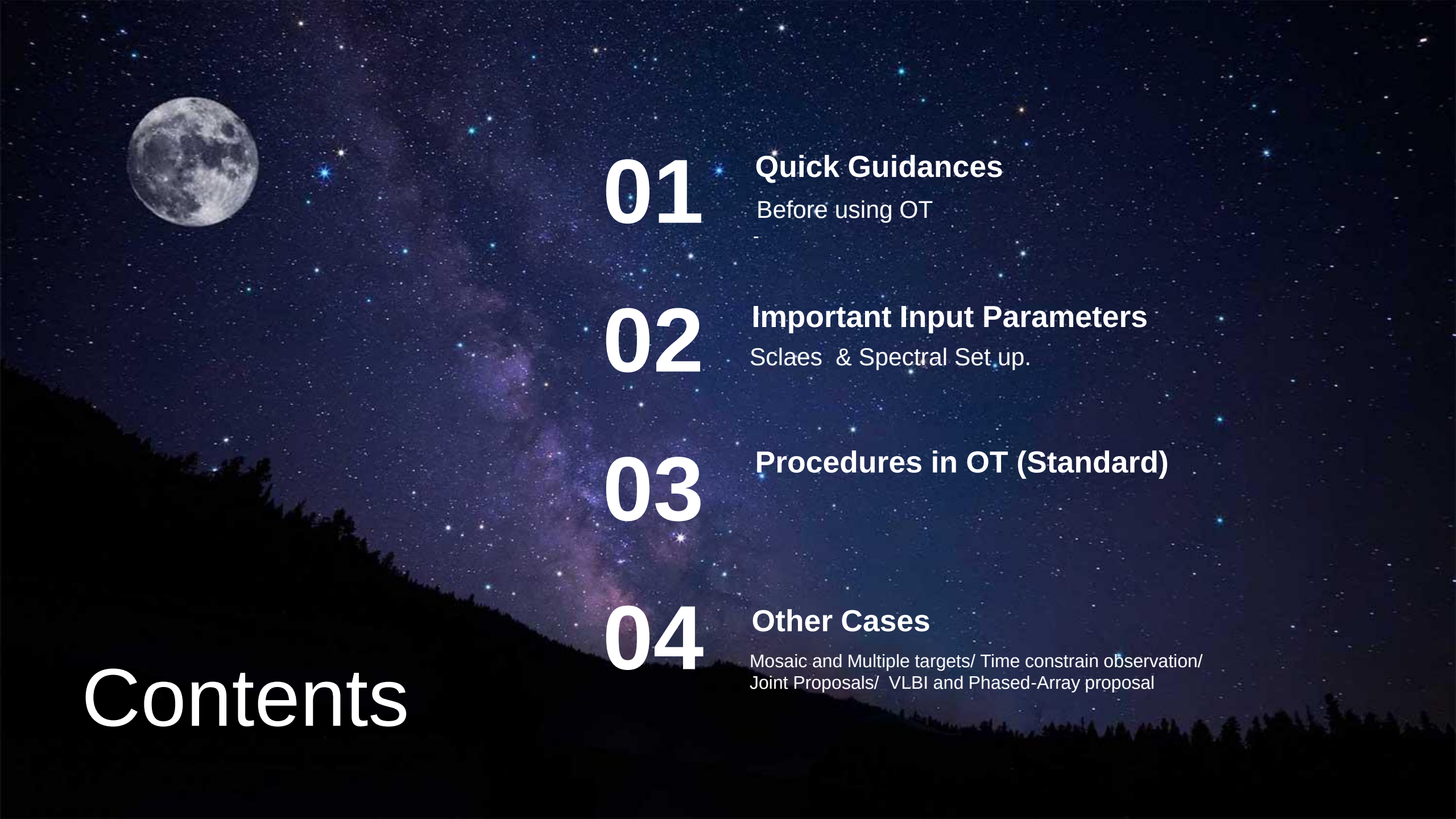
ALMA Cycle 12 proposal preparation

Observing Tool

2025. 3. 14. Seokho Lee (KASI)

Note: ObservingTool (C11) is used.



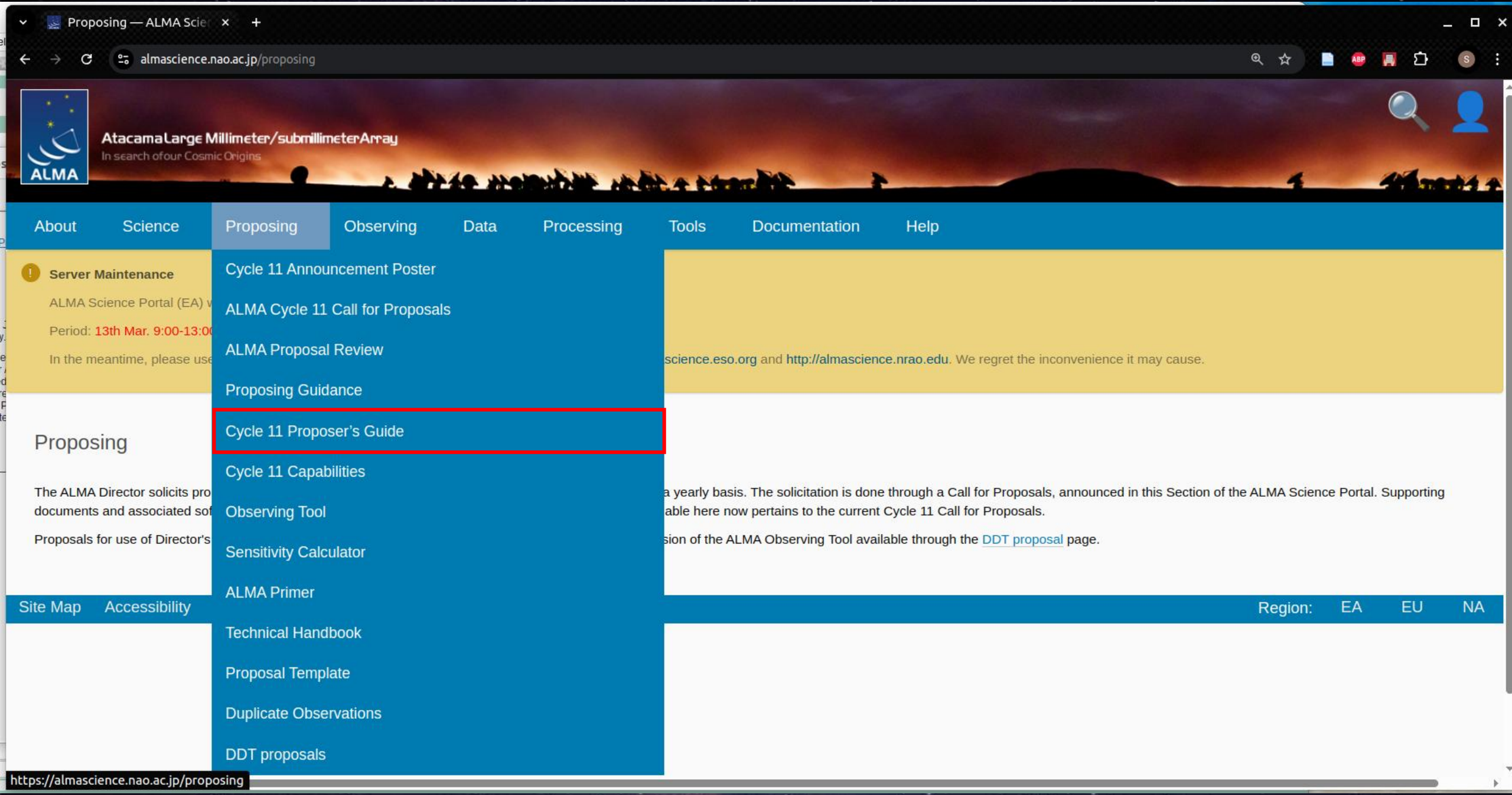
Contents

Quick Guidance

Install Observing Tool

Announcement & release observing tool: Middle (~20) of March on https://almascience.nao.ac.jp

Please use the current cycle Observing Tool.
But, we can test it by using the previous cycle's one. For example, we can prepare the spectral setup, which is constrained by the characteristics of ALMA.


