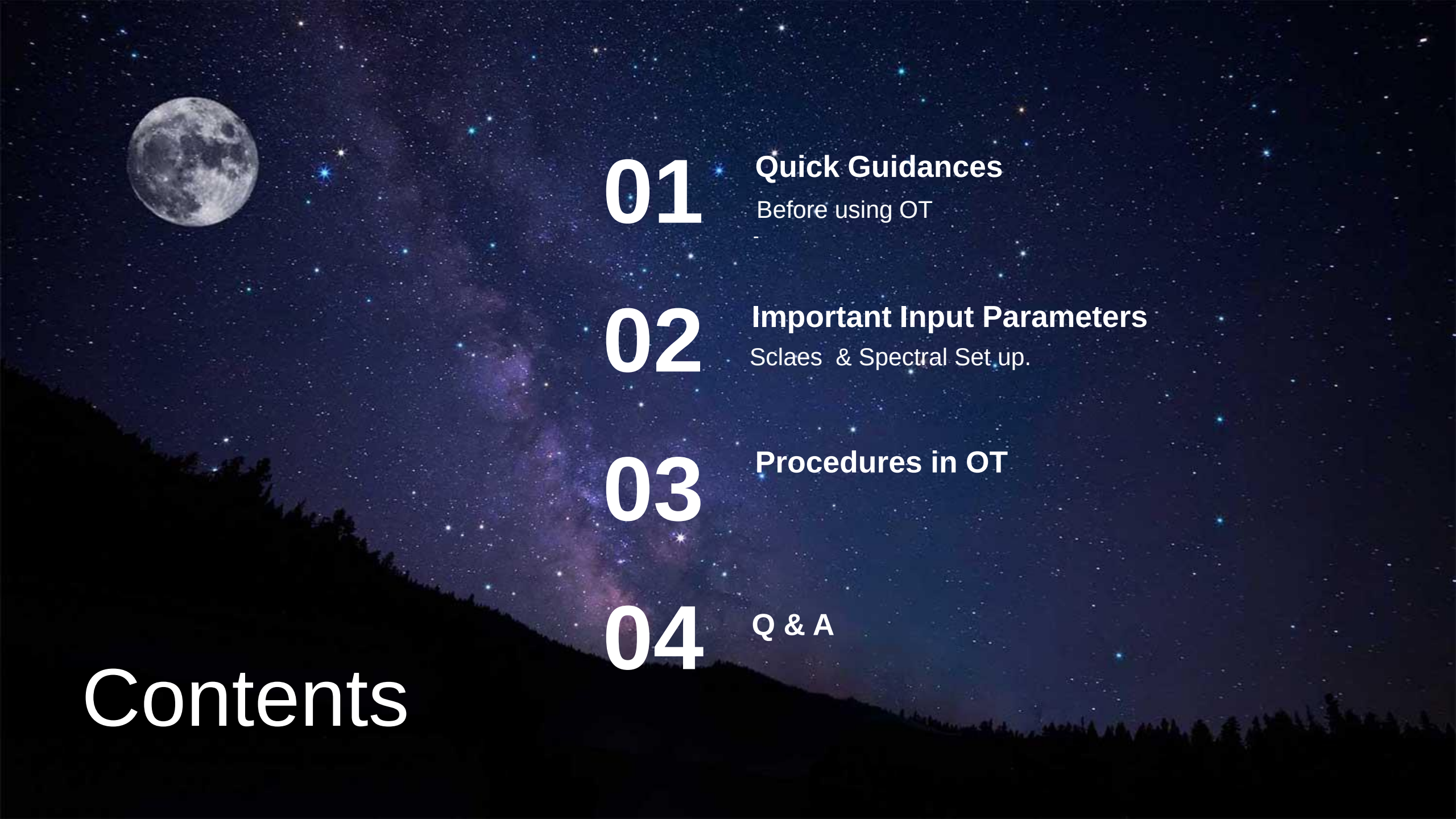
Townhall meeting for ALMA Cycle 10 proposal preparation

Observing Tool

2023. 4. 18. Seokho Lee (KASI)



Contents

Quick Guidance

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

About | Science | Proposing | Observing | Data | Processing | Tools | Documentation | Help

- ALMA Cycle 10 Call for Proposals
- ALMA Proposal Review
- Proposing Guidance
- Cycle 10 Proposer's Guide
- Cycle 10 Capabilities
- Observing Tool
- Sensitivity Calculator
- ALMA Primer
- Technical Handbook
- Proposal Template
- Duplicate Observations
- DDT proposals

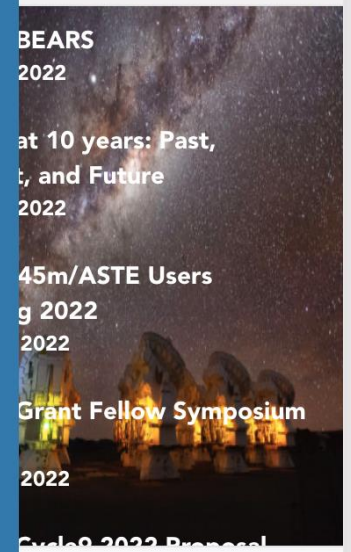
Science Highlight

Birth of a very distant cluster of g
early Universe

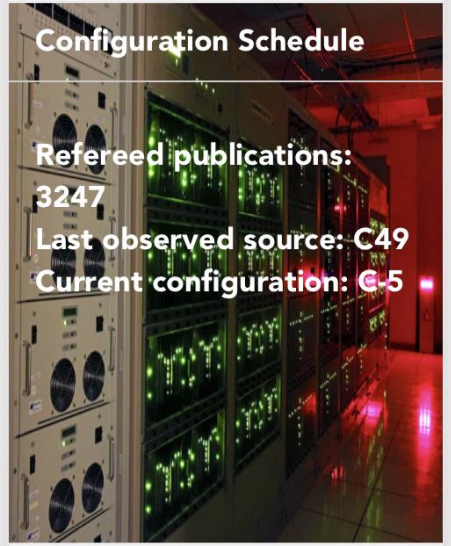
This image shows the protocluster a
Spiderweb galaxy (PKS 1138-262) at
detected hot gas is depicted as an
cloud.

Using band 3 observations with
and 7-m arrays of ALMA, D
collaborators discovered a large
gas (comprising the "intraclust
ICM for short) in the still-forming galaxy cluster

News



ALMA Status



More...

formation and tools aimed at the scientific community a
ff, journalists, and funding agencies.

Observing Tool

The ALMA Observing Tool (OT) is a Java desktop application used for the preparation and submission of ALMA Phase 1 proposals and, for those which are accepted, Phase 2 materials (Scheduling Blocks). It is also used for preparing and submitting Director's Discretionary Time (DDT) proposals and Supplemental Call (ACA stand-alone) proposals. The current *Cycle 10* release of the OT is configured for the present capabilities of ALMA as described in the Cycle 10 Call For Proposals. Note that in order to submit proposals you will have to register with the ALMA Science Portal beforehand.

Download & Installation

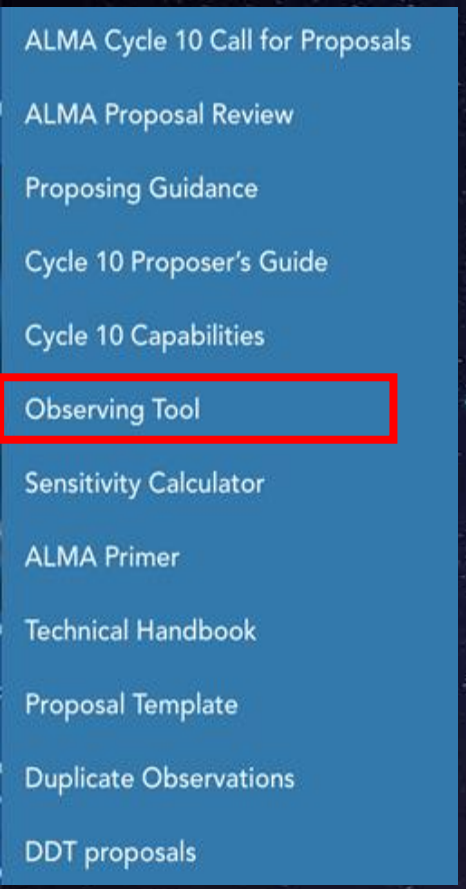
The OT should run on all common operating systems and depends on a version of Java being available. The Cycle 10 version of the OT will come with its own version of Java 11 and thus the users need no longer worry about their local Java installation. Unfortunately, as Java 11 does not include Web Start, this version of the OT is no longer available. The Cycle 10 OT can be installed in two different ways, either with a modern installer or manually with a tarball distribution.

It is recommended that the OT be installed using the ALMA **OT Installer**. This uses a modern graphical interface to report the progress of the installation and allows the user to change various settings from their defaults, including the amount of memory the OT may use. The installation will produce an executable file that can be used to start the OT. With the loss of Web Start, automatic updates of the tool are no longer possible, but the OT will detect if an update is available at start-up and inform the user. If problems are encountered with the installer, then the tarball must be used.

The **tarball** version must be installed manually and the instructions for doing this have not changed.

Installer Tarball

Documentation



Installer Page

ALMA Observing Tool

- Mac OS Installer
- Linux Installer
- Windows Installer

Click on one of the links next to the OT Logo to download the Cycle-10 OT Installer for your particular operating system. The Installer is an executable file which can be started by double-clicking in a file-manager window or started from a shell's command line. Once started, it will take you through a number of screens which, for example, allow you to change the default amount of memory available to the OT. In most cases you can just accept all the defaults using the 'Next' button and click 'Install' when you are happy.

After the Installer has finished, an executable file ('ALMA-OT.sh' on Linux and 'ALMA-OT.app' on Macs) should be found inside a directory named 'ALMAOT-C10-2023'. This can be run from the command line or by double-clicking in a file manager if this is configured in this way. We recommend that the name of this directory not be changed so that multiple versions of the OT (for use in different cycles) can be maintained on your computer. On Macs, a shortcut will be created on your Desktop with the name 'ALMAOT-C10-2023' - the OS will probably ask to control your Finder for this to happen.

Additional Information

- The Mac download is a zip archive which must first be opened in order to extract the installer. This will often be done automatically for you or a suitable program will be suggested ('Archive Utility').
- On Linux, typing 'sh almaot-C10-2023.bin' is the recommended way of starting the installer - it should not be necessary to make it executable.
- There may be various issues related to security when running the Installer. Mac users may need to give permission to run the tool by opening the 'Security & Privacy' menu of 'System Preferences' and this menu should also be set to allow the use of apps from 'identified developers'. Alternatively, running the installer by right-clicking

YOU (and your Co-Is) shoud be registered in ALMA site.

18:23 4월 13일 목요일 87%

Home — ALMA Science

almascience.nao.ac.jp

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

About Science Proposing Observing Data Processing Tools Documentation Help

Science Highlight

Birth of a very distant cluster of galaxies from the early Universe

This image shows the protocluster around the Spiderweb galaxy (PKS 1138-262) at z=2.156. The detected hot gas is depicted as an overlaid blue cloud.

Using band 3 observations with both the 12-m and 7-m arrays of ALMA, Di Mascolo and collaborators discovered a large reservoir of hot gas (comprising the "intracluster medium", or ICM for short) in the still-forming galaxy cluster

Observatory News

ALMA Cycle 10 Call for Proposals is Now OPEN!
Apr 12, 2023

New Targets for Science Verification: Band 1
Mar 16, 2023

ALMA Cycle 10 Pre-Announcement
Jan 18, 2023

ALMA Cycle 9 Proposal Review: Detailed Report
Jan 12, 2023

More…

NAOJ News

ALMA BEARS
Dec 01, 2022

ALMA at 10 years: Past, Present, and Future
Dec 13, 2022

ALMA/45m/ASTE Users Meeting 2022
Nov 17, 2022

ALMA Grant Fellow Symposium 2022
Nov 17, 2022

More…

ALMA Status

Configuration Schedule

Refereed publications: 3247
Last observed source: C49
Current configuration: C-5

More...

The ALMA Science Portal is a one-stop source for information and tools aimed at the scientific community as a whole, including proposers, archive researchers, ALMA staff, journalists, and funding agencies.

Quick Links

09:56 3월 25일 금요일 89%

User Registration

asa.alma.cl

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

ESO NRAO NAOJ

Account info | Demographics | Expertise | Conflicts of interest | Confirm

New Account Registration

Next

(Fields marked with a red dot are mandatory)

First name
Middle initials
Surname
Gender
E-mail
Re-type E-mail
Receive optional emails
Account name
Password
Re-type password
Institution — Choose country... — Choose Institution...

In case of problems with the registration, please use this Web form to contact us
You may find a solution to your problem in the Support Center/Knowledgebase

Site Map Accessibility Contact Privacy Statement

ALMA, a worldwide collaboration

Important Input Parameters

Important parameters I

- Scales
  - Angular Resolution (beam size) ~ depend on the longest baseline
  - Maximum Recoverable Scale (MRS)
    - depends on the shortest baseline (~ 10 x beam size)
    - When the scale is loger than MRS, the emission is resolve out
    - Largest Angular Structure (LAS) should be shorther than MRS.
    - LAS > MRS → multiple configuration or ACA and TP are added.
  - Field of View (FOV)
    - FWHM of the 12m telescope primary beam
    - Area of target is larger than 1/3 FOV, mosaic is needed.