Proposing — ALMA Scie
almascience.nao.ac.jp/proposing
Atacama Large Millimeter/submillimeter Array
In search of our Cosmic Origins
ALMA
About
Science
Proposing
Observing
Data
Processing
Tools
Documentation
Help
Cycle 11 Announcement Poster
ALMA Cycle 11 Call for Proposals
ALMA Proposal Review
Proposing Guidance
Cycle 11 Proposer's Guide
Cycle 11 Capabilities
Observing Tool
Sensitivity Calculator
ALMA Primer
Technical Handbook
Proposal Template
Duplicate Observations
DDT proposals
Server Maintenance
science.eso.org and http://almascience.nrao.edu. We regret the inconvenience it may cause.
Proposing
a yearly basis. The solicitation is done through a Call for Proposals, announced in this Section of the ALMA Science Portal. Supporting
able here now pertains to the current Cycle 11 Call for Proposals.
sion of the ALMA Observing Tool available through the DDT proposal page.
Site Map
Accessibility
Region:
EA
EU
NA
https://almascience.nao.ac.jp/proposing

Server Maintenance

ALMA Science Portal (EA) will be temporarily unavailable due to server maintenance work.

Period: 13th Mar. 9:00-13:00 JST

In the meantime, please use the Science Portal of our partner institutions, which are located at http://almascience.eso.org and http://almascience.nrao.edu. We regret the inconvenience it may cause.

Cycle 11 Documents

Call for Proposals

Documentation supporting the current ALMA Call for Proposals – **Cycle 11**. Documents from previous Cycles are provided here.

principles-review-process

Document	Description
ALMA Proposer's Guide	Contains all pertinent information regarding the ALMA Call for Proposals
ALMA Technical Handbook	A comprehensive description of the ALMA observatory and its components
ALMA Users' Policies	The long-term core policies for use of the ALMA and ALMA data by the science community
Observing With ALMA - A Primer	Introduction to interferometry and how to use ALMA
ALMA Proposal Template	Zip files containing the proposal templates in LaTeX format. Recommended but not mandatory
ALMA Proposal Review Process	A detailed description of the ALMA Proposal Review Process
Principles of the ALMA Proposal Review Process	The latest version of the Principles of the ALMA Proposal Review Process

Observing With ALMA - A Primer	Introduction to interferometry and how to use ALMA
ALMA Proposal Template	Zip files containing the proposal templates in LaTeX format. Recommended but not mandatory
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Phase 1 & 2

ALMA Phase 1 (observing proposal) and Phase 2 (telescope runfiles for accepted proposals) materials are submitted through the ALMA Observing Tool (OT). Below are documentation which will aid the created and submitted of Phase 1 and Phase 2 with the OT.

Document	Description
OT Quickstart	A Quick Start Guide for using the Observing Tool
OT User Manual	Describes how to use the Observing Tool for preparing ALMA proposals
OT Reference Manual	An in-depth description of the Observing Tool
Video Tutorials	Video how-to for the Observing Tool
Known OT issues	For those instances when OT problems are encountered
Phase 2 Quickstart Guide	A Quick Start Guide for approved ALMA observing proposals - the process of Phase 2
A User's Guide to ALMA Scheduling Blocks	(Cycle 4) Guide to understanding the structure and content of ALMA Scheduling Blocks (SBs) using the Observing Tool (OT)

Guides to the ALMA Regional Centers

The ALMA Regional Centers provide user support and host special activities related to their respective regions. Their functions are described in the 'Guide to'.

Document

Installer Page

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

- Mac OS Installer
- Linux Installer
- Windows Installer

Click on one of the links next to the OT Logo to download the Cycle 11 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.command' on Macs) should be found inside a directory named 'ALMAOT-C11-2024'. 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-C11-2024' - the OS will probably ask to control your Finder for this to happen. In the case of macOS, if the ALMA OT is started via clicking on the desktop icon, a separate terminal window opens which should not be shut down whilst the OT is running.

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-C11-2024.bin' is the recommended way of starting the installer - it should not be necessary to make it executable. However, if this does not work, please run "chmod u+x almaot-C11-2024.bin" and then "./almaot-C11-2024.bin".
- 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 and choosing 'Open' (maybe twice) might work. On Windows, we are aware of 'Defender SmartScreen' - this can be bypassed by clicking on 'More Info'.
- It also appears that the installer will not work on older versions of macOS. So far, we only know that this is the case for 10.10 Yosemite. Users of this OS will have to use the tarball version.
- In contrast to the previous 'automated' OT installation (Web Start), the OT will no longer update itself automatically if an update is released. However, the OT will inform you if an update is available after which a new version of the OT Installer should be downloaded and the install procedure repeated. Re-running the Installer will overwrite the previous installation.

WARNING: Oracle have reported a serious incompatibility between macOS Sonoma 14.4 and Java which may result in the OT terminating unexpectedly – there is no workaround. Users are advised to avoid using Sonoma 14.4 and the OT if possible. If this is not possible and a user encounters this problem, the OT does have a project auto-backup facility which can be used as a recovery mechanism. Please contact the helpdesk should more information be required.

asa.alma.cl/UserRegistration/newAccount.jsp?arc=jao

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

New Account Registration

Next

First name *

Middle initials

Surname *

Gender

E-mail *

Re-type E-mail *

Receive optional emails

Account name *

Account info | Project delegation | Demographics | **Expertise** | Conflicts of interest | Confirm

Expertise

Previous | Next

Please select the category/keyword pair/s that best match your scientific expertise. You may select keywords in more than one category.

If you are a reviewer for Distributed Peer Review (DPR) you will preferentially be assigned proposals that match your selected keywords.

- › Cosmology and the High Redshift Universe
- › Galaxies and Galactic Nuclei
- ⌄ ISM, star formation and astrochemistry
  - [x] Outflows, jets and ionized winds
  - [ ] High-mass star formation
  - [ ] Intermediate-mass star formation
  - [x] Low-mass star formation
  - [x] Pre-stellar cores, Infra-Red Dark Clouds (IRDC)
  - [x] Astrochemistry
  - [x] Inter-Stellar Medium (ISM)/Molecular clouds
  - [x] Photon-Dominated Regions (PDR)/X-Ray Dominated Regions (XDR)
  - [ ] HII regions
  - [ ] Magellanic Clouds
- › Circumstellar disks, exoplanets and the solar system
- › Stellar Evolution and the Sun

Reset

Account info | Project delegation | Demographics | Expertise | **Conflicts of interest** | Confirm

Conflicts of interest

Previous | Next

If you are a reviewer for Distributed Peer Review or the Panel Review, please provide a list of your conflicts of interest. Consult the conflicts of interest criteria for guidance on what is considered a conflict. You will not be assigned to review a proposal in which the PI, a coPI, or a CoI is in your list of conflicts of interest.

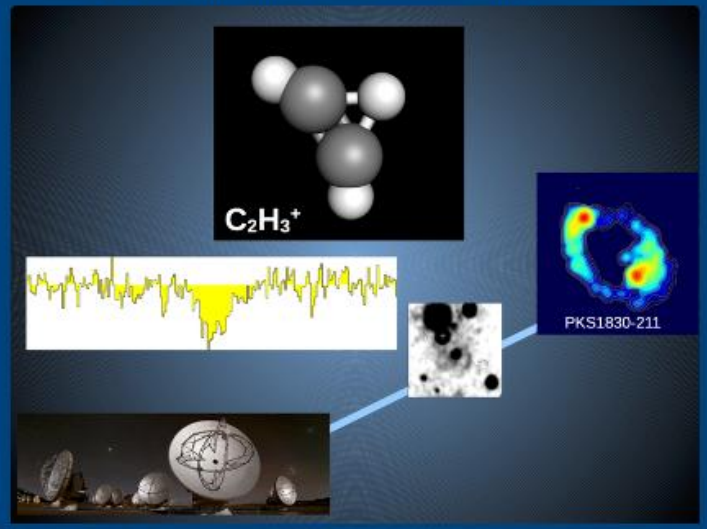
Reviewers only need to identify conflicts of interest that are registered ALMA users since all reviewers must be registered. If an investigator is not in the ALMA user registry below, they do not need to be listed.

Providing this information is optional. If you do not provide a list of conflicts and do not check the box below, the JAO will identify potential conflicts based on your past ALMA collaborations.

Add investigator | Remove investigators

Science Highlight

Protonated acetylene in the z=0.89 absorber toward PKS1830-211



View of the molecule (created with MolView) and an absorption spectrum observed with ALMA in the line of sight of the quasar PKS1830-211. The quasar (here observed with the MERLIN interferometer at radio wavelengths) is lensed by a foreground spiral galaxy at z=0.89 (optical image from HST).

The line of sight to the lensed blazar PKS1830-211 intercepts the disk of a foreground spiral galaxy at z=0.89 where absorption has been detected for more than 60 molecular species, mostly at mm wavelengths. In a paper accepted for publication in A&A. Dr. Sebastian Muller and colleagues report the detection of a new

Observatory News

More…

NAOJ New

More…

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

ALMA Basics	Configuration Schedule
ALMA Science	SnooPI
ALMA Primer	DDT Proposals

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)

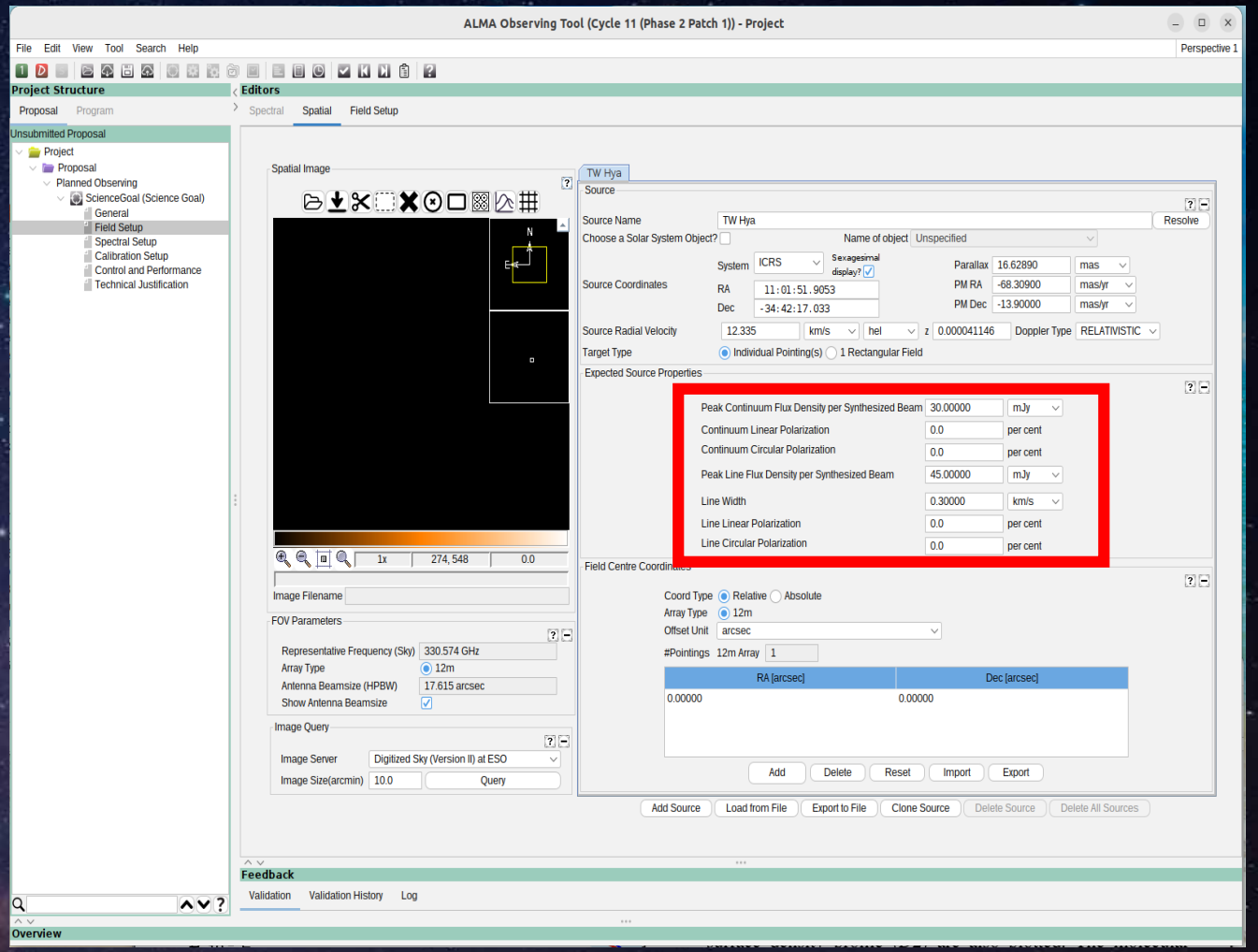
- What do the time estimates in the summary PDF page g...
- My project requires good uv-coverage. How should I set ...

Important Input Parameters

Important parameters I

- Expected Source properties (Field Setup)
  - Position, source velocity
  - Peak Flux Density per beam
    - SNR > 3-5
  - Polarization
    - linear > 0.1% (< 0.3 FOV)
    - circular > 1.8 % (< 0.1 FOV)
  - Line widths
    - > 3 x spectral resolution

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



Important parameters II

- Scales (Control and Performance; Field Setup)
  - Angular Resolution (beam size)
    - depends on the longest baseline and frequency
  - Maximum Recoverable Scale (MRS)
    - depends on the shortest baseline (~10 x beam size)
    - When the scale is longer than MRS, the emission is resolve out
    - **Largest Angular Structure (LAS)** <MRS → single configuration
    - **LAS** > MRS → multiple configuration or ACA and TP are added.
  - Field of View (FOV)
    - FWHM of the 12m telescope primary beam
      - ~19 arcsec (33 arcsec) @ 300 GHz for 12m (7m)
    - Area of target is larger than 1/3 FOV, mosaic is needed.

Schedule for C12 configurations

Cycle 12

Start Date	Configuration	Longest baseline	LST: Best c
1-Oct-2025	C-8	8.5 km	22-10
20-Oct-2025	C-7	3.6 km	23-11
10-Nov-2025	C-6	2.5 km	1-13
1-Dec-2025	C-5	1.4 km	2-14
20-Dec-2025	C-4	0.78 km	4-15
10-Jan-2026	C-3	0.50 km	5-17
1-Feb-2026	No observations due to maintenance		
1-Mar-2026	C-1	0.16 km	8-21
26-Mar-2026	C-2	0.31 km	9-23
20-Apr-2026	C-3	0.50 km	11-0
10-May-2026	C-4	0.78 km	12-2
31-May-2026	C-5	1.4 km	13-4
23-Jun-2026	C-6	2.5 km	15-6
28-Jul-2026	C-5	1.4 km	17-7
18-Aug-2026	C-4	0.78 km	19-8
10-Sep-2026	C-3	0.50 km	20-9

AR and MRS for C12 configurations

Config.	L_{max} / L_{min}	Band / Freq. (GHz)	1 / 40	3 / 100	4 / 150	5 / 185	6 / 230	7 / 345	8 / 460	9 / 650	10 / 870
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)	0.53	0.21	0.14	0.11	0.092	0.061	0.046	0.033	0.024
	64 m	θ_{MRS} (arcsec)	6.45	2.58	1.72	1.40	1.12	0.75	0.56	0.40	0.30
C-8	8.5 km	θ_{res} (arcsec)	0.24	0.096	0.064	0.052	0.042	0.028	0.021	0.015	0.011
	110 m	θ_{MRS} (arcsec)	3.55	1.42	0.95	0.77	0.62	0.41	0.31	0.22	0.16