Schadule for C10 configurations

Start date	Configuration	Longest baseline	LST for best observing conditions
2023 October 1	C-8	8.5 km	~ 22—10 h
2023 October 20	C-7	3.6 km	~ 23—11 h
2023 November 10	C-6	2.5 km	~ 1—13 h
2023 December 1	C-5	1.4 km	~ 2—14 h
2023 December 20	C-4	0.78 km	~ 4—15 h
2024 January 10	C-3	0.50 km	~ 5—17 h
2024 February 1	*No observations due to maintenance*		
2024 March 1	C-1	0.16 km	~ 8—21 h
2024 March 26	C-2	0.31 km	~ 9—23 h
2024 April 20	C-3	0.50 km	~ 11—0 h
2024 May 10	C-4	0.78 km	~ 12—2 h
2024 May 31	C-5	1.4 km	~ 13—4 h
2024 June 23	C-6	2.5 km	~ 15—6 h
2024 July 28	C-5	1.4 km	~ 17—7 h
2024 August 18	C-4	0.78 km	~ 19—8 h
2024 September 10	C-3	0.50 km	~ 20—9 h

Band 5 (around 183GHz) and 7-10 are recommended within LST ranges (not Dec-March)

AR and MRS for C10 configurations

	Band		1	3	4	5	6	7	8	9	10
Config.	**L_{max}**	**Freq. (GHz)**	**40**	**100**	**150**	**185**	**230**	**345**	**460**	**650**	**870**
	L_{min}										
7-m	**45 m**	θ_{res} (arcsec)	31.5	12.5	8.35	6.77	5.45	3.63	2.72	1.93	1.44
	9 m	θ_{MRS} (arcsec)	167	66.7	44.5	36.1	29.0	19.3	14.5	10.3	7.67
C-1	**161 m**	θ_{res} (arcsec)	8.45	3.38	2.25	1.83	1.47	0.98	0.74	0.52	0.39
	15 m	θ_{MRS} (arcsec)	71.2	28.5	19.0	15.4	12.4	8.25	6.19	4.38	3.27
C-2	**314 m**	θ_{res} (arcsec)	5.75	2.30	1.53	1.24	1.00	0.67	0.50	0.35	0.26
	15 m	θ_{MRS} (arcsec)	56.5	22.6	15.0	12.2	9.81	6.54	4.90	3.47	2.59
C-3	**500 m**	θ_{res} (arcsec)	3.55	1.42	0.94	0.77	0.62	0.41	0.31	0.22	0.16
	15 m	θ_{MRS} (arcsec)	40.5	16.2	10.8	8.73	7.02	4.68	3.51	2.48	1.86
C-4	**784 m**	θ_{res} (arcsec)	2.30	0.92	0.61	0.50	0.40	0.27	0.20	0.14	0.11
	15 m	θ_{MRS} (arcsec)	28.0	11.2	7.50	6.08	4.89	3.26	2.44	1.73	1.29
C-5	**1.4 km**	θ_{res} (arcsec)	1.38	0.55	0.36	0.30	0.24	0.16	0.12	0.084	0.063
	15 m	θ_{MRS} (arcsec)	16.8	6.70	4.47	3.62	2.91	1.94	1.46	1.03	0.77
C-6	**2.5 km**	θ_{res} (arcsec)	0.78	0.31	0.20	0.17	0.13	0.089	0.067	0.047	0.035
	15 m	θ_{MRS} (arcsec)	10.3	4.11	2.74	2.22	1.78	1.19	0.89	0.63	0.47
C-7	**3.6 km**	θ_{res} (arcsec)		0.21	0.14	0.11	0.092	0.061	0.046	0.033	0.024
	64 m	θ_{MRS} (arcsec)		2.58	1.72	1.40	1.12	0.75	0.56	0.40	0.30
C-8	**8.5 km**	θ_{res} (arcsec)		0.096	0.064	0.052	0.042	0.028	0.021	0.015	0.011
	110 m	θ_{MRS} (arcsec)		1.42	0.95	0.77	0.62	0.41	0.31	0.22	0.16

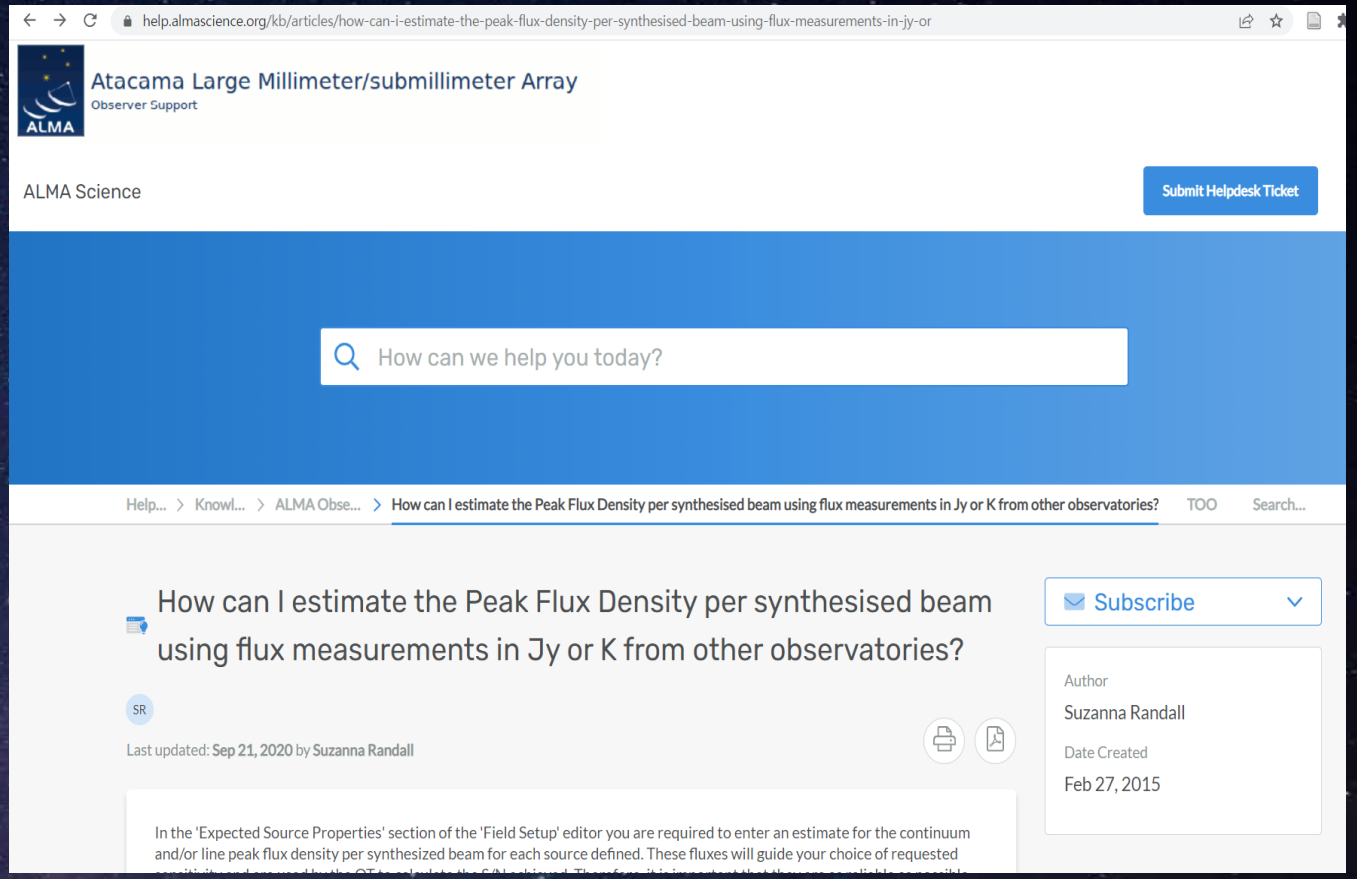
Most Extended configuration	Allowed Compact configuration pairings	Extended 12-m Array Multiplier	Multiplier if compact 12-m Array needed	Multiplier if 7-m Array needed	Multiplier if TP Array needed and allowed
7-m Array	**TP**			1	1.7
C-1	**7-m Array & TP**	1		7.0	11.9
C-2	**7-m Array & TP**	1		4.7	7.9
C-3	**7-m Array & TP**	1		2.4	4.1
C-4	**C-1 & 7-m Array & TP**	1	0.34	2.4	4.0
C-5	**C-2 & 7-m Array & TP**	1	0.26	1.2	2.1
C-6	**C-3 & 7-m Array & TP**	1	0.25	0.6	1.0
C-7	**C-4**	1	0.23		
C-8	**C-5**	1	0.22		

Table A-2: Allowed Array Combinations and Time Multipliers. See Chapter 7 of the Technical Handbook for relevant equations and detailed considerations. If the array configuration that meets the AR request according to Table A-1 has a MRS that is smaller than the LAS request, the OT checks if adding more compact array configurations, following the restrictions of this Table, fulfills the LAS request. If so, the final setup consists of the selected combination of arrays. Otherwise, the OT returns a validation error. C-9 and C-10 are not offered in Cycle 10; please see Section 7.8 of the Technical Handbook for details on array combinations involving those configurations.

Important parameters II

- Expected Source properties
  - Position, souce velocity
  - Peak Flux Density per beam
    - SNR > 3
  - Polarization
    - linear > 0.1% (< 0.3 FOV)
    - circular > 1.8 % (<0.1 FOV)
  - Line width
    - > 3 x spectral resolution

You should describe how to derive/adopt these values in Technical Justification

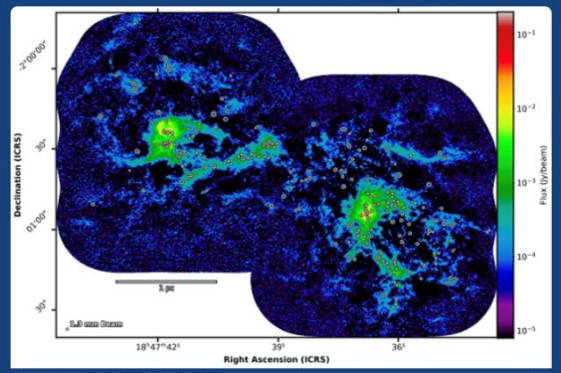


https://help.almascience.org/kb/articles/how-can-i-estimate-the-peak-flux-density-per-synthesised-beam-using-flux-measurements-in-jy-or

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

Science Highlight

Top-heavy Core Mass function revealed by ALMA-IMF: a challenge to the IMF universality



The W43-MM2&MM3 protocluster cloud, as imaged at 1.3 mm by the ALMA 12 m array. White ellipses outline the size of the 208 compact cores of few thousand AU size extracted by the core extraction algorithm getsf.

The ALMA-IMF Large Program aims to answer the longstanding question on whether the Initial Mass Function (IMF) inherits its shape from its core content, and more precisely the Core Mass Function (CMF). To do that, ALMA-IMF has targeted and imaged 15 high-mass star-

Observatory News

ALMA Cycle 9 Call for Proposals is Now OPEN!
Mar 24, 2022

ALMA Science Archive previews
Feb 14, 2022

QA0+ results now available from SnooPI
Jan 31, 2022

ALMA Cycle 9 Pre-

More…

NAOJ News

ALMA Cycle9 2022 Proposal Preparation Meeting
Mar 22, 2022

East Asian ALMA Science Workshop 2022
Jan 19, 2022

FY2021 ALMA/45m/ASTE Users Meeting
Dec 23, 2021

More…

ALMA Status

Configuration Schedule

Refereed publications: 2750
Last observed source: SgrA
Current configuration:

More…

The ALMA Science Portal is a one-stop source for information and tools aimed at the scientific community as a whole, including proposers, archive researchers, ALMA staff, journalists, and funding agencies.

Quick Links

Atacama Large Millimeter/submillimeter Array
Observer Support

ALMA Science

Submit Helpdesk Ticket | Log in

How can we help you today?

Help Center > Knowledgebase TOO Search Sci Portal

Knowledgebase

General (1)

- What Cycle 9 proposal issues and clarifications should I ...

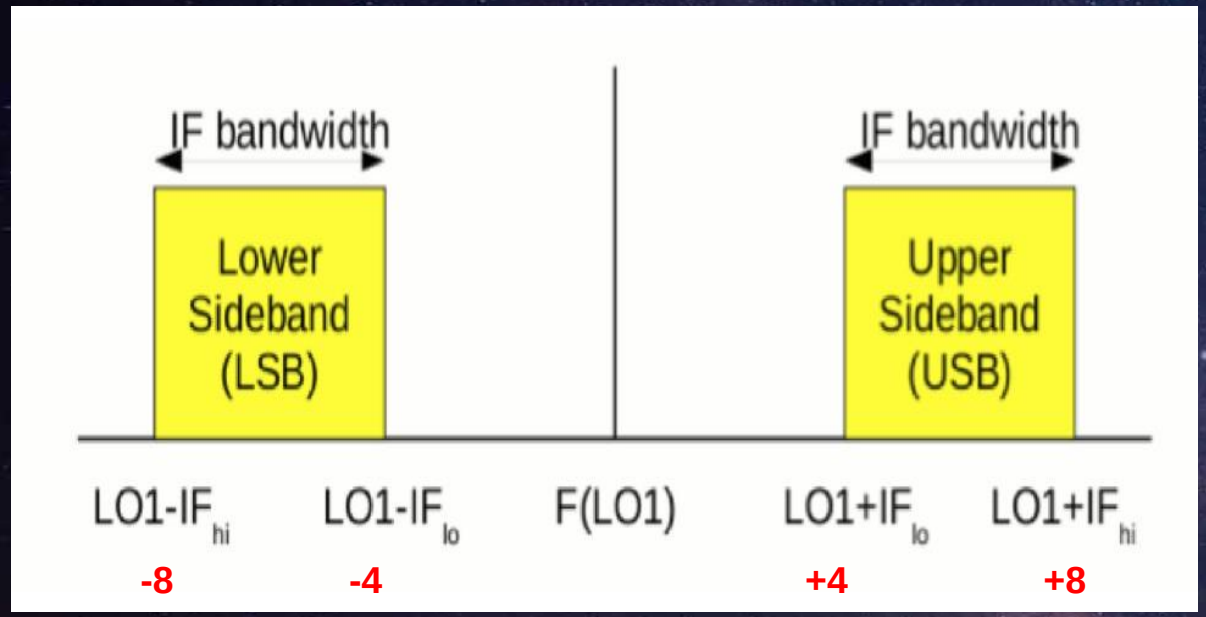
ALMA Observing Tool (OT) (44)

- What do the time estimates in the summary PDF page g...
- My project requires good uv-coverage. How should I set ...

Important parameters III

- Spectral Setup
  - LSB and/or USB
  - 4 basebands (with 2GHz max. width)
  - 2 or 4 basebands in the one sideband

LSB/USB (<4GHz, ≤4 basebands)
Baseband (<2GHz, ≤4spws)
Spectral window(spw)



Band	Frequency range (GHz)	Wavelength range (mm)	IF range (GHz)	Type
1	35 – 50	8.5 – 6	4 – 12	SSB
3	84 – 116	3.6 – 2.6	4 – 8	2SB
4	125 – 163	2.4 – 1.8	4 – 8	2SB
5	158 – 211	1.9 – 1.4	4 – 8	2SB
6	211 – 275	1.4 – 1.1	4.5 – 10	2SB
7	275 – 373	1.1 – 0.8	4 – 8	2SB
8	385 – 500	0.78 – 0.60	4 – 8	2SB
9	602 – 720	0.50 – 0.42	4 – 12	DSB
10	787 – 950	0.38 – 0.32	4 – 12	DSB

Spws in a baseband
- one faction 1
- two fraction ½
- four faction ¼
- one fraction ½ + two fraction ¼

Spectral windows (SPW) should have the same resolution.

Bandwidth (MHz)	Channel spacing (MHz)	Spectral resolution (MHz)	Number of channels	Correlator mode	Bit Mode
1875	15.6	31.2	120	TDM	
938	0.976	1.952	1024	FDM	4x4 ⋆
1875	0.488	0.976	3840	FDM	2x2
469	0.488	0.976	1024	FDM	4x4
938	0.244	0.488	3840	FDM	2x2
234	0.244	0.488	1024	FDM	4x4
469	0.122	0.244	3840	FDM	2x2
117	0.122	0.244	1024	FDM	4x4
234	0.061	0.122	3840	FDM	2x2
58.6	0.061	0.122	1024	FDM	4x4
117	0.0305	0.061	3840	FDM	2x2
58.6	0.0153	0.0305	3840	FDM	2x2

Table 5.1: Available spectral windows in multi-region mode (dual polarization). Each time the fraction is changed, the number of channels and bandwidth of a particular correlator mode is halved. Each row corresponds to a particular spectral resolution.

Spectral resolution ∝ 1/ fraction for a given bandwidth

Fraction = 1		Fraction = 1/2		Fraction = 1/4	
Bandwidth (MHz)	# channels	Bandwidth (MHz)	# channels	Bandwidth (MHz)	# channels
1875	4096	937.5	2048	468.75	1024
937.5	4096	468.75	2048	234.375	1024
468.75	4096	234.375	2048	117.118	1024
234.375	4096	117.118	2048	58.594	1024
117.118	4096	58.594	2048	not available	
58.594	4096	not available		not available	

Procedures In OT

ALMA Observing Tool (Cycle 10 ...se1)) - Project

File Edit View Tool Search ...lp Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal

Editors

Spectral Spatial Project

Principal Investigator

Select PI...

Main Project Information

Project

Assigned Priority

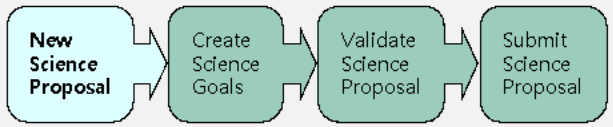
Project Code None Assigned

Overview

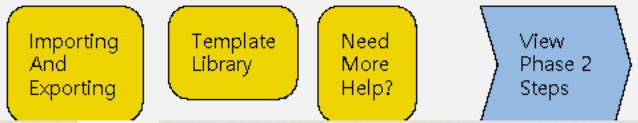
Contextual Help

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

Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Project

Principal Investigator

Select PI...