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

Important parameters II

- Scales (Control and Performance; Field Setup)
  - Angular Resolution (beam size)
    - depends on the longest baseline and frequency
  - Maximum Recoverable Scale (MRS)
    - depends on the shortest baseline (~10 x beam size)
    - When the scale is longer than MRS, the emission is resolve out
    - **Largest Angular Structure (LAS)** <MRS → single configuration
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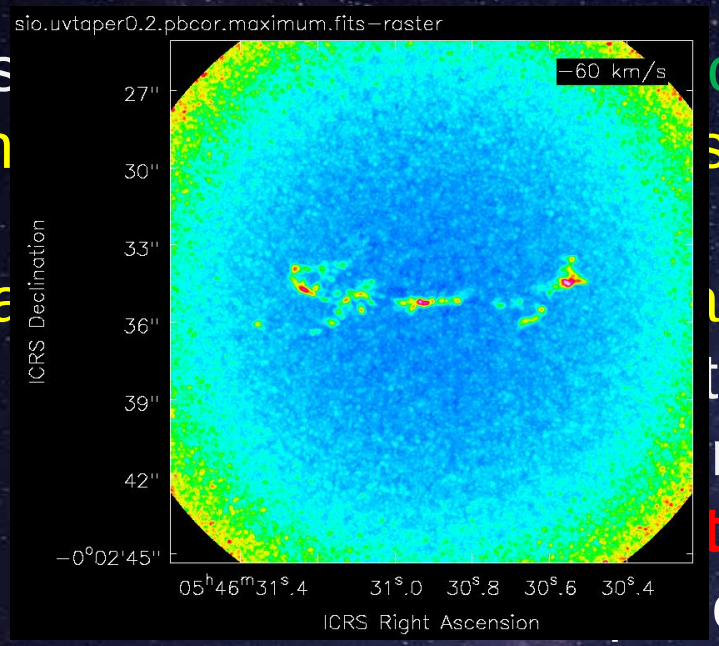
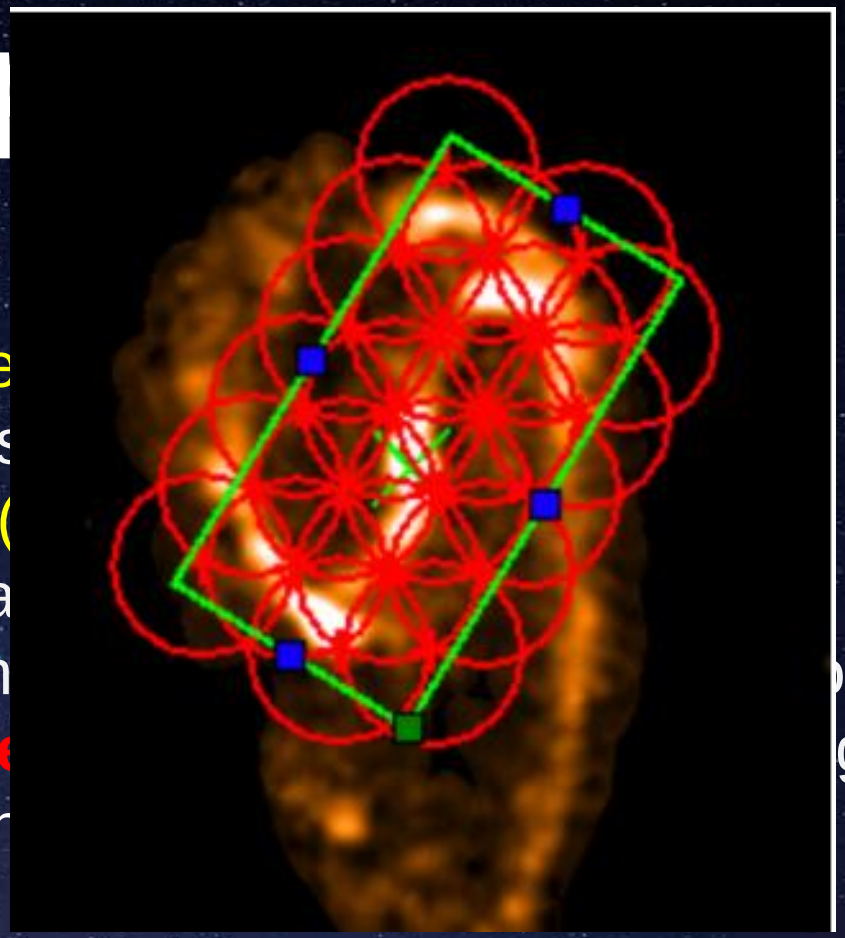
  - Field of View (FOV)
    - FWHM of the 12m telescope primary beam
      - ~19 arcsec (33 arcsec) @ 300 GHz for 12m (7m)
    - Area of target is larger than 1/3 FOV, mosaic is needed.

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 (with 7-m Array in 4x4-bit mode)	Multiplier if TP Array needed and allowed (with 7-m Array in 2x2-bit mode)
7-m Array	**TP**			1	1.7	1.4
C-1	**7-m Array & TP**	1		7.0	11.9	9.5
C-2	**7-m Array & TP**	1		4.7	7.9	6.3
C-3	**7-m Array & TP**	1		2.4	4.1	3.3
C-4	**C-1 & 7-m Array & TP**	1	0.34	2.4	4.0	3.2
C-5	**C-2 & 7-m Array & TP**	1	0.26	1.2	2.1	1.7
C-6	**C-3 & 7-m Array & TP**	1	0.25	0.6	1.0	0.8
C-7	**C-4**	1	0.23			
C-8	**C-5**	1	0.22			
C-9	**C-6**	1	0.21			
C-10	–	1				

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.

Important p





- Scales
  - An
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    -
  - Field of View (FOV)
    - FWHM of the 12m telescope primary beam
      - ~19 arcsec (33 arcsec) @ 300 GHz for 12m (7m)
    - Area of target is larger than 1/3 FOV, mosaic is needed.

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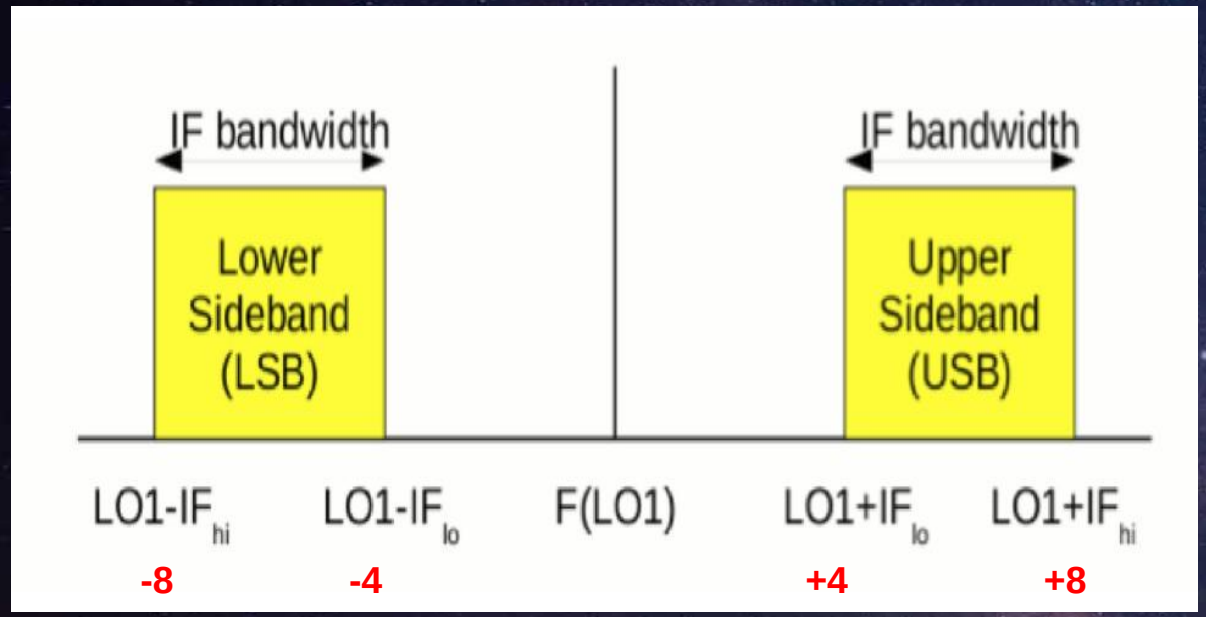
Important parameters III

- 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

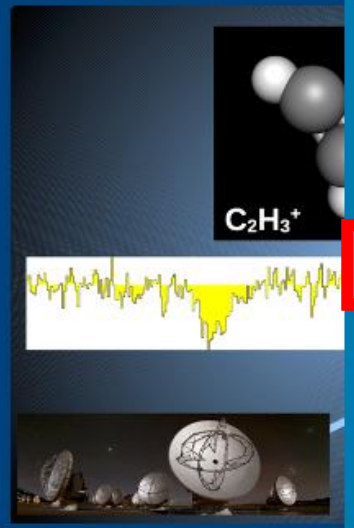
Fraction = 1		Fraction = 1/2		Fraction = 1/4	
Bandwidth (MHz)	# channels	Bandwidth (MHz)	# channels	Bandwidth (MHz)	# channels
1875	4096	937.5	2048	468.75	1024
937.5	4096	468.75	2048	234.375	1024
468.75	4096	234.375	2048	117.118	1024
234.375	4096	117.118	2048	58.594	1024
117.118	4096	58.594	2048	not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

Procedures In OT

- ALMA Cycle 11 Call for Proposals
- ALMA Proposal Review
- Proposing Guidance
- Cycle 11 Proposer's Guide
- Cycle 11 Capabilities
- Observing Tool
  - Troubleshooting
  - OT Video Tutorials
- Sensitivity Calculator
- ALMA Primer
- Technical Handbook
- Proposal Template
- Duplicate Observations
- DDT proposals

Science Highlight

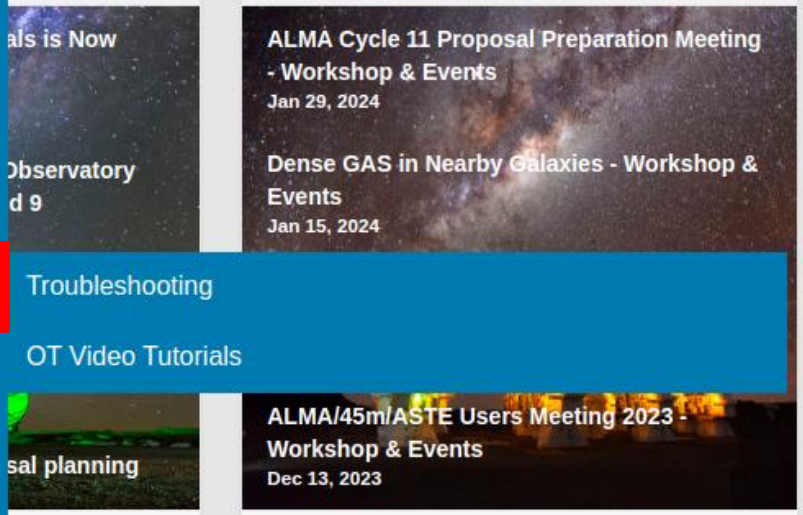
Protonated acetylene in the z=0.



View of the molecule (crea
absorption spectrum obse
of sight of the quasar PKS
(here observed with the M
radio wavelengths) is lens
galaxy at z=0.89 (optical image from HST).

The line of sight to the lensed blazar PKS1830-211 intercepts the disk of a foreground spiral galaxy at z=0.89 where absorption has been detected for more than 60 molecular species, mostly at mm wavelengths. In a paper accepted for publication in A&A. Dr. Sebastian Muller and colleagues report the detection of a new

NAOJ News



More...

ALMA Status

More...

-stop source for information and tools aimed at the scientific community as a whole, including proposers, archive researchers, ALMA
cies.

ALMA Basics	Configuration Schedule
ALMA Science	SnooPI
ALMA Primer	DDT Proposals

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 11* release of the OT is configured for the present capabilities of ALMA as described in the Proposer's Guide. 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 11 version of the OT will come with its own version of Java 17 and thus the users need no longer worry about their local Java installation. Unfortunately, as Java 17 does not include Web Start, this version of the OT is no longer available. The Cycle 11 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. 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

NOTE: For those who require the **Cycle 10 version of the OT,** it can be found here.

Documentation

Extensive documentation is available to help you work with the OT and optimally prepare your proposal:

- If you are a novice OT user you should start with the **OT Quickstart Guide**, which takes you through the basic steps of ALMA proposal preparation.

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 11 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.command' on Macs) should be found inside a directory named 'ALMAOT-C11-2024'. 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-C11-2024' - the OS will probably ask to control your Finder for this to happen. In the case of macOS, if the ALMA OT is started via clicking on the desktop icon, a separate terminal window opens which should not be shut down whilst the OT is running.

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-C11-2024.bin' is the recommended way of starting the installer - it should not be necessary to make it executable. However, if this does not work, please run “chmod u+x almaot-C11-2024.bin” and then “./almaot-C11-2024.bin”.
- 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 and choosing 'Open' (maybe twice) might work. On Windows, we are aware of 'Defender SmartScreen' - this can be bypassed by clicking on 'More Info'.
- It also appears that the installer will not work on older versions of macOS. So far, we only know that this is the case for 10.10 Yosemite. Users of this OS will have to use the tarball version.
- In contrast to the previous 'automated' OT installation (Web Start), the OT will no longer update itself automatically if an update is released. However, the OT will inform you if an update is available after which a new version of the OT Installer should be downloaded and the install procedure repeated. Re-running the Installer will overwrite the previous installation.

WARNING: Oracle have reported a serious incompatibility between macOS Sonoma 14.4 and Java which may result in the OT terminating unexpectedly – there is no workaround. Users are advised to avoid using Sonoma 14.4 and the OT if possible. If this is not possible and a user encounters this problem, the OT does have a project auto-backup facility which can be used as a recovery mechanism. Please contact the helpdesk should more information be required.

Troubleshooting — ALM

almascience.nao.ac.jp/proposing/observing-tool/troubleshooting

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

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

- Cycle 11 Announcement Poster
- ALMA Cycle 11 Call for Proposals
- ALMA Proposal Review
- Proposing Guidance
- Cycle 11 Proposer's Guide
- Cycle 11 Capabilities
- Observing Tool
- Sensitivity Calculator
- ALMA Primer
- Technical Handbook
- Proposal Template
- Duplicate Observations
- DDT proposals

Observing Tool → Troubleshooting, OT Video Tutorials

Server Maintenance

ALMA Science Portal (EA) w

Period: 13th Mar. 9:00-13:0

In the meantime, please use science.eso.org and http://almascience.nrao.edu. We regret the inconvenience it may cause.

Troubleshooting

On this page we provide help f urther questions or discover a new bug, please contact us via the ALMA Helpdesk. Please note that the following advice assumes that the user is running an up-to-date v

I can't run the installe

There is an issue that the OT (sue, please install the OT via the tarball.

Do I need to install Ja

For the OT that will be used in copy of Java 17.