Main Project Information

Project

Assigned Priority

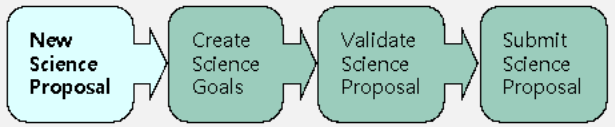
Project Code None Assigned

Overview

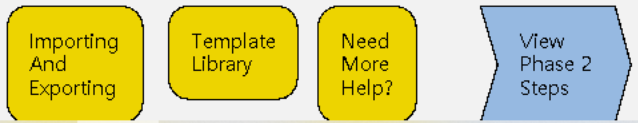
Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Proposal

Proposal Information

Proposal Title

Proposal Cycle 2023.1

Abstract
(max. 1200 characters)

Proposal Type

Regular | Target Of Opportunity | VLBI
Large Program | Phased Array

Scientific Category

Cosmology and the High Redshift Universe | Galaxies and Galactic Nuclei | ISM, star formation and astrochemistry
Circumstellar disks, exoplanets and the solar system | Stellar Evolution and the Sun

Please select one or two keywords

Student project

Feedback

Validation Validation History Log

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal

Phase I: Science Proposal

New Science | Create Science | Validate Science | Submit Science

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Perf
        - Technical Justific

Editors

Spectral Spatial Proposal

Proposal Information

Proposal Title

Display help from reference manual

ALMA Observing Tool Reference Manual

Contents Search Favourites

- Proposal Information
- Investigators
- Reviewer Information
- Science Case
- Management Plan
- Duplicate observations
- Observatory Use Only
- Phase 1 and Phase 2 Science Goals
  - General
  - Field Setup
  - Spectral Setup
  - Calibration Setup
  - Control and Performance
  - Technical Justification
- Phase 2 Program Scheduling Blocks

Next Up Previous Contents

Next: Investigators **Up:** The Phase 1 Proposal: **Previous:** Advanced Options **Contents**

Proposal Information

- **Proposal Title:** The title of the project can be entered here and is limited to 120 characters.
- **Proposal Cycle:** This is formed from the proposal year and the submission period. If a non-submitted proposal created during a previous cycle is read into the OT the old proposal cycle will be shown, but this will be updated to the current cycle if the project is then submitted.
- **Abstract:** The abstract can be entered as plain text and is limited to 1200 characters.
- **Proposal Type:** Four projects types are currently available

Please select one or two keywords

Overview

Contextual Help

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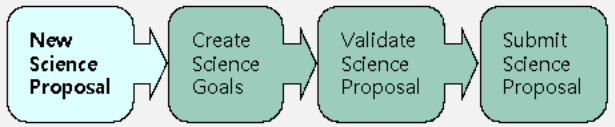
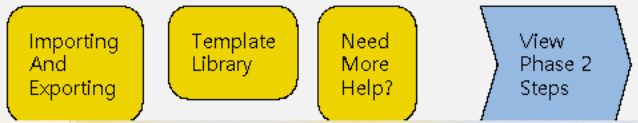
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Proposal

Circumstellar disks, exoplanets and the solar system

Stellar Evolution and the Sun

Please select one or two keywords

Student project

Joint Proposals

Is this a Joint Proposal? Yes No

Investigators

Type	Full name	Email	Affiliation	ALMA ID	Executive	Reviewer
PI	Not set	Not set	Not set	Not set	Non-ALMA	☑

Select PI | Add CoPI | Add CoI | Remove Collaborator | Add from Proposal

Feedback

Validation Validation History Log

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal

Phase I: Science Proposal

New Science | Create Science | Validate Science | Submit Science

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Proposal

1

Joint Proposals

Is this a Joint Proposal? Yes No

Type of Joint Proposal Main Partner

Observatory	Project Code	Requested Time

2

Add Partner Observatory | Remove Partner Observatory

Investigators

Type	Full name	Email	Affiliation	ALMA ID	Executive	Reviewer

Comparison of Observing time
Main : ALMA > Partner
Partner : ALMA < Partner

Feedback

Validation Validation History Log

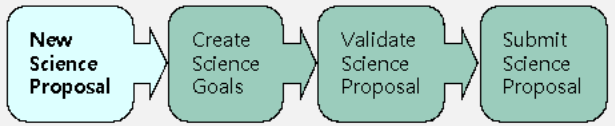
	Description	Suggestion

Overview

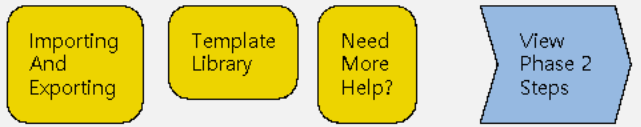
Contextual Help

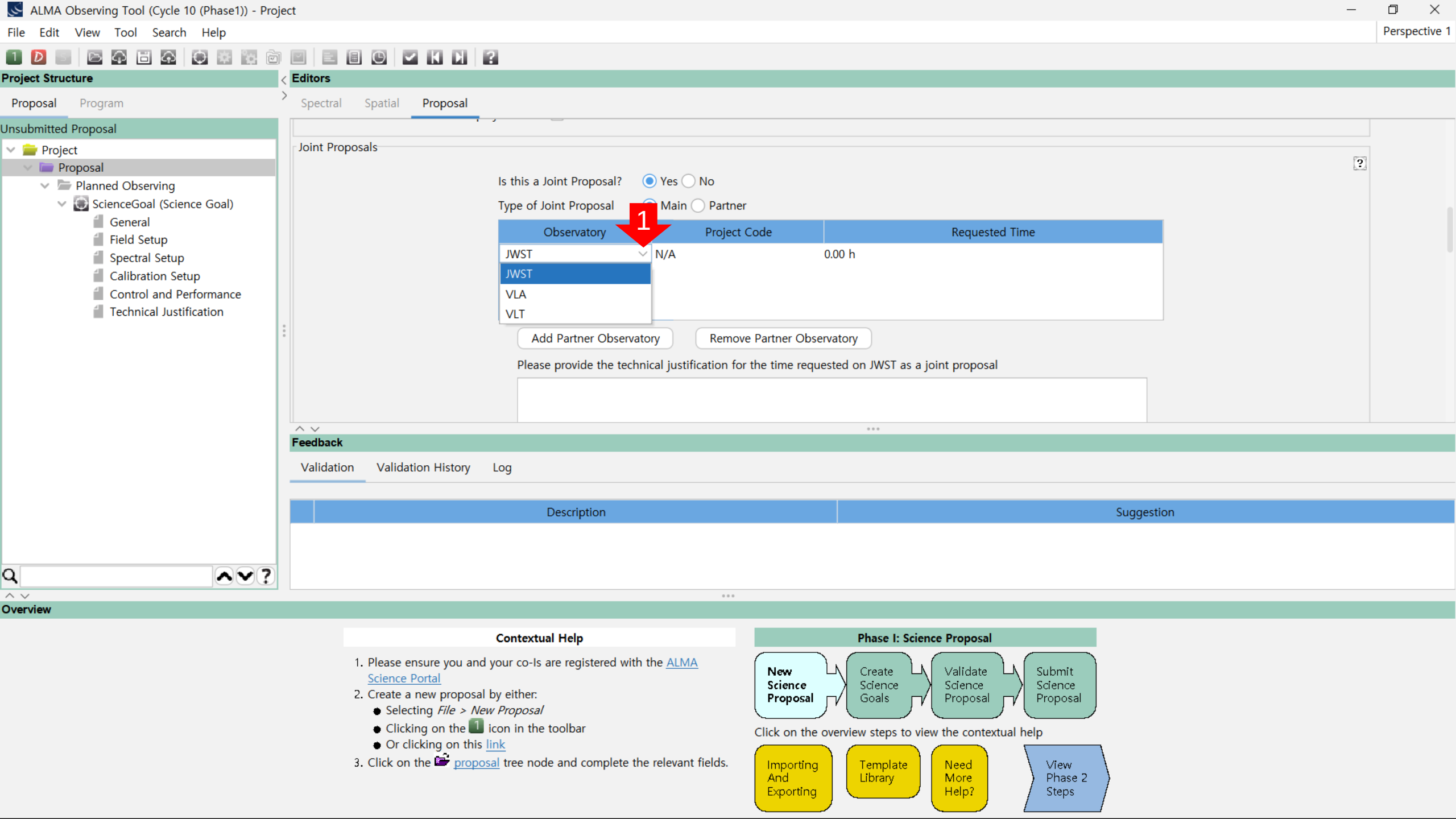
1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help




ALMA Observing Tool (Cycle 10 (Phase1)) - Project
File Edit View Tool Search Help
Perspective 1
Project Structure
Proposal Program
Unsubmitted Proposal
Project
Proposal
Planned Observing
ScienceGoal (Science Goal)
General
Field Setup
Spectral Setup
Calibration Setup
Control and Performance
Technical Justification
Editors
Spectral Spatial Proposal
Joint Proposals
Is this a Joint Proposal? Yes No
Type of Joint Proposal Main Partner
1
Observatory
Project Code
Requested Time
JWST
N/A
0.00 h
JWST
VLA
VLT
Add Partner Observatory
Remove Partner Observatory
Please provide the technical justification for the time requested on JWST as a joint proposal
Feedback
Validation Validation History Log
Description
Suggestion
Overview
Contextual Help
1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
Selecting File > New Proposal
Clicking on the icon in the toolbar
Or clicking 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
Click on the overview steps to view the contextual help
Importing And Exporting
Template Library
Need More Help?
View Phase 2 Steps

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Proposal

Joint Proposals

Is this a Joint Proposal? (•) Yes ( ) No

Type of Joint Proposal (•) Main ( ) Partner

Observatory	Project Code	Requested Time
JWST	N/A	1.0 h

Add Partner Observatory | Remove Partner Observatory

Please provide the technical justification for the time requested on JWST as a joint proposal

Feedback

Validation Validation History Log

	Description	Suggestion

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
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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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
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      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Proposal

Student project ☐

Joint Proposals

Is this a Joint Proposal? (•) Yes ( ) No

Type of Joint Proposal (•) Main ( ) Partner

Observatory	Project Code	Requested Time
JWST	N/A	1.00 h

Add Partner Observatory | Remove Partner Observatory

Please provide the technical justification for the time requested on JWST as a joint proposal

over 50 characters!

Investigators

Feedback

Validation Validation History Log

	Description	Suggestion

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal

Phase I: Science Proposal

New | Create | Validate | Submit

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Proposal

Is this a Joint Proposal? (•) Yes ( ) No

Type of Joint Proposal (•) Main ( ) Partner

Observatory	Project Code	Requested Time
JWST	N/A	1.00 h
VLA	N/A	1.00 h

1

Add Partner Observatory | Remove Partner Observatory

Please provide the technical justification for the time requested on JWST as a joint proposal

Please provide the technical justification for the time requested on VLA as a joint proposal

Investigators

Type	Full name	Email	Affiliation	ALMA ID	Executive	Reviewer

Feedback

Validation Validation History Log

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal

Phase I: Science Proposal

New Create Validate Submit

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

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        - Technical Justification

Editors

Spectral Spatial Proposal

Circumstellar disks, exoplanets and the solar system

Stellar Evolution and the Sun

Please select one or two keywords

Student project

Joint Proposals

Is this a Joint Proposal? Yes No

Investigators

Type	Full name	Email	Affiliation	ALMA ID	Executive	Reviewer
PI	Not set	Not set	Not set	Not set	Non-ALMA	☑

Select PI | Add CoPI | Add CoI | Remove Collaborator | Add from Proposal

Investigator search constraints

Name contains Seokho Lee

Name
Email
ALMA ID

Attribute to match

Find Investigators

Full name	Email	Affiliation	ALMA ID
Seokho Lee	seokholee@kasi.re.kr	Radio Astronomy Division, Kore...	shlee

Select PI Cancel

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal

Phase I: Science Proposal

New Science | Create Science | Validate Science | Submit Science

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Proposal

Reviewer Information

Please designate a reviewer who will participate in the distributed review process. The reviewer may be the PI of the proposal or one of the other investigators.
A student (without a PhD) may serve as the reviewer only if they are the PI of the proposal and a mentor (with a PhD) is identified.
The mentor does not need to be an investigator on the proposal.

Reviewers are requested to update their user profiles with combinations of scientific categories and keywords which describe their area(s) of expertise using the new 'Expertise' tab in https://asa.alma.cl/UserRegistration/secure/updateAccount.jsp.
Available expertise information will be used in the distribution of proposal assignments.

Reviewer has a PhD? (•) No ( ) Yes

Select Mentor

Mentor name

Mentor has a PhD? (•) No ( ) Yes

Science Case

Please ensure that your science case is properly anonymized following instructions on the Science Portal

Science Case (Mandatory, PDF, 4 pages max.) Attach Detach View

Duplicate observations

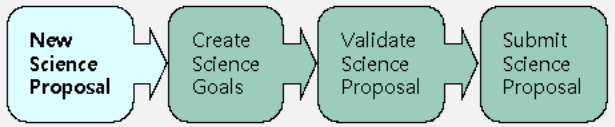
Briefly justify any new observations that duplicate archival data or accepted programs.
Information regarding the ALMA Duplication Policy and how to search archival data and accepted programs can be found at:
http://almascience.org/proposing/duplications.

Overview

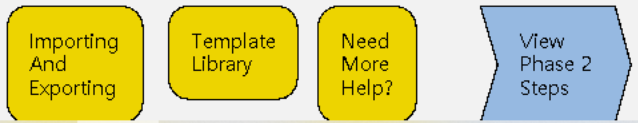
Contextual Help

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

Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Proposal

- Abide by the maximum number of Proposal Sets that are to be assigned for review to any individual (refer to the Proposer's Guide for more information).
- Update their user profiles with combinations of scientific categories and keywords which describe their area(s) of expertise using the new 'Expertise' tab in the link below. Available expertise information will be used in the distribution of proposal assignments.

https://asa.alma.cl/UserRegistration/secure/updateAccount.jsp

Reviewer has a PhD? (•) No ( ) Yes

Select Mentor

Mentor name

Mentor has a PhD? (•) No ( ) Yes

Science Case

Please ensure that your science case is properly anonymized following instructions on the Science Portal

Science Case (Mandatory, PDF, 4 pages max.) Attach Detach View

12 point (<15%)
< 20 MB

Duplicate observations

Briefly justify any new observations that duplicate archival data or accepted programs.
Information regarding the ALMA Duplication Policy and how to search archival data and accepted programs can be found at:

https://asa.alma.cl/UserRegistration/secure/updateAccount.jsp

Observatory Use Only

Feedback

Validation Validation History Log

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal

Phase I: Science Proposal

New Science | Create Science | Validate Science | Submit Science

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Planned Observing

Summary table of Science Goals. Double-clicking on a row will take you to that Science Goal

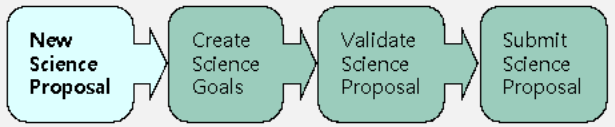
Science Goal	No. Sources	Band	Spec. Type	No. Spec. Win.	Pol.	Calibration Setup	Ang. Res.	Largest Scale	Rep. Freq.	Sens.
Science Goal	1	undefined	Spectral line	0	Dual	System	0.0 arcsec	Undefined	Undefined	Undefined

Overview

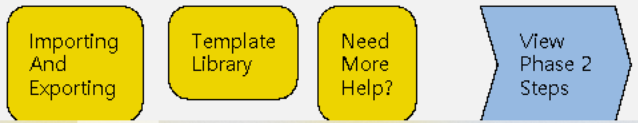
Contextual Help

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

Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Science Goal)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial ScienceGoal (Science Goal)

General (Optional)

Science Goal Name: Science Goal

Description:

SinglePoint

Source

Source Name: Resolve

Choose a Solar System Object? Name of object: Unspecified

Source Coordinates — System: ICRS; Sexagesimal display?; RA: 00:00:00.0000; Dec: 00:00:00.000

Parallax: 0.00000 mas

PM RA: 0.00000 mas/yr

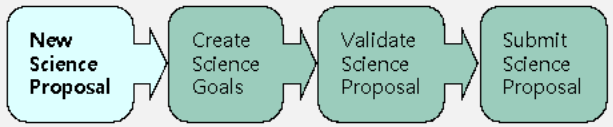
PM Dec: 0.00000 mas/yr

Overview

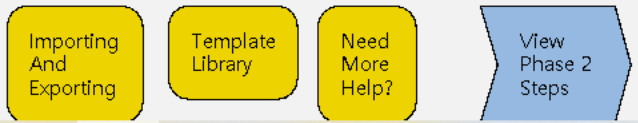
Contextual Help

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

Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Test
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Set
        - Calibration
        - Control and
        - Technical Ju

Cut Ctrl-X
Copy Ctrl-C
Paste Ctrl-V
Clone node
Show Printable Summary of ScienceGoal
Generate a PDF of Whole Proposal
Display Project Time Summary
Rename
Expand all Ctrl-Z
Collapse all
Find previous Alt-Up
Find next Alt-Down
Delete Delete

Editors

Spectral Spatial ScienceGoal (Test)

General (Optional)

Science Goal Name: Test

Description

TW_Hya Resolve

System Object? Name of object: Unspecified

Source Coordinates

System: ICRS Sexagesimal display?

RA: 11:01:52.0913

Dec: -34:42:15.750

Parallax: 16.62890 mas

PM RA: -68.30900 mas/yr

PM Dec: -13.90000 mas/yr

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking 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

Click on the overview steps to view the contextual help

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Test
  - Proposal
    - Planned Obs...
      - ScienceGo...
        - Gener...
        - Field S...
        - Spectr...
        - Calibra...
        - Contro...
        - Techni...

Cut Ctrl-X
Copy Ctrl-C
Paste Ctrl-V
New Science Goal
Clone node
Show Printable Summary of all Science Goals
Generate a PDF of Whole Proposal
Display Project Time Summary
Expand all Ctrl-Z
Collapse all
Find previous Alt-Up
Find next Alt-Down
Delete Delete

Paste

Editors

Spectral Spatial Planned Observing

Summary table of Science Goals. Double-clicking on a row will take you to that Science Goal

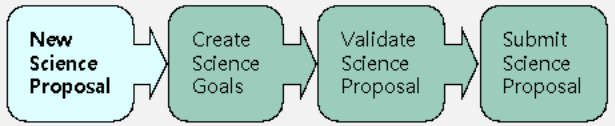
Science Goal	No. Sources	Band	Spec. Type	No. Spec. Win.	Pol.	Calibration Setup	Ang. Res.	Largest Scale	Rep. Freq.	Sens.
Test	1	7	Spectral line	3	Dual	System	0.015 arcsec	1.0 arcsec	345.795990 GHz	10 mJy

Overview

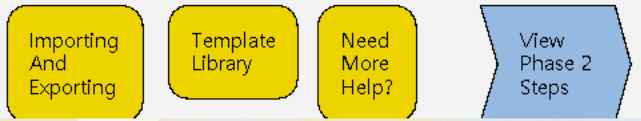
Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal | Program

Unsubmitted Proposal

- Test
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral | Spatial | Planned Observing

Summary table of Science Goals. Double-clicking on a row will take you to that Science Goal

Science Goal	No. Sources	Band	Spec. Type	No. Spec. Win.	Pol.	Calibration Setup	Ang. Res.	Largest Scale	Rep. Freq.	Sens.
Test	1	7	Spectral line	3	Dual	System	0.015 arcsec	1.0 arcsec	345.795990 GHz	10 mJy

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
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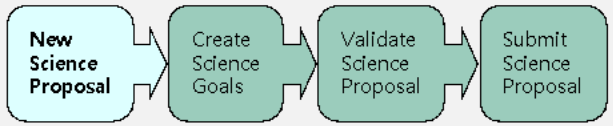
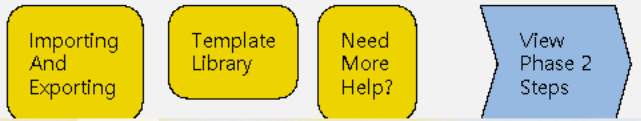
Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Field Setup

Spatial Image

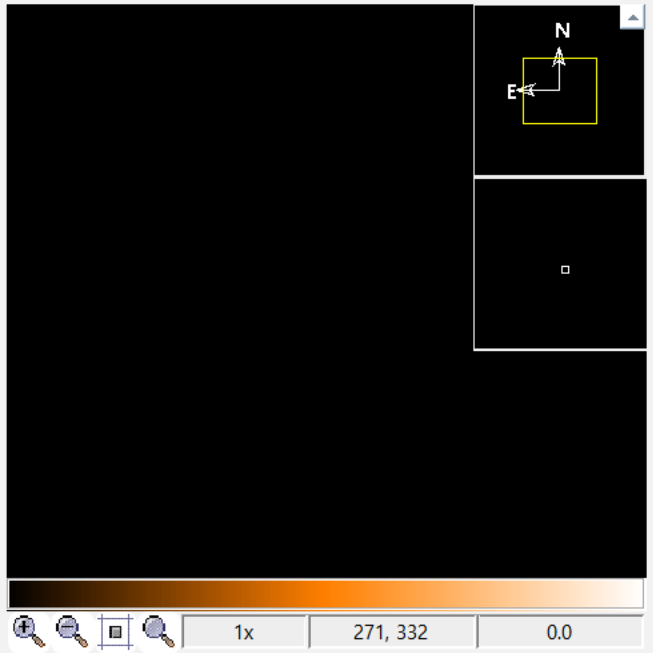


Image Filename

TW Hya

Source

Source Name: TW Hya — Resolve

Get source details from SIMBAD or NED

Choose a Solar System Object? Name of object: Unspecified

Source Coordinates — System: ICRS; Sexagesimal display?

RA: 00:00:00.0000 Parallax: 0.00000 mas

Dec: 00:00:00.000 PM RA: 0.00000 mas/yr PM Dec: 0.00000 mas/yr

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

Target Type: Individual Pointing(s) 1 Rectangular Field

Expected Source Properties

Peak Continuum Flux Density per Synthesized Beam	0.00000	Jy
Continuum Linear Polarization	0.0	per cent
Continuum Circular Polarization	0.0	per cent
Peak Line Flux Density per Synthesized Beam	0.00000	Jy
Line Width	0.00000	km/s
Line Linear Polarization	0.0	per cent
Line Circular Polarization	0.0	per cent

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
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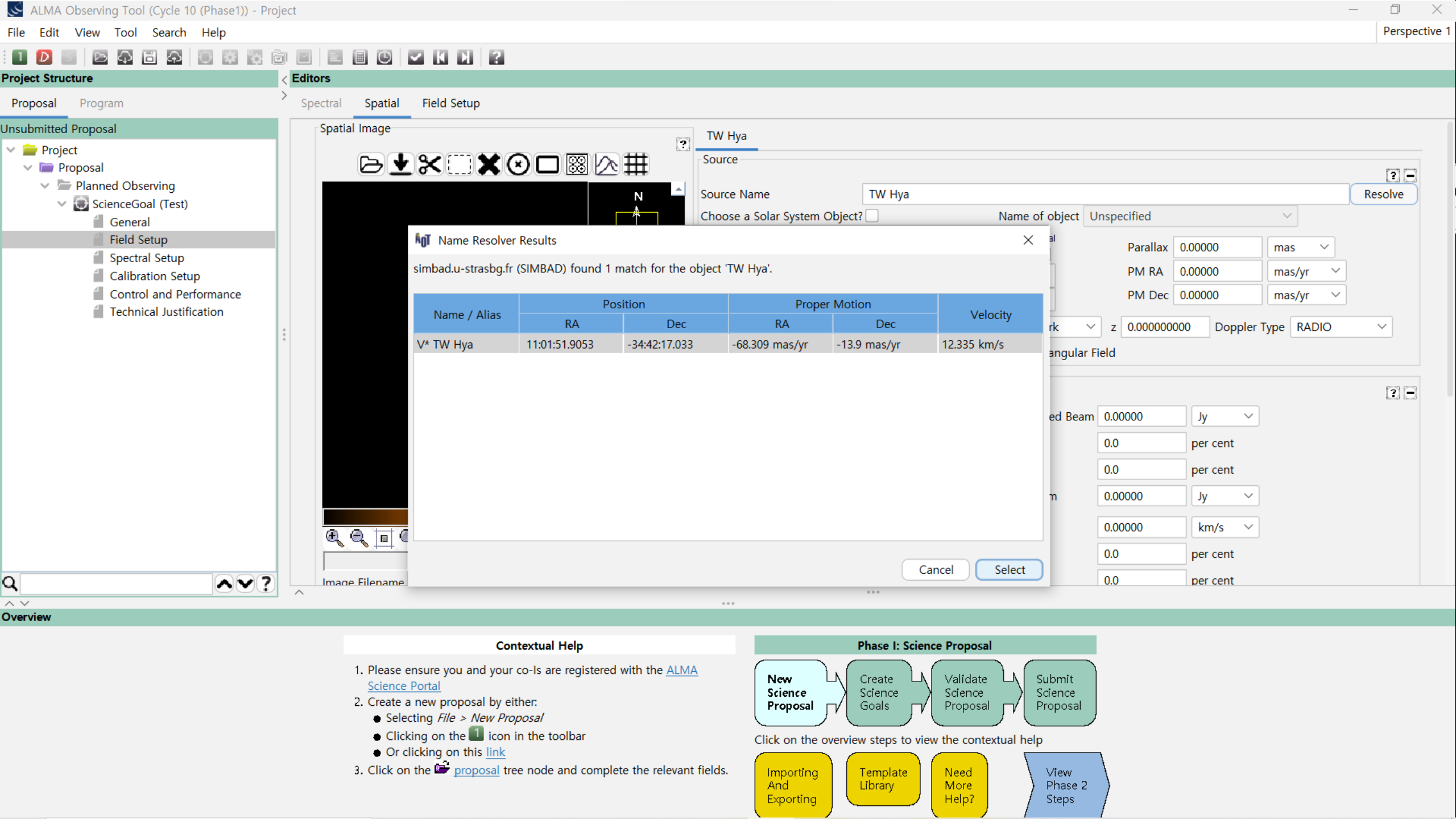
Phase I: Science Proposal

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


ALMA Observing Tool (Cycle 10 (Phase1)) - Project
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Unsubmitted Proposal
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General
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Calibration Setup
Control and Performance
Technical Justification
Spatial Image
N
Image Filename
TW Hya
Source
Source Name
TW Hya
Resolve
Choose a Solar System Object?
Name of object
Unspecified
Parallax 0.00000 mas
PM RA 0.00000 mas/yr
PM Dec 0.00000 mas/yr
z 0.0000000000
Doppler Type
RADIO
angular Field
ed Beam 0.00000 Jy
0.0 per cent
0.0 per cent
0.00000 Jy
0.00000 km/s
0.0 per cent
0.0 per cent
Name Resolver Results
simbad.u-strasbg.fr (SIMBAD) found 1 match for the object 'TW Hya'.
Name / Alias
Position
RA
Dec
Proper Motion
RA
Dec
Velocity
V* TW Hya
11:01:51.9053
-34:42:17.033
-68.309 mas/yr
-13.9 mas/yr
12.335 km/s
Cancel
Select
Overview
Contextual Help
1. Please ensure you and your co-Is are registered with the ALMA Science Portal
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Phase I: Science Proposal
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ALMA Observing Tool (Cycle 10 (Phase1)) - Project

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

You should check that the “Resolved information” is correct!!!

Perspective

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
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      - ScienceGoal (Copy of Test)
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        - Calibration Setup
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        - Technical Justification
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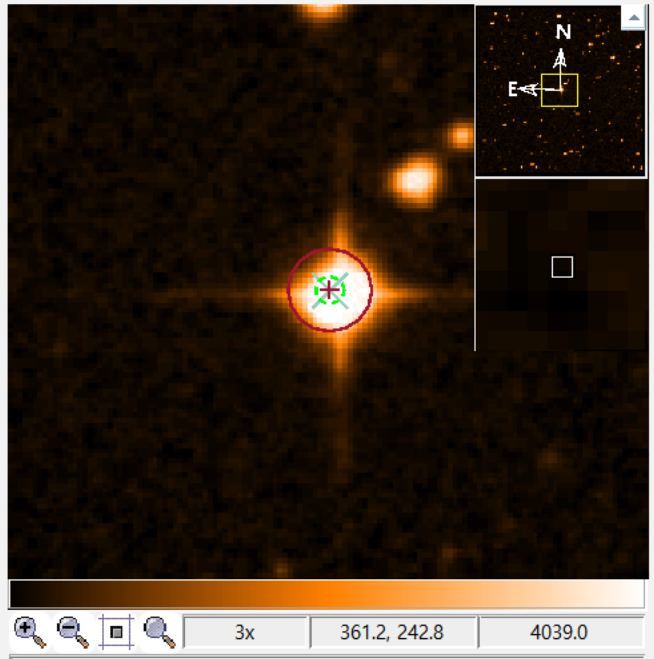
        - Spectral Setup
        - Calibration Setup
        - Control and Performance

Editors

Spectral Spatial Field Setup



FOV Parameters

Source

Source Name: TW Hya — Resolve

Choose a Solar System Object? — Name of object: Unspecified

Source Coordinates — System: ICRS — Sexagesimal display? ☑

RA: 11:01:52.0913 — Parallax: 16.62890 mas

Dec: -34:42:15.750 — PM RA: -68.30900 mas/yr — PM Dec: -13.90000 mas/yr

Source Radial Velocity: 12.335 km/s hel — z: 0.000041146 — Doppler Type: RELATIVISTIC

Target Type: ◉ Individual Pointing(s) ○ 1 Rectangular Field

Expected Source Properties

Peak Continuum Flux Density per Synthesized Beam	50.00000	mJy
Continuum Linear Polarization	0.0	per cent
Continuum Circular Polarization	0.0	per cent
Peak Line Flux Density per Synthesized Beam	10.00000	mJy
Line Width	1.00000	km/s
Line Linear Polarization	0.0	per cent
Line Circular Polarization	0.0	per cent