If so, which version o

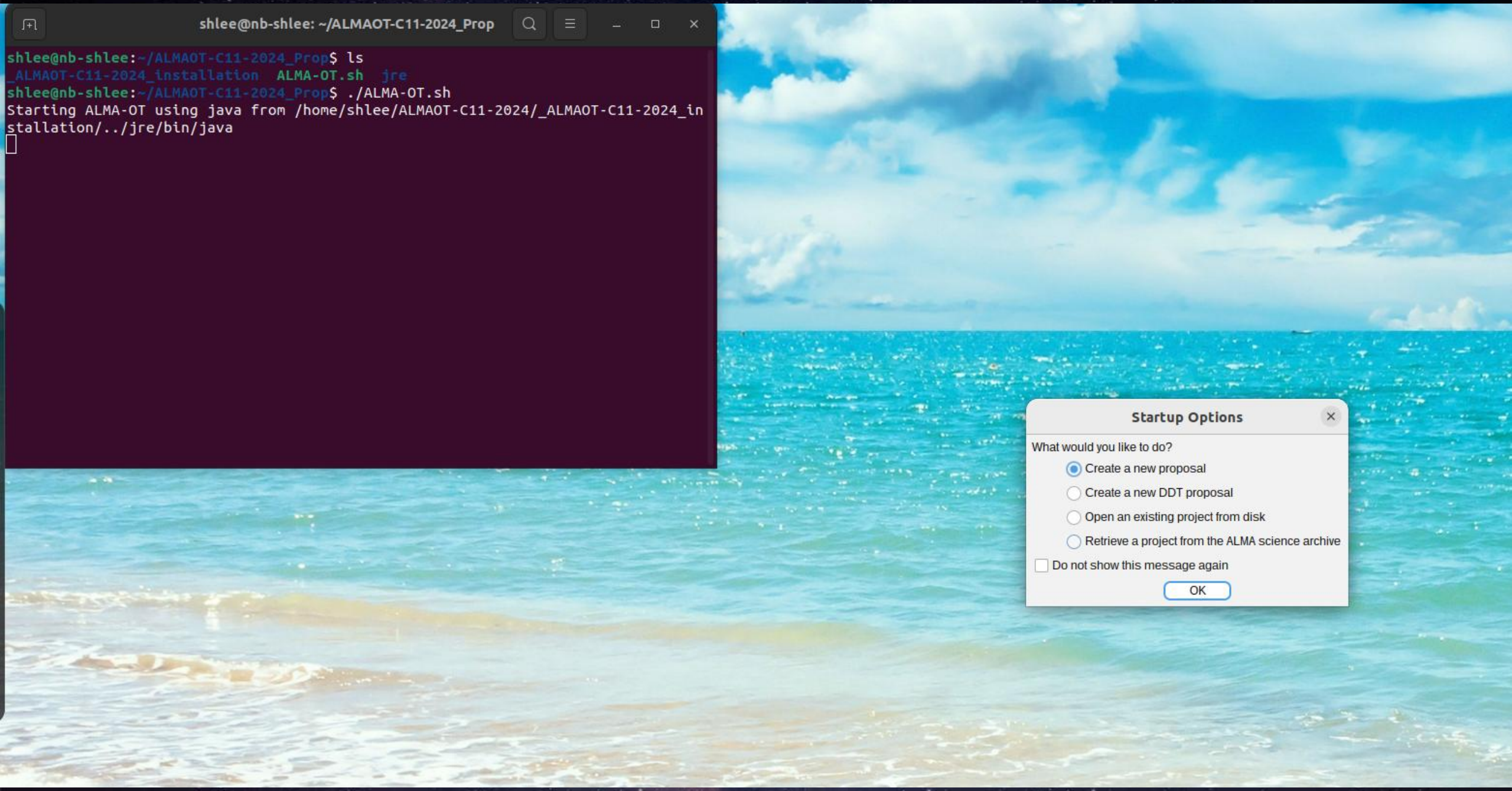
The Cycle 11 OT requires Java taller or the tarball) that does with its own version of Java. A tarball distribution without Java is available and if this is used, a version of Java 17 must be installed on your c

Should I install the ta

https://almascience.nao.ac.jp/proposing/observing-tool

shlee@nb-shlee: ~/ALMAOT-C11-2024_Prop

```
shlee@nb-shlee:~/ALMAOT-C11-2024_Prop$ ls
_ALMAOT-C11-2024_installation  ALMA-OT.sh  jre
shlee@nb-shlee:~/ALMAOT-C11-2024_Prop$ ./ALMA-OT.sh
Starting ALMA-OT using java from /home/shlee/ALMAOT-C11-2024/_ALMAOT-C11-2024_in
stallation/../jre/bin/java
```


shlee@nb-shlee: ~/ALMAOT-C11-2024_Prop
shlee@nb-shlee:~/ALMAOT-C11-2024_Prop$ ls
_ALMAOT-C11-2024_installation ALMA-OT.sh jre
shlee@nb-shlee:~/ALMAOT-C11-2024_Prop$ ./ALMA-OT.sh
Starting ALMA-OT using java from /home/shlee/ALMAOT-C11-2024/_ALMAOT-C11-2024_installation/../jre/bin/java
Startup Options
What would you like to do?
Create a new proposal
Create a new DDT proposal
Open an existing project from disk
Retrieve a project from the ALMA science archive
Do not show this message again
OK

ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - Project

File Edit View Tool Search Help

Perspective 1

New Science Goal

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal

Editors

Spectral Spatial Proposal

Proposal Information

Proposal Title

Proposal Cycle 2024.1

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

Feedback

Validation Validation History Log

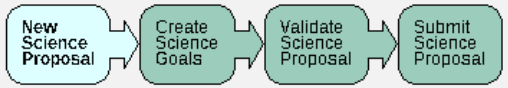
Description	Suggestion

Overview

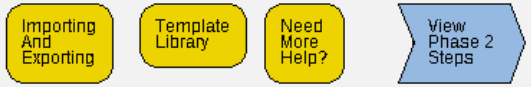
Contextual Help

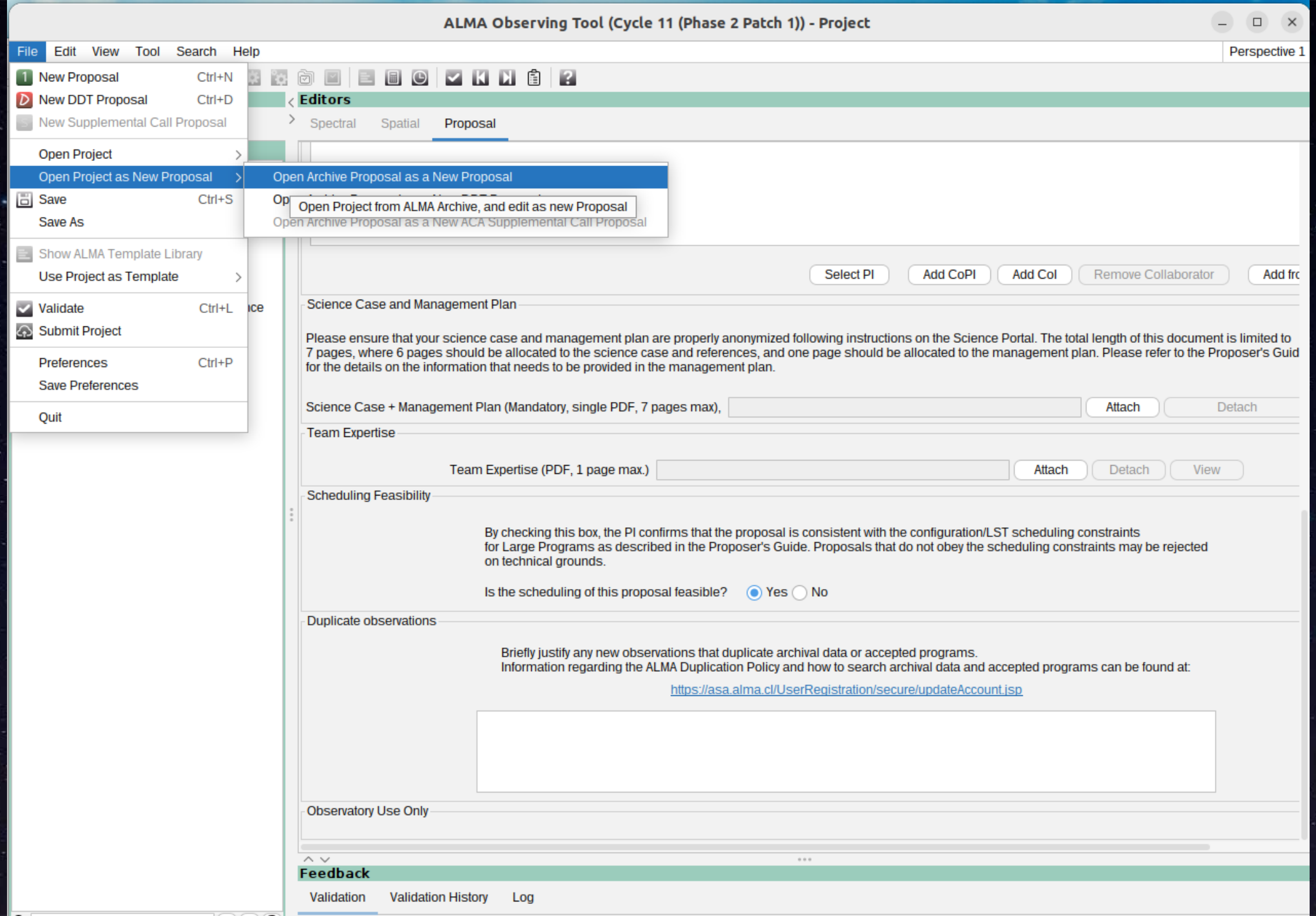
1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