Field Centre Coordinates

Overview

Contextual Help

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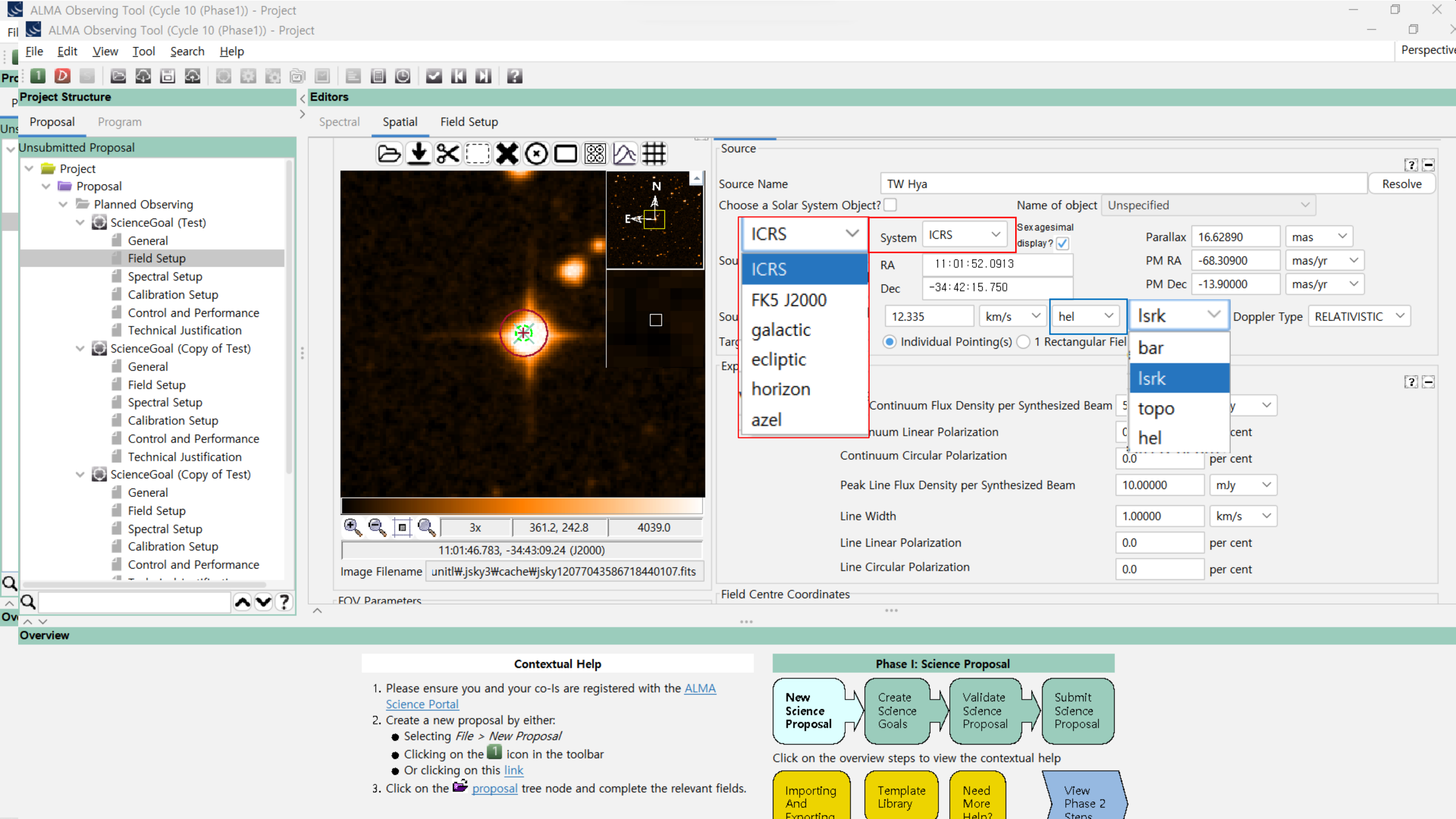
Phase I: Science Proposal

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

Click on the overview steps to view the contextual help

Importing And | Template Library | Need More | View Phase 2


ALMA Observing Tool (Cycle 10 (Phase1)) - Project
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ScienceGoal (Copy of Test)
Editors
Spectral Spatial Field Setup
N
E
3x
361.2, 242.8
4039.0
11:01:46.783, -34:43:09.24 (J2000)
Image Filename
unitl₩.jsky3₩cache₩jsky1207704358671844010 7.fits
Source
Source Name
TW Hya
Resolve
Choose a Solar System Object?
Name of object
Unspecified
ICRS
System
ICRS
Sexagesimal display?
FK5 J2000
galactic
ecliptic
horizon
azel
RA
11:01:52.0913
Dec
-34:42:15.750
Parallax
16.62890
mas
PM RA
-68.30900
mas/yr
PM Dec
-13.90000
mas/yr
12.335
km/s
hel
lsrk
Doppler Type
RELATIVISTIC
Individual Pointing(s)
1 Rectangular Fiel
bar
lsrk
topo
hel
Continuum Flux Density per Synthesized Beam
Continuum Linear Polarization
Continuum Circular Polarization
0.0
per cent
Peak Line Flux Density per Synthesized Beam
10.00000
mJy
Line Width
1.00000
km/s
Line Linear Polarization
0.0
per cent
Line Circular Polarization
0.0
per cent
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ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective

Project Structure

Proposal Program

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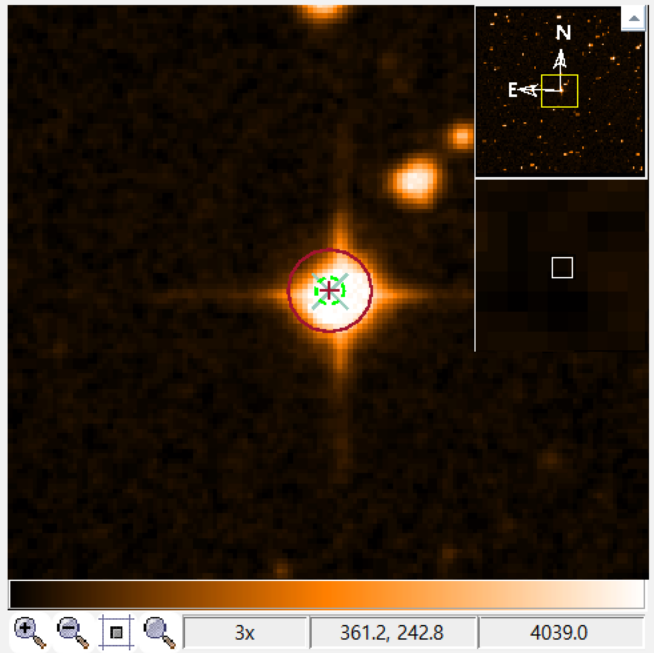
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance

Editors

Spectral Spatial Field Setup



FOV Parameters

Source

Source Name: TW Hya — Resolve

Choose a Solar System Object? — Name of object: Unspecified

Source Coordinates — System: ICRS — Sexagesimal display? ☑

RA: 11:01:52.0913

Dec: -34:42:15.750

Parallax: 16.62890 mas

PM RA: -68.30900 mas/yr

PM Dec: -13.90000 mas/yr

Source Radial Velocity: 12.335 km/s hel — z: 0.000041146 — Doppler Type: RELATIVISTIC

Target Type: ◉ Individual Pointing(s) ○ 1 Rectangular Field

Expected Source Properties

Peak Continuum Flux Density per Synthesized Beam	50.00000	mJy
Continuum Linear Polarization	0.0	per cent
Continuum Circular Polarization	0.0	per cent
Peak Line Flux Density per Synthesized Beam	10.00000	mJy
Line Width	1.00000	km/s
Line Linear Polarization	0.0	per cent
Line Circular Polarization	0.0	per cent

Field Centre Coordinates

Overview

You should describe how to get these vaues in T.J.

Contextual Help

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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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

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- Project
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        - Technical Justification
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        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance

Editors

Spectral Spatial Field Setup

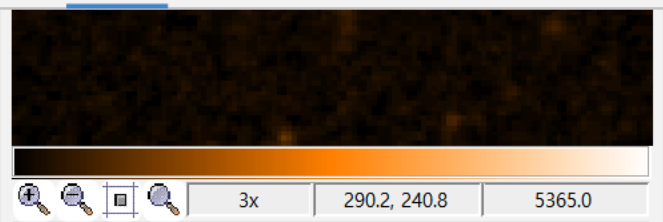

Image Filename unitl₩.jsky3₩cache₩jsky12077043586718440107.fits

FOV Parameters

Representative Frequency (Sky) 345.782 GHz

Array Type 12m

Antenna Beamsize (HPBW) 16.840 arcsec

Show Antenna Beamsize

Image Query

Image Server Digitized Sky (Version II) at ESO

Image Size(arcmin) 10.0 Query

Continuum Linear Polarization 0.0 per cent

Continuum Circular Polarization 0.0 per cent

Peak Line Flux Density per Synthesized Beam 10.00000 mJy

Line Width 1.00000 km/s

Line Linear Polarization 0.0 per cent

Line Circular Polarization 0.0 per cent

Field Centre Coordinates

Coord Type Relative Absolute

Array Type 12m

Offset Unit arcsec

#Pointings 12m Array 1

RA [arcsec]	Dec [arcsec]
0.00000	0.00000

Add Delete Reset Import Export

Add Source Load from File Export to File Clone Source Delete Source Delete All Sources

Multiple positions (sources)

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
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Phase I: Science Proposal

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

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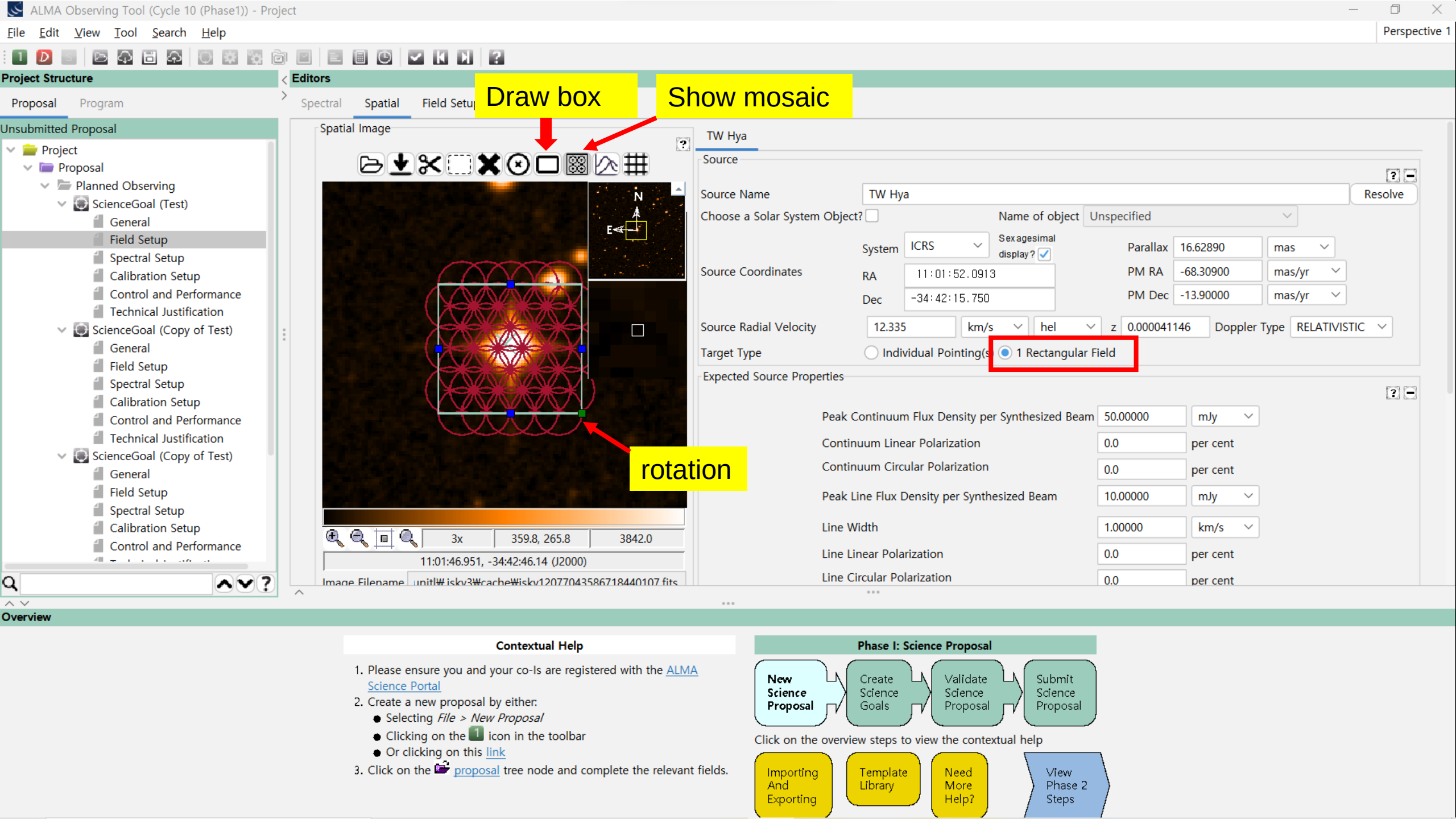
Importing And Exporting | Template Library | Need More Help? | View Phase 2 Steps


ALMA Observing Tool (Cycle 10 (Phase1)) - Project
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Technical Justification
ScienceGoal (Copy of Test)
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Field Setup
Spectral Setup
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Control and Performance
Technical Justification
ScienceGoal (Copy of Test)
General
Field Setup
Spectral Setup
Calibration Setup
Control and Performance
Editors
Spectral Spatial Field Setup
Draw box
Show mosaic
Spatial Image
N
E
rotation
3x
359.8, 265.8
3842.0
11:01:46.951, -34:42:46.14 (J2000)
Image Filename
TW Hya
Source
Source Name
TW Hya
Resolve
Choose a Solar System Object?
Name of object
Unspecified
System
ICRS
Sexagesimal display?
Parallax
16.62890
mas
Source Coordinates
RA
11:01:52.0913
PM RA
-68.30900
mas/yr
Dec
-34:42:15.750
PM Dec
-13.90000
mas/yr
Source Radial Velocity
12.335
km/s
hel
z
0.000041146
Doppler Type
RELATIVISTIC
Target Type
Individual Pointing(s)
1 Rectangular Field
Expected Source Properties
Peak Continuum Flux Density per Synthesized Beam
50.00000
mJy
Continuum Linear Polarization
0.0
per cent
Continuum Circular Polarization
0.0
per cent
Peak Line Flux Density per Synthesized Beam
10.00000
mJy
Line Width
1.00000
km/s
Line Linear Polarization
0.0
per cent
Line Circular Polarization
0.0
per cent
Overview
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New Science Proposal
Create Science Goals
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Submit Science Proposal
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Importing And Exporting
Template Library
Need More Help?
View Phase 2 Steps

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
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        - General
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        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
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        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance

Editors

Spectral Spatial Field Setup

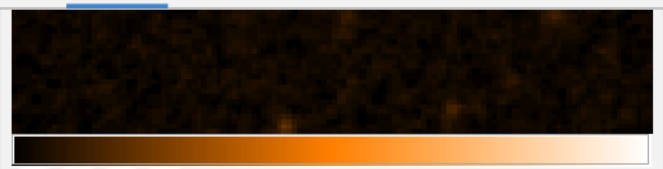

Image Filename unitl₩.jsky3₩cache₩jsky12077043586718440107.fits

FOV Parameters

Representative Frequency (Sky) 345.782 GHz

Array Type 12m

Antenna Beamsize (HPBW) 16.840 arcsec

Show Antenna Beamsize

Image Query

Image Server Digitized Sky (Version II) at ESO

Image Size(arcmin) 10.0 Query

Continuum Linear Polarization 0.0 per cent

Continuum Circular Polarization 0.0 per cent

Peak Line Flux Density per Synthesized Beam 10.00000 mJy

Line Width 1.00000 km/s

Line Linear Polarization 0.0 per cent

Line Circular Polarization 0.0 per cent

Rectangle

Coords Type Relative Absolute

Field Centre Coordinates

Offset(Longitude) 0 arcsec

Offset(Latitude) 0 arcsec

p length 50.0 arcsec

q length 40.0 arcsec

Position Angle 0.0 deg

Length of the 'p' side of the rectangle

Spacing 0.51093 fraction of antenna beamsize Reset to Nyquist

#Pointings 12m Array 33 Export

Add Source Load from File Export to File Clone Source Delete Source Delete All Sources

Overview

Contextual Help

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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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

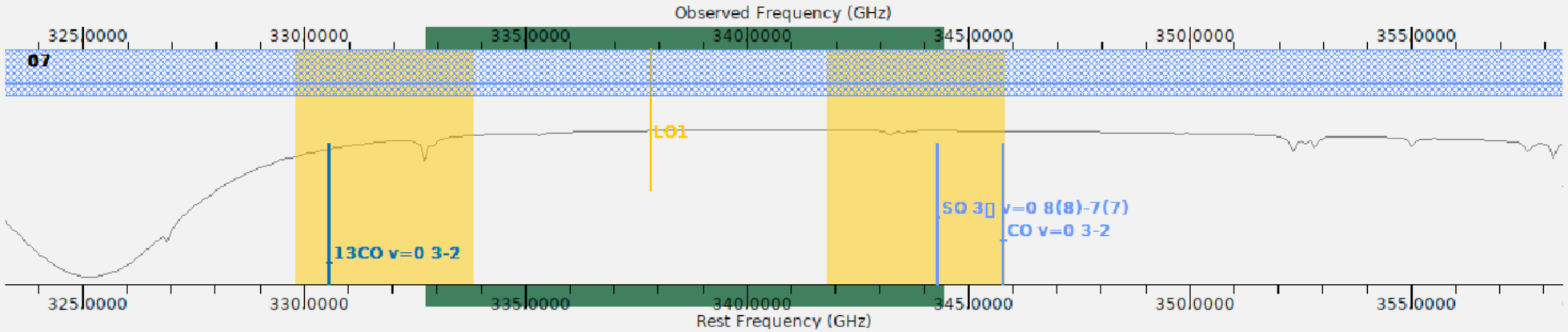
Editors

Spectral Spatial Spectral Setup

Visualisation

In the table below, it is possible to define up to 16 spectral windows, 4 per baseband as long as the total Fraction per baseband is no more than 1.
Each baseband is 2GHz wide and can be separately configured i.e. each spectral window can have a different bandwidth and resolution.
Note that for bands 3 to 8, it is not possible to put 3 basebands in one sideband and the fourth one in the other.

Left/right click to zoom in/out, grab sliding bar to pan
Note: Moving LO1 here is for experimentation only - actual setup determined by the windows



Overlays: Receiver Bands Transmission DSB Image Spectral Lines Select Lines to Overlay

Toggle receiver bands overlay

Water Vapour Column Density: Automatic Cho (4th Octile)

Viewport: Pan to Spectral Window Zoom to Band Reset

Overview

Contextual Help

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Phase I: Science Proposal

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

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

Two mode for Single Continuum

ALMA Observing Tool (Cycle 10 (Phase1)) - Accretion Instabilities in EC 53

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Accretion Instabilities in EC 53
  - Proposal
    - Planned Observing
      - ScienceGoal (B6 C18O + SO + SiO
      - ScienceGoal (Copy of B6 C18O + S
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Spectral Setup

Water Vapour Column Density: Automatic Choice / Manual Choice 0.913mm (3rd Octile)

Viewport: Pan to Spectral Window | Zoom to Band | Reset

Spectral Type

Spectral Type: Spectral Line / Single Continuum / Spectral Scan

Produce image sidebands (Bands 9 and 10 only)

Polarization products desired: XX / DUAL / FULL

Spectral Setup Errors

Single Continuum

Receiver Band: 7 [275.0-373.0 GHz]

Reset to Standard Frequency

Sky Frequency: 343.50000 GHz

Rest Frequency:

Low spectral resolution (TDM)

High spectral resolution (FDM)

Baseband-1

Fraction	Centre Freq (rest,topo)	Centre Freq (sky,topo)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
1(Full)	336.50954 GHz	336.50000 GHz	Single Continuum	1875.000 MHz(1670 km/s), 1.129 MHz(1.006 km/s) (2-bit)	2	

Feedback

Validation Validation History Log

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:

Phase I: Science Proposal

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

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Project Structure

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        - Spectral Setup
        - Calibration Setup
        - Control and Performance

Editors

Spectral Spatial Spectral Setup

Spectral Type

Spectral Type: Spectral Line / Single Continuum / Spectral Scan

Produce image sidebands (Bands 9 and 10 only)

Polarization products desired: XX DUAL FULL

Line survey at a point

Highest spectral resolution

polarization

Spectral Setup Errors

Spectral Line

Baseband-1

Fraction	Centre Freq (rest,hel)	Centre Freq (sky,hel)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
1/2	345.79599 GHz	345.78176 GHz	CO v=0 3-2	234.375 MHz(203 km/s), 244.141 kHz(0.212 km/s)	1	◉
1/4	344.31061 GHz	344.29645 GHz	SO 3Σ v=0 8(8)-7(7)	117.188 MHz(102 km/s), 282.227 kHz(0.246 km/s)	2	○

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Baseband-2

1(Full)	330.58797 GHz	330.57436 GHz	13CO v=0 3-2	234.375 MHz(213 km/s), 141.113 kHz(0.128 km/s)	2	○

Overview

Contextual Help

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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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Create spectral windows centred on spectral lines

Transition Filter

*

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

Include description

Frequency Filters

ALMA Band

1 2 3 4 5 6 7 8 9 10

Sky Frequency (GHz)

Min 31.3 Max 950

Receiver/Back End Configuration

- All lines
- Potentially selectable lines
- Lines in defined spws
- **Filtering unobservable lines**

Upper-state Energy (K)

Min 0 Max 0

Molecule Filter / Environment

Show all atoms and molecules

- all atoms and molecules
- most common molecules
- hot cores
- dark clouds
- diffuse clouds
- AGBs, PPNs and PNs
- comets
- planets
- extra-Galactic

Transitions matching your filter settings:

(double-click column header for primary sort, single-click subsequent columns for secondary sorting. Single clicks will reverse sort order of already selected columns.)

Transition	Description	Rest Frequency	Sky Frequency	Upper-state Energy	Lovas Intensity	Sij μ²	Catalog
CH3CN v=0 18(4)-17(4), F=17-16	Methyl Cyanide	330.969808 GHz	330.956190 GHz	265.219 K	1.38	496.315 D²	Offline
CH3CN v=0 18(4)-17(4), F=17-18	Methyl Cyanide	330.969812 GHz	330.956195 GHz	265.219 K	1.38	0.001 D²	Offline
CH3CN v=0 18(4)-17(4), F=19-18	Methyl Cyanide	330.969815 GHz	330.956198 GHz	265.219 K	1.38	554.827 D²	Offline
CH3CN v8=1 J =18-17, K = -12 --12	Methyl Cyanide	330.977817 GHz	330.964199 GHz	1861.315 K		286.041 D²	Offline
CH3CN v8=1 J =38-38, K =10-8	Methyl Cyanide	330.988159 GHz	330.974541 GHz	1758.834 K		0.017 D²	Offline
CH3CN v8=1 J =18-17, K =14-14	Methyl Cyanide	331.009015 GHz	330.995396 GHz	1881.454 K		203.422 D²	Offline
CH3CN v=0 18(3)-17(3), F=18-17	Methyl Cyanide	331.014296 GHz	331.000677 GHz	215.24 K	1.38	1073.219 D²	Offline
CH3CN v=0 18(3)-17(3), F=17-16	Methyl Cyanide	331.014306 GHz	331.000687 GHz	215.24 K	1.38	1015.053 D²	Offline
CH3CN v=0 18(3)-17(3), F=19-18	Methyl Cyanide	331.014315 GHz	331.000695 GHz	215.24 K	1.38	1134.981 D²	Offline
CH3CN v=0 18(3)-17(3), F=17-18	Methyl Cyanide	331.014315 GHz	331.000695 GHz	215.24 K	1.38	0.003 D²	Offline
CH3CN v=0 18(2)-17(2), F=18-17	Methyl Cyanide	331.046102 GHz	331.032481 GHz	179.533 K	1.6	545.146 D²	Offline
CH3CN v=0 18(2)-17(2), F=17-16	Methyl Cyanide	331.046104 GHz	331.032483 GHz	179.533 K	1.6	515.6 D²	Offline
CH3CN v=0 18(2)-17(2), F=19-18	Methyl Cyanide	331.046113 GHz	331.032492 GHz	179.533 K	1.6	576.385 D²	Offline
CH3CN v=0 18(2)-17(2), F=17-18	Methyl Cyanide	331.046115 GHz	331.032494 GHz	179.533 K	1.6	0.001 D²	Offline
CH3CN v=0 18(1)-17(1), F=17-16	Methyl Cyanide	331.065188 GHz	331.051566 GHz	158.106 K	1.64	520.407 D²	Offline
CH3CN v=0 18(1)-17(1), F=18-17	Methyl Cyanide	331.065191 GHz	331.051570 GHz	158.106 K	1.64	550.355 D²	Offline
CH3CN v=0 18(1)-17(1), F=19-18	Methyl Cyanide	331.065197 GHz	331.051576 GHz	158.106 K	1.64	581.893 D²	Offline
CH3CN v=0 18(1)-17(1), F=17-18	Methyl Cyanide	331.065201 GHz	331.051579 GHz	158.106 K	1.64	0.001 D²	Offline
CH3CN v=0 18(0)-17(0), F=17-18	Methyl Cyanide	331.071563 GHz	331.057942 GHz	150.963 K	1.77	0.001 D²	Offline

Add to spectral window list

Spectral windows in this baseband (maximum of four)

Transition	Description	Rest Frequency	Sky Frequency

Remove spectral window(s)

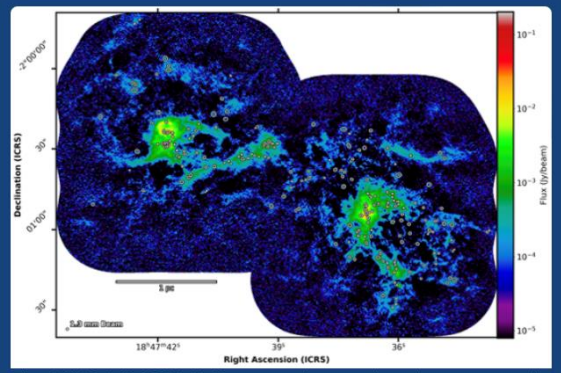
Cancel Ok

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

About | Science | Proposing | Observing | Data | Processing | Tools | Documentation | Help

Science Highlight

Top-heavy Core Mass function revealed by ALMA-IMF: a challenge to the IMF universality



The W43-MM2&MM3 protocluster cloud, as imaged at 1.3 mm by the ALMA 12 m array. White ellipses outline the size of the 208 compact cores of few thousand AU size extracted by the core extraction algorithm getsf.

The ALMA-IMF Large Program aims to answer the longstanding question on whether the Initial Mass Function (IMF) inherits its shape from its core content, and more precisely the Core Mass Function (CMF). To do that, ALMA-IMF has targeted and imaged 15 high-mass star-

Observatory News

ALMA Cycle 9 Call for Proposals is Now OPEN!
Mar 24, 2022

ALMA Science Archive previews
Feb 14, 2022

QA0+ results now available from SnooPI
Jan 31, 2022

ALMA Cycle 9 Pre-

More…

NAOJ News

ALMA Cycle9 2022 Proposal Preparation Meeting
Mar 22, 2022

East Asian ALMA Science Workshop 2022
Jan 19, 2022

FY2021 ALMA/45m/ASTE Users Meeting
Dec 23, 2021

More…

The ALMA Science Portal is a one-stop source for i
including proposers, archive researchers, ALMA st

Quick Links

- Observing Tool
- Sensitivity Calculator
- CASA Simulator
- Observation Support Tool
- Splatalogue
- Science Ready Data Products
- Toyama Microwave Atlas
- Community-Developed
- EU ARC network
- Staff Tools
- Japanese Virtual Obs.
- Solar Ephemeris

Basic Advanced

Quick Picker

- CO v = 0
- ^{13}CO v = 0
- C^{17}O
- C^{18}O
- ^{13}C^{17}O
- ^{13}C^{18}O
- HCN v = 0
- HNC v = 0
- H^{13}CN v = 0
- HC^{15}N v = 0
- DCN v = 0
- HCO^{+} v = 0
- CS
- CH_3OH v_t = 0
- NH_3
- C I
- C II
- O I
- O III
- N II
- H_2O v = 0
- xxxxHDO

splatalogue
database for astronomical spectroscopy

Search:

(ex: ammonia, carbon monoxide, ethynyl, hydroxyl, methanol, water, etc.)

Telescope Bands: Any

Frequency: Min Max MHz GHz

Search

Astronomical Filters

- Top 20 list
- Planetary Atmosphere
- Hot Cores
- Dark Clouds
- Diffuse Clouds
- Comets
- AGB/PPN/PN
- Extragalactic

Scan to Mobile Splat

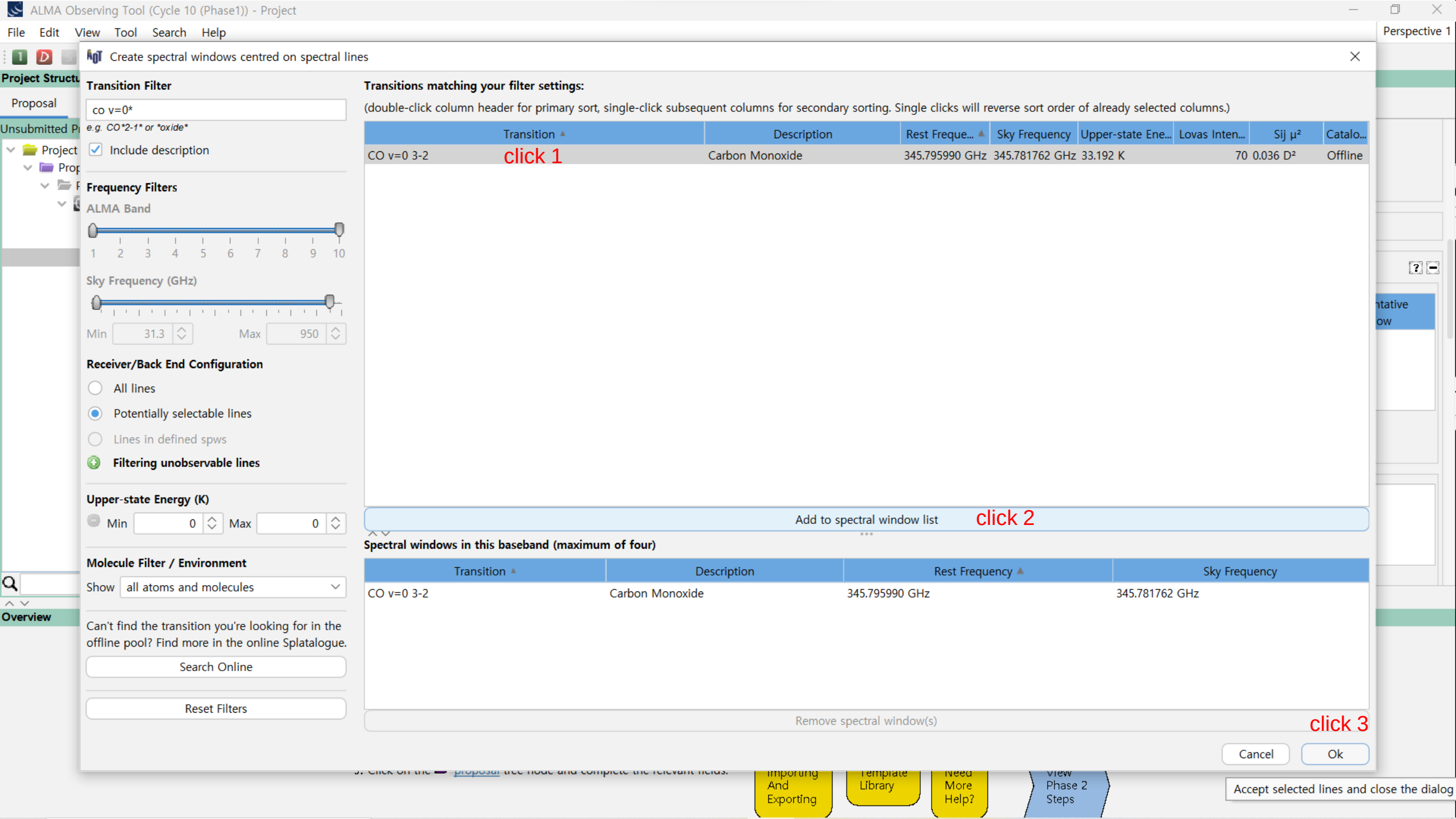
Welcome to the "New" Splatalogue!