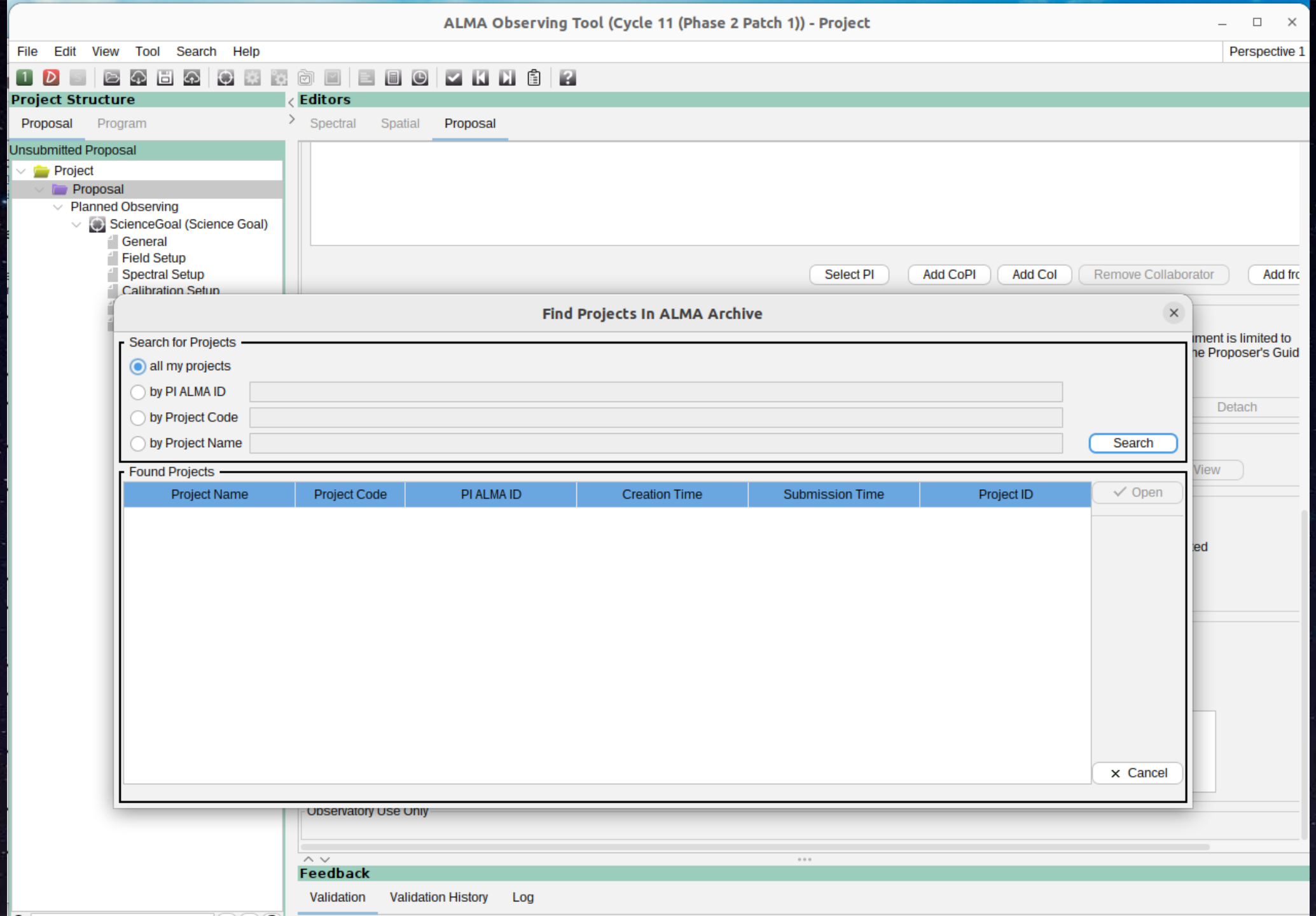
Phase I: Science Proposal



Click on the overview steps to view the contextual help




ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - 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 Ctrl+P
Save Preferences
Quit
Open Archive Proposal as a New Proposal
Open Project from ALMA Archive, and edit as new Proposal
Open Archive Proposal as a New ACA Supplemental Call Proposal
Editors
Spectral
Spatial
Proposal
Select PI
Add CoPI
Add CoI
Remove Collaborator
Science Case and Management Plan
Please ensure that your science case and management plan are properly anonymized following instructions on the Science Portal. The total length of this document is limited to 7 pages, where 6 pages should be allocated to the science case and references, and one page should be allocated to the management plan. Please refer to the Proposer's Guid for the details on the information that needs to be provided in the management plan.
Science Case + Management Plan (Mandatory, single PDF, 7 pages max),
Attach
Detach
Team Expertise
Team Expertise (PDF, 1 page max.)
Attach
Detach
View
Scheduling Feasibility
By checking this box, the PI confirms that the proposal is consistent with the configuration/LST scheduling constraints for Large Programs as described in the Proposer's Guide. Proposals that do not obey the scheduling constraints may be rejected on technical grounds.
Is the scheduling of this proposal feasible?
Yes
No
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


ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - 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
Editors
Spectral Spatial Proposal
Select PI
Add CoPI
Add CoI
Remove Collaborator
Add fro
Find Projects In ALMA Archive
Search for Projects
all my projects
by PI ALMA ID
by Project Code
by Project Name
Search
Found Projects
Project Name
Project Code
PI ALMA ID
Creation Time
Submission Time
Project ID
Open
Cancel
Detach
View
Observatory Use Only
Feedback
Validation Validation History Log

ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - Project

File Edit View Tool Search Help

Perspective 1

New Science Goal

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal

Editors

Spectral Spatial Proposal

Proposal Information

Proposal Title

Proposal Cycle 2024.1

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

Feedback

Validation Validation History Log

Description	Suggestion

Overview

Contextual Help

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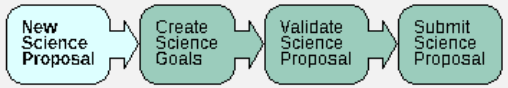
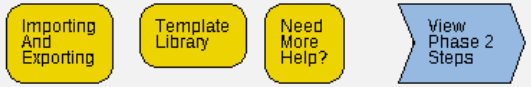
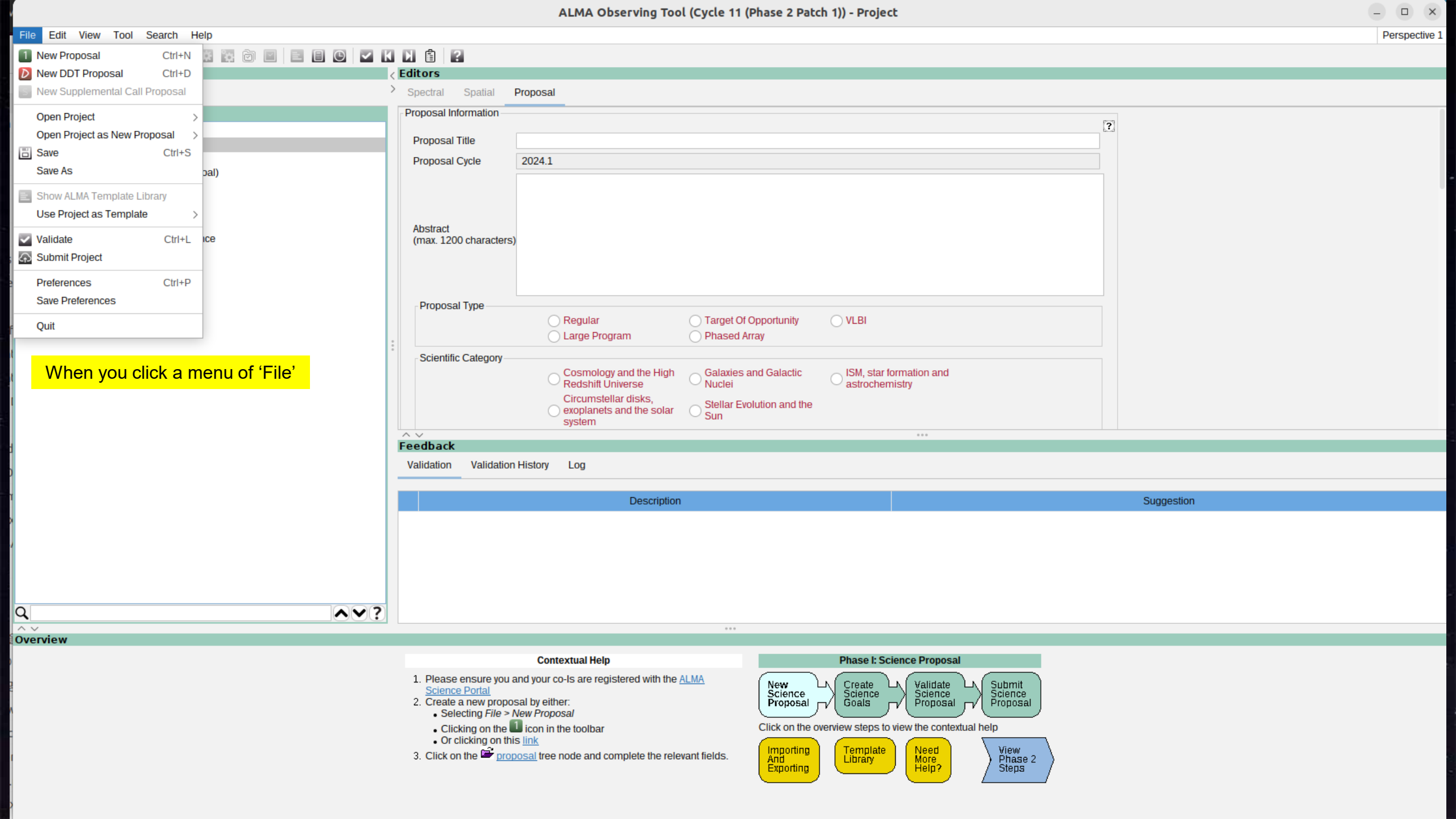
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help




ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - 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 Ctrl+P
Save Preferences
Quit
When you click a menu of ‘File’
Editors
Spectral
Spatial
Proposal
Proposal Information
Proposal Title
Proposal Cycle
2024.1
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
Feedback
Validation
Validation History
Log
Description
Suggestion
Overview
Contextual Help
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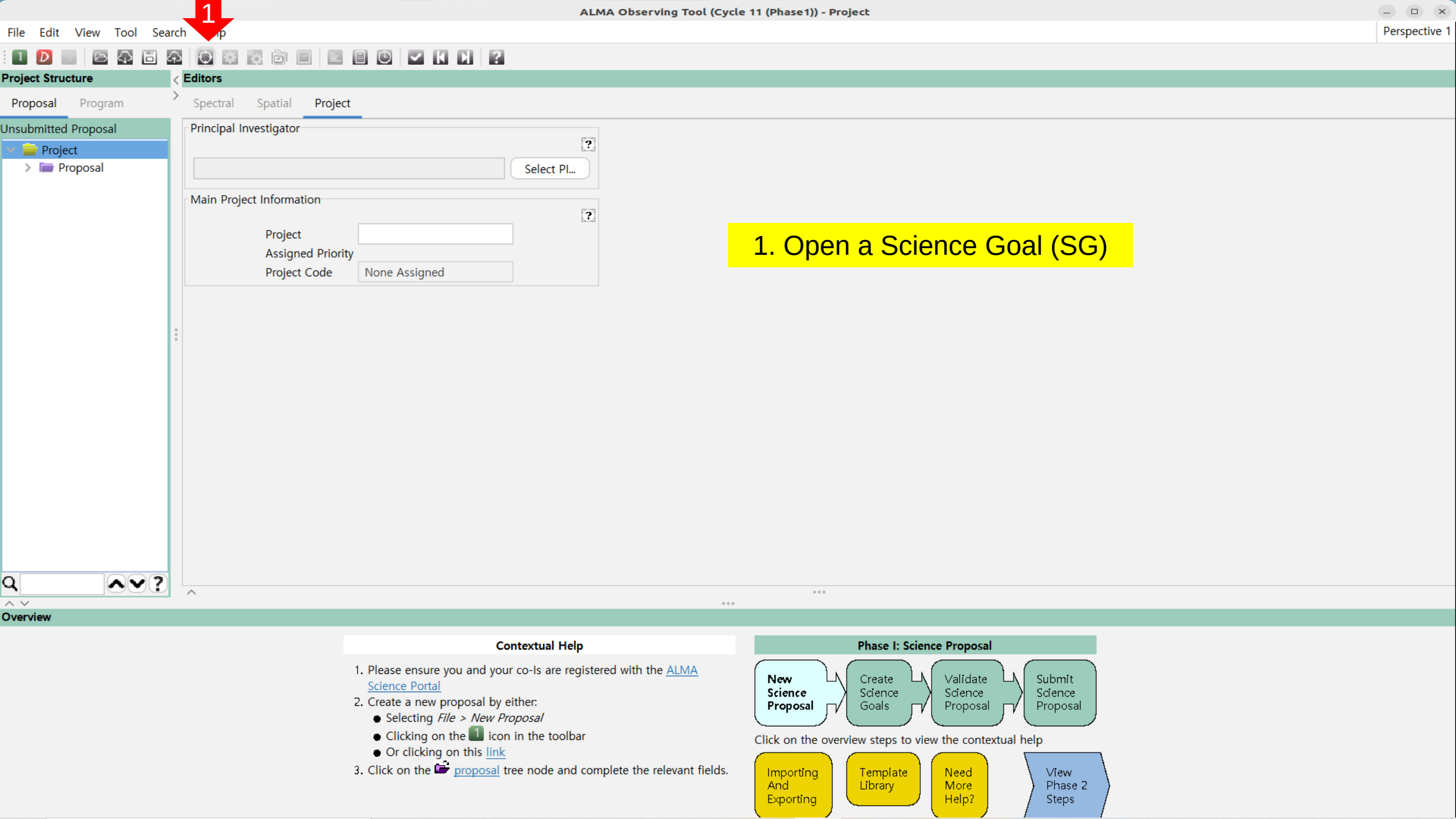
• Clicking on the icon in the toolbar
• Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.
Phase I: Science Proposal
New Science Proposal
Create Science Goals
Validate Science Proposal
Submit Science Proposal
Click on the overview steps to view the contextual help
Importing And Exporting
Template Library
Need More Help?
View Phase 2 Steps


ALMA Observing Tool (Cycle 11 (Phase1)) - Project
File
Edit
View
Tool
Search
Perspective 1
Project Structure
Editors
Proposal
Program
Spectral
Spatial
Project
Unsubmitted Proposal
Project
Proposal
Principal Investigator
Select PI...
Main Project Information
Project
Assigned Priority
Project Code
None Assigned
1. Open a Science Goal (SG)
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 11 (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:
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   - Clicking on the icon in the toolbar
   - Or clicking on this link
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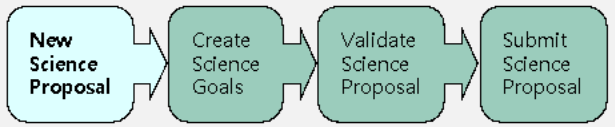
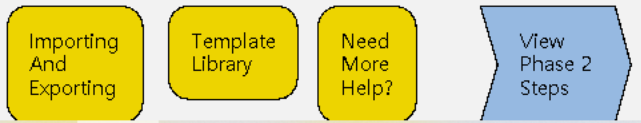
Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 11 (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 11 (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

Please select one or two keywords

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

Overview

Contextual Help

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   - Or clicking on this link
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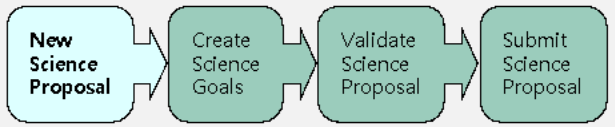
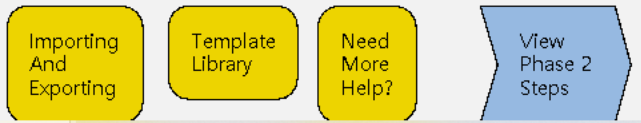
Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - 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: 2024.1

Abstract (max. 1200 characters)

Proposal Type

- (•) Regular
- ( ) Large Program
- ( ) Target Of Opportunity
- ( ) Phased Array
- ( ) VLBI

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

Feedback

Validation | Validation History | Log

Description	Suggestion

Overview

Contextual Help

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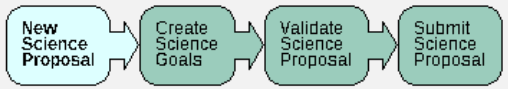
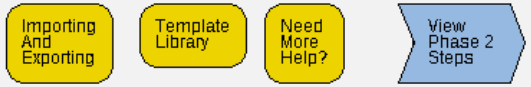