Over the past several years, there has been an active effort to improve the overall functionality and usability of Splatalogue. We are now offering new options to navigate the nearly 6 million spectral lines available via Splatalogue. The user community has suggested a simpler, more efficient way of searching for and obtaining the more common spectral line features from the radio to submillimeter wavelength.

This new **Splatalogue Basic** search page is now available and has several new and quick search features including:

The Quick Picker: Located on the far left. Popular species are included. Click on your favorite, hit search and the results will pop up. You can also limit the frequency by entering in your preferred range in GHz or MHz.

Search Bar: Located in the center of the page. Type in the name (or in some cases, the formula) of your favorite molecule and all species with that


ALMA Observing Tool (Cycle 10 (Phase1)) - Project
File Edit View Tool Search Help
Perspective 1
Create spectral windows centred on spectral lines
Transition Filter
co v=0*
e.g. CO*2-1* or *oxide*
Include description
Frequency Filters
ALMA Band
1 2 3 4 5 6 7 8 9 10
Sky Frequency (GHz)
Min 31.3 Max 950
Receiver/Back End Configuration
All lines
Potentially selectable lines
Lines in defined spws
Filtering unobservable lines
Upper-state Energy (K)
Min 0 Max 0
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.
Search Online
Reset Filters
Transitions matching your filter settings:
(double-click column header for primary sort, single-click subsequent columns for secondary sorting. Single clicks will reverse sort order of already selected columns.)
Transition | Description | Rest Freque... | Sky Frequency | Upper-state Ene... | Lovas Inten... | Sij μ² | Catalo...
CO v=0 3-2 | Carbon Monoxide | 345.795990 GHz | 345.781762 GHz | 33.192 K | 70 | 0.036 D² | Offline
click 1
Add to spectral window list
click 2
Spectral windows in this baseband (maximum of four)
Transition | Description | Rest Frequency | Sky Frequency
CO v=0 3-2 | Carbon Monoxide | 345.795990 GHz | 345.781762 GHz
Remove spectral window(s)
click 3
Cancel
Ok
Importing And Exporting
Template Library
Need More Help?
View Phase 2 Steps
Accept selected lines and close the dialog

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Spectral Setup

Spectral Type: Single Continuum / Spectral Scan

Produce image sidebands (Bands 9 and 10 only)

Polarization products desired: XX DUAL FULL

Spectral Setup Errors

Spectral Line

Baseband-1

Fraction	Centre Freq (rest,hel)	Centre Freq (sky,hel)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
1(Full)	345.79599 GHz	345.78176 GHz	CO v=0 3-2	117.188 MHz(102 km/s), 70.557 kHz(0.061 km/s)	2	◉

1(Full)
1/2
1/4

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Baseband-2

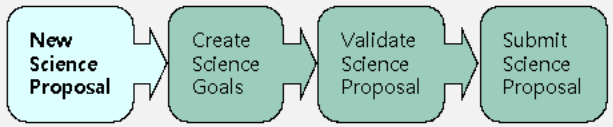
Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Overview

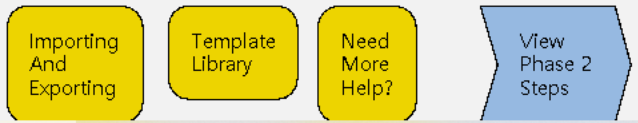
Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Accretion Instabilities in EC 53

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Accretion Instabilities in EC 53
  - Proposal
    - Planned Observing
      - ScienceGoal (B6 C18O + SO + SiO
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of B6 C18O + S
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Copy of B6 C
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Spectral Setup

Baseband-4

1(Full) 230.53800 GHz 230.54486 GHz CO v=0 2-1 | 234.375 MHz(305 km/s), 141.113 kHz(0.183 km/s) (2 | 2

58.594 MHz(76 km/s), 141.113 kHz(0.183 km/s) (4-bit)
117.188 MHz(152 km/s), 70.557 kHz(0.092 km/s) (2-bit)
117.188 MHz(152 km/s), 282.227 kHz(0.367 km/s) (4-bit)
234.375 MHz(305 km/s), 141.113 kHz(0.183 km/s) (2-bit)
234.375 MHz(305 km/s), 564.453 kHz(0.734 km/s) (4-bit)
468.750 MHz(610 km/s), 282.227 kHz(0.367 km/s) (2-bit)
468.750 MHz(610 km/s), 1.129 MHz(1.468 km/s) (4-bit)
937.500 MHz(1219 km/s), 564.453 kHz(0.734 km/s) (2-bit)
937.500 MHz(1219 km/s), 2.258 MHz(2.936 km/s) (4-bit)
1875.000 MHz(2438 km/s), 1.129 MHz(1.468 km/s) (2-bit)
1875.000 MHz(2438 km/s), 36.125 MHz(46.976 km/s) (2-bit)

Add spectral window centred on a spectral line

Representative Frequency

The representative frequency is used in conjunction with
observing time and to set the size of the antenna beam s
not fall in the centre of the chosen spectral window, its fr
shown in the targets table below.

Rest Frequencies

Please set the rest frequencies of spectral lines that will be observed. These will be used during data reduction to set the velocity scale and will enhance the ALMA Science Archive. We recommend that this be done once the spectral setup is fully defined.

Feedback

Validation Validation History Log

Description	Suggestion

Overview

Contextual Help | Phase I: Science Proposal

16°C 흐림

오후 1:20 2023-04-18

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File ALMA Observing Tool (Cycle 10 (Phase1)) - Project

Project Structu

Proposal

Unsubmitted Pr

Project

Prop

Overview

Create spectral windows centred on spectral lines

Transition Filter

*

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

Include description

Frequency Filters

ALMA Band

1 2 3 4 5 6 7 8 9 10

Sky Frequency (GHz)

Min 31.3 Max 950

Receiver/Back End Configuration

- All lines
- Potentially selectable lines
- Lines in defined spws
- **Filtering unobservable lines**

Upper-state Energy (K)

Min 0 Max 0

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.

Search Online

Reset Filters

Transitions matching your filter settings:

(double-click column header for primary sort, single-click subsequent columns for secondary sorting. Single clicks will reverse sort order of already selected columns.)

Transition	Description	Rest Frequency	Sky Frequency	Upper-state Energy	Lovas Intensity	Sij μ²	Catalog
13CH3OH v t=0 5 (...	Methanol	349.222565 GHz	349.208196 GHz	56.339 K		0 D²	Offline
CH3CN v=0 19(6)-1...	Methyl Cyanide	349.212338 GHz	349.197970 GHz	424.7 K	0.71	1106.34 D²	Offline
CH3CN v=0 19(6)-1...	Methyl Cyanide	349.212332 GHz	349.197964 GHz	424.7 K	0.71	995.379 D²	Offline
CH3CN v=0 19(6)-1...	Methyl Cyanide	349.212321 GHz	349.197953 GHz	424.7 K	0.71	0.002 D²	Offline
CH3CN v=0 19(6)-1...	Methyl Cyanide	349.212285 GHz	349.197917 GHz	424.7 K	0.71	1049.515 D²	Offline
CH3CN v8=1 J =19...	Methyl Cyanide	349.208926 GHz	349.194558 GHz	2089.502 K		204.763 D²	Offline
CH3CN v8=1 J =19...	Methyl Cyanide	349.174395 GHz	349.160028 GHz	2068.707 K		289.09 D²	Offline
CH3CN v=0 19(7)-1...	Methyl Cyanide	349.125319 GHz	349.110955 GHz	517.407 K	0.5	531.025 D²	Offline
CH3CN v=0 19(7)-1...	Methyl Cyanide	349.125315 GHz	349.110950 GHz	517.407 K	0.5	477.876 D²	Offline
CH3CN v=0 19(7)-1...	Methyl Cyanide	349.125298 GHz	349.110934 GHz	517.407 K	0.5	0.001 D²	Offline
CH3CN v=0 19(7)-1...	Methyl Cyanide	349.125249 GHz	349.110884 GHz	517.407 K	0.5	503.75 D²	Offline
CH3OH v t=0 14(1,...	Methanol	349.107020 GHz	349.092656 GHz	260.203 K	3.52	25.799 D²	Offline
13CH3OH v t=0 4 (...	Methanol	349.097921 GHz	349.083558 GHz	45.01 K		0 D²	Offline
13CH3OH v t=0 3 (...	Methanol	349.034424 GHz	349.020063 GHz	35.947 K		0 D²	Offline
CH3CN v=0 19(8)-1...	Methyl Cyanide	349.025009 GHz	349.010648 GHz	624.32 K	1.03	505.523 D²	Offline
CH3CN v=0 19(8)-1...	Methyl Cyanide	349.025006 GHz	349.010646 GHz	624.32 K	1.03	454.821 D²	Offline
CH3CN v=0 19(8)-1...	Methyl Cyanide	349.024983 GHz	349.010623 GHz	624.32 K	1.03	0.001 D²	Offline
CH3CN v=0 19(8)-1...	Methyl Cyanide	349.024918 GHz	349.010558 GHz	624.32 K	1.03	479.558 D²	Offline
CH3CN v8=1 J =19...	Methyl Cyanide	349.016636 GHz	349.002276 GHz	2294.548 K		316.133 D²	Offline

Add to spectral window list

Spectral windows in this baseband (maximum of four)

Transition	Description	Rest Frequency	Sky Frequency
SO 3Σ v=0 8(8)-7(7)	Sulfur Monoxide	344.310612 GHz	344.296446 GHz
CO v=0 3-2		345.795990 GHz	345.781762 GHz
SiO v=0 8-7	Silicon Monoxide	347.330579 GHz	347.316288 GHz

Remove spectral window(s)

Cancel Ok

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Spectral Setup

Produce image sidebands (Bands 9 and 10 only)

Polarization products desired: XX (DUAL) FULL

Spectral Setup Errors

The spectral window range exceeds the baseband width : 3.051092345699999 GHz

Spectral Line

Baseband-1

Fraction	Centre Freq (rest,hel)	Centre Freq (sky,hel)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
1/2	345.79599 GHz	345.78176 GHz	CO v=0 3-2	58.594 MHz, 70.557 kHz	2	◉
1/4	344.31061 GHz	344.29645 GHz	SO 3Σ v=0 8(8)-7(7)	58.594 MHz, 141.113 kHz	2	○
1/4	347.33058 GHz	347.31628793178334 GHz	SiO v=0 8-7	Please select a correlator mode	1	○

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Baseband-2

Error : over the width of the baseband

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking 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

Click on the overview steps to view the contextual help

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Spectral Setup

Produce image sidebands (Bands 9 and 10 only)

Polarization products desired: XX DUAL FULL

Spectral Setup Errors

Baseband-1 : Spectral window resolution mismatch in spectral set-up. All windows must be allocated the same resolution.

Spectral Line

Baseband-1

Fraction	Centre Freq (rest,hel)	Centre Freq (sky,hel)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
1/2	345.79599 GHz	345.78176 GHz	CO v=0 3-2	58.594 MHz(51 km/s), 70.557 kHz(0.061 km/s)	2	●
1/4	344.31061 GHz	344.29645 GHz	SO 3Σ v=0 8(8)-7(7)	58.594 MHz(51 km/s), 141.113 kHz(0.123 km/s)	2	○

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Baseband-2

Error : different spectral resolution within the baseband

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking 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

Click on the overview steps to view the contextual help

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Spectral Setup

Polarization products desired: XX (•) DUAL ( ) FULL

Spectral Setup Errors

Can not configure LOs for these spectral windows

Spectral Line

Baseband-1

Fraction	Centre Freq (rest,hel)	Centre Freq (sky,hel)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
1/2	345.79599 GHz	345.78176 GHz	CO v=0 3-2	117.188 MHz, 141.113 kHz	2	(•)
1/4	344.31061 GHz	344.29645 GHz	SO 3Σ v=0 8(8)-7(7)	58.594 MHz, 141.113 kHz	2	( )

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Baseband-2

1/2	329.33055 GHz	329.31700 GHz	C18O 3-2	Please select a correlator mode	1	( )

Error : Outside of IF bandwidth

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Baseband-3

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking 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

Click on the overview steps to view the contextual help

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Spectral Setup

Polarization products desired: XX DUAL FULL

Spectral Setup Errors

Spectral Line

Baseband-1

Fraction	Centre Freq (rest,hel)	Centre Freq (sky,hel)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
1/2	345.79599 GHz	345.78176 GHz	CO v=0 3-2	117.188 MHz(102 km/s), 141.113 kHz(0.122 km/s)	2	◉
1/4	344.31061 GHz	344.29645 GHz	SO 3Σ v=0 8(8)-7(7)	58.594 MHz(51 km/s), 141.113 kHz(0.123 km/s)	2	○

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Baseband-2

1(Full)	330.58797 GHz	330.57436 GHz	13CO v=0 3-2	117.188 MHz(106 km/s), 70.557 kHz(0.064 km/s)	2	○

Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Baseband-3

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Po
2. Create a n
   - Selecti
   - Clickin
   - Or clic
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal

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

Representative window (frequency) is used to estimate beam size and sensitivity

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance

Editors

Spectral Spatial Spectral Setup

Representative Frequency

The representative frequency is used in conjunction with the sensitivity entered on the 'Control and Performance' page to estimate the required observing time and to set the size of the antenna beam shown in the 'Spatial Visual' editor. If the transition you are most interested in does not fall in the centre of the chosen spectral window, its frequency can be changed here. The sky equivalents of the representative frequency are shown in the targets table below.

345.79599 GHz

Rest Frequencies

Please set the rest frequencies of spectral lines that will be observed. These will be used during data reduction to set the velocity scale and will enhance the ALMA Science Archive. We recommend that this be done once the spectral setup is fully defined.

Define Rest Frequencies

Sources

Source Name	Velocity	Frame	Representative Frequency (Observed)
TW Hya	12.335 km...	hel	345.7818 GHz

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Po
2. Create a n
   - Selecti
   - Clickin
   - Or clic
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal

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

Representative window (frequency) is used to estimate beam size and sensitivity

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
    - Planned Observing
      - ScienceGoal (Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance

Editors

Spectral Spatial Calibration Setup

Select calibration strategy.

Goal Calibrators

By default, calibrators will be selected automatically at runtime and a single observation will be used to calibrate the bandpass and flux scale.

- (•) System-defined calibration (recommended)
- ( ) System-defined calibration (force separate amplitude calibration using solar-system object)
- ( ) User-defined calibration

Astrometry

If you wish positional accuracy that is better than that provided by default (see the Proposer's Guide for more information) then select enhanced accuracy.

- (•) Standard positional accuracy (default)
- ( ) Enhanced positional accuracy

DGC Override (observatory-use only)

Overview

Contextual Help

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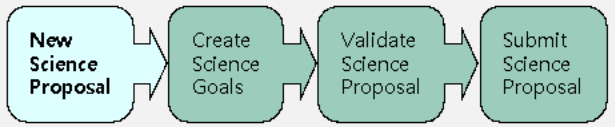
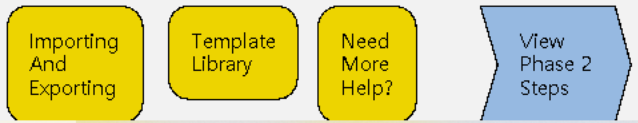
Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Accretion Instabilities in EC 53

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Accretion Instabilities in EC 53
  - Proposal
    - Planned Observing
      - ScienceGoal (B6 C18O + SO + SiO
      - ScienceGoal (Copy of B6 C18O + S
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Control and Performance

These parameters are used to control various aspects of the observations, including the required antenna configurations and integration times.

Configuration Information

Antenna Beamsize (1.13 * λ / D)	12m	16.613 arcsec	7m	28.480 arcsec	
Number of Antennas	12m	43	7m	10	TP 3

	ACA 7m configuration	Most compact 12m configuration	Most extended 12m configuration
Longest baseline	0.049 km	0.161 km	8.548 km
Synthesized beamsize	3.801 arcsec	1.010 arcsec	0.029 arcsec
Shortest baseline	0.009 km	0.015 km	0.113 km
Maximum recoverable scale	19.694 arcsec	8.619 arcsec	0.425 arcsec

Desired Performance

Desired Angular Resolution (Synthesized Beam) ○ Single ◉ Range ○ Any ○ Standalone ACA

0.05000 arcsec to 0.15000 arcsec

Largest Angular Structure in source 1.20000 arcsec

Desired mosaic sensitivity 3.30000 mJy equivalent to 1.4597 K @ 0.150 "

and 13.138 K @ 0.0500 "

Feedback

Validation Validation History Log

Overview

Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:

Phase I: Science Proposal

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Accretion Instabilities in EC 53

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Accretion Instabilities in EC 53
  - Proposal
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        - General
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        - Calibration Setup
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        - Technical Justification

Editors

Spectral Spatial Control and Performance

	ACA 7m configuration	Most compact 12m configuration	Most extended 12m configuration
Longest baseline	0.049 km	0.161 km	8.548 km
Synthesized beamsize	6.068 arcsec	1.612 arcsec	0.047 arcsec
Shortest baseline	0.009 km	0.015 km	0.113 km
Maximum recoverable scale	31.438 arcsec	13.759 arcsec	0.678 arcsec

Desired Performance

Desired Angular Resolution (Synthesized Beam): ○ Single ◉ Range ○ Any ○ Standalone ACA

0.05 arcsec to 0.15000 arcsec

Largest Angular Structure in source: 1.20000 arcsec

Desired sensitivity per pointing: 3.30000 mJy equivalent to 8.3695 K @ 0.100 "

and 33.478 K @ 0.0500 "

Bandwidth used for Sensitivity: RepWindowEffectiveChannelWidth Frequency Width 0.097656 MHz

Override OT's sensitivity-based time estimate (must be justified): ○ Yes ◉ No

Science Goal Breakdown: time estimate, clustering, beam and configurations: Planning and Time Estimate

Simultaneous 12-m and ACA observations: ○ Yes ◉ No

Range is recommended (single ~ < 20%)

Flux unit is used although K can be chosen.

$$\left(\frac{T}{1\ \mathrm{K}}\right) = \left(\frac{S_\nu}{1\ \mathrm{Jy}}\right)\left[13.6\left(\frac{300\ \mathrm{GHz}}{\nu}\right)^2\left(\frac{1''}{\theta_{max}}\right)\left(\frac{1''}{\theta_{min}}\right)\right]$$

Feedback

Validation Validation History Log

Overview

Contextual Help

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Accretion Instabilities in EC 53

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

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- Accretion Instabilities in EC 53
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Editors

Spectral Spatial Control and Performance

	ACA 7m configuration	Most compact 12m configuration	Most extended 12m configuration
Longest baseline	0.049 km	0.161 km	8.548 km
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Maximum recoverable scale	31.438 arcsec	13.759 arcsec	0.678 arcsec

Desired Performance

Desired Angular Resolution (Synthesized Beam) ○ Single ◉ Range ○ Any ○ Standalone ACA

0.05 arcsec to 0.15 arcsec

Largest Angular Structure in source 1.20000 arcsec

Desired sensitivity per pointing 3.30000 mJy equivalent to 3.7198 K @ 0.150 "

and 33.478 K @ 0.0500 "

Bandwidth used for Sensitivity RepWindowEffectiveChannelWidth Frequency Width 0.097656 MHz

- RepresentativeWindowBandWidth
- RepWindowEffectiveChannelWidth
- AggregateBandWidth
- LargestWindowBandWidth
- FinestEffectiveChannelWidth
- User

Override OT's sensitivity-based time estimate (must be justified)

Science Goal Breakdown: time estimate, clustering, beam and configurations

Simultaneous 12-m and ACA observations

Line

Continuum

Feedback

Validation Validation History Log

Overview

Contextual Help

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Phase I: Science Proposal

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

Planning and Time Estimate

Note: The time in brackets is that required to reach the sensitivity.
Operational requirements often mean that the actual observed time
is longer, especially for mosaics. Please see the User Manual for more details.

Input Parameters

Requested sensitivity	3.300 mJy
Bandwidth used for sensitivity	0.098 MHz
Representative frequency (sky, first source)	219.567 GHz
Estimated Total time for Science Goal	**2.98 h**

Cluster 1

Source Name	RA	Dec	Velocity
EC_53	18:29:51.1768	01:16:40.389	8.500 km/s

Possible Configuration Combinations

12-m (1)	12-m (2)	7-m	TP	Nominal Beam(")	Max expected axial ratio
C-6	None	No	No	0.132 x 0.169	1.5

Input Parameters

Precipitable water vapour (all sources)	1.796mm (5th Octile)

Time required for 12m (1) [C-6]

Time on source per pointing (first source)	1.55 h [1.54 h]
Total number of pointings (all sources)	1
Number of tunings	1
Total time on source	1.55 h [1.54 h]
Total calibration time	1.30 h
Other overheads	7.93 min
Total time for 1 SB execution	1.49 h
Number of SB executions	2
Total time to complete SB	2.98 h

Calibration Breakdown per SB execution

Perspective 1

uration	Most compact 12m configuration	Most extended 12m configuration
	0.161 km	8.548 km
	1.612 arcsec	0.047 arcsec
	0.015 km	0.113 km
	13.759 arcsec	0.678 arcsec

Single Range Any Standalone ACA

0.05 arcsec to 0.15 arcsec

1.20000 arcsec

3.30000 mJy equivalent to 3.7198 K @ 0.150 "

and 33.478 K @ 0.0500 "

RepWindowEffectiveChannelWidth Frequency Width 0.097656 MHz

Yes No

Planning and Time Estimate

Yes No

Help

registered with the ALMA

Phase I: Science Proposal

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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Test
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Editors

Spectral Spatial Technical Justification

Enter a Technical Justification for this Science Goal, paying special attention to the parameters reproduced below.

Sensitivity

Requested RMS over 105.835 m/s is 10.00 mJy

For a peak flux density of 100.00 mJy , the S/N is 10.0

Achieved RMS over the total 410.156 MHz bandwidth is 163.60 uJy, 1.86 K-7.44 K

For a continuum flux density of 50.00 mJy, 568.12 K-2272.49 K , the achieved S/N is 305.6

For a peak line flux of 100.00 mJy , the achieved S/N over 1/3 of the source line width (1.00 km/s / 3 = 333.33 m/s) is 18.7

Line width / bandwidth used for sensitivity (1.00 km/s / 105.83 m/s) = 9.45

Spectral Dynamic Range (continuum flux / line rms): 5.27

Spectral dynamic range is related with the bandpass accuracy. It is 1000 (3-6), 400 (7), 250 (8) , 170 (9), and 150 (10).

Justify your requested RMS and resulting S/N for the spectral line and/or continuum observations.

For line observations also justify the bandwidth used for the sensitivity calculation.

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Imaging

Overview

Contextual Help

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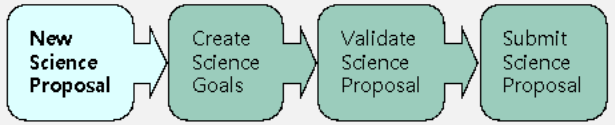
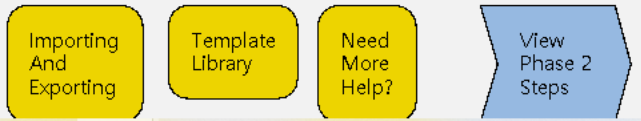
Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
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        - Calibration Setup
        - Control and Performance
        - Technical Justification
      - ScienceGoal (Copy of Test)
        - General
        - Field Setup
        - Spectral Setup
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Editors

Spectral Spatial Technical Justification

Imaging

Requested angular resolution 50.00 mas - 10.00 mas

Requested Largest Angular Scale 1.00 arcsec

Justify the chosen angular resolution and largest angular scale for the source(s) in this Science Goal

Correlator configuration

Overview

Contextual Help

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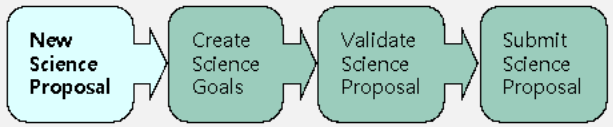
Phase I: Science Proposal



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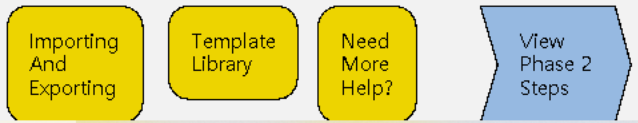

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
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        - Calibration Setup
        - Control and Performance

Editors

Spectral Spatial Technical Justification

Correlator configuration

line width / representative spectral window resolution: 1.00 km/s / 52.92 m/s = 18.90

Representative spectral window width : 50.80 km/s

Justify your correlator set-up with particular reference to the number of spectral resolution elements per line width.
You may want to consider spectral averaging to lower the data rate

Overview

Contextual Help

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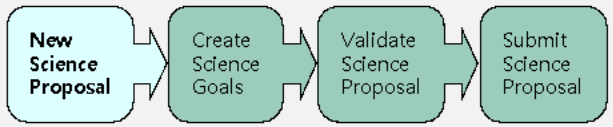
Phase I: Science Proposal



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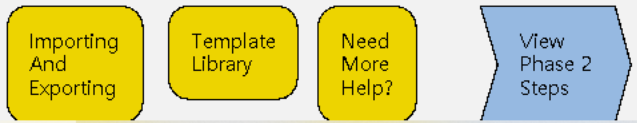

ALMA Observing Tool Cycle 10 (Phase1)) - Project

File Edit View Tools Search Help

Perspective 1

Project Structure

Proposal | Program

Unsubmitted Proposal

- *Test*
  - *Proposal*
    - *Planned Observing*
      - *ScienceGoal (Test)*
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

Editors

Spectral | Spatial | Proposal

their area(s) of expertise using the new 'Expertise' tab in https://asa.alma.cl/UserRegistration/secure/updateAccount.jsp.
Available expertise information will be used in the distribution of proposal assignments.

Reviewer has a PhD? (•) No ( ) Yes

Select Mentor

Mentor name

Mentor has a PhD? (•) No ( ) Yes

Science Case

Please ensure that your science case is properly anonymized following instructions on the Science Portal

Science Case (Mandatory, PDF, 4 pages max.) | Attach | Detach | View

Duplicate observations

Briefly justify any new observations that duplicate archival data or accepted programs.
Information regarding the ALMA Duplication Policy and how to search archival data and accepted programs can be found at:

Feedback

Validation | Validation History | Log

10 errors, 3 warnings : double-click on each row to be taken to the problem

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
No mentor has been defined	Please select a mentor (must be a registered ALMA user)
Neither the reviewer or mentor have a PhD	Please select a reviewer or mentor with a PhD

Overview

Contextual Help

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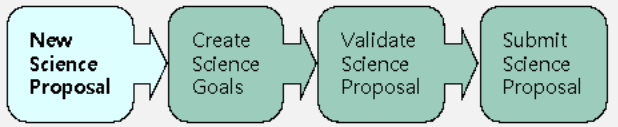
Phase I: Science Proposal



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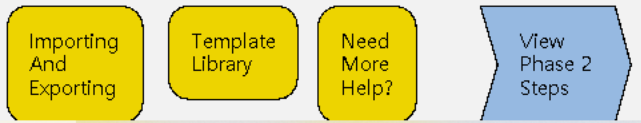

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

ALMA LO Configuration Tool...
Sensitivity Calculator...
Generate SBs from the Selected Goal Ctrl-B
Display Project Time Summary
Generate Phase 2 SBs from all the Science Goals Ctrl-B
Generate a PDF of Whole Proposal
Disable Edit P
Generate a PDF of Whole Proposal

Project Structure

Proposal Progr

Unsubmitted Propos

- Test
  - Proposal
    - Plann
      - Sc
        - General
        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification

nical Justification

Requested angular resolution 50.00 mas - 10.00 mas

Requested Largest Angular Scale 1.00 arcsec

Justify the chosen angular resolution and largest angular scale for the source(s) in this Science Goal

aaaaaaaaaaaaaaaaaaaaaaaaaaaa

Feedback

Validation Validation History Log

7 errors, 3 warnings : double-click on each row to be taken to the problem

Description	Suggestion
Neither the reviewer or mentor have a PhD	Please select a reviewer or mentor with a PhD
Spectral setup has low aggregate bandwidth	Calibration will use bandwidth switching. Increase the bandwidth if possible
Desired angular resolution is outside the range allowed by the available arrays and	Select the Control Parameters in the Science Goal and enter a valid value
Part of spw CO v=0 3-2 in BB 2 lies within 30 MHz of the baseband edge. This could result in	Move the spw away from the baseband edge to avoid this problem.

Overview

Contextual Help

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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

ALMA Observing Tool (Cycle 10 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

- New Proposal Ctrl-N
- New DDT Proposal Ctrl-D
- New Supplemental Call Proposal
- Open Project
- Open Project as New Proposal
- Save Ctrl-S
- Save As...
- Show ALMA Template Library
- Use Project as Template
- Validate Ctrl-L
- Submit Project
- Preferences
- Save Preferences
- Quit

Submit Project to ALMA

Editors

Spectral | Spatial | Technical Justification

Imaging

Requested angular resolution: 50.00 mas - 10.00 mas

Requested Largest Angular Scale: 1.00 arcsec

Justify the chosen angular resolution and largest angular scale for the source(s) in this Science Goal

aaaaaaaaaaaaaaaaaaaaaaaaaaaa

Feedback

Validation | Validation History | Log

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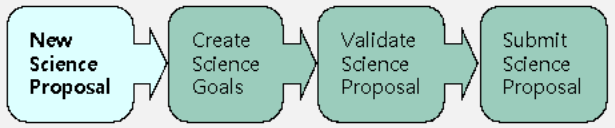
Phase I: Science Proposal



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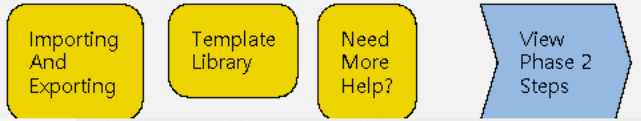


Q&A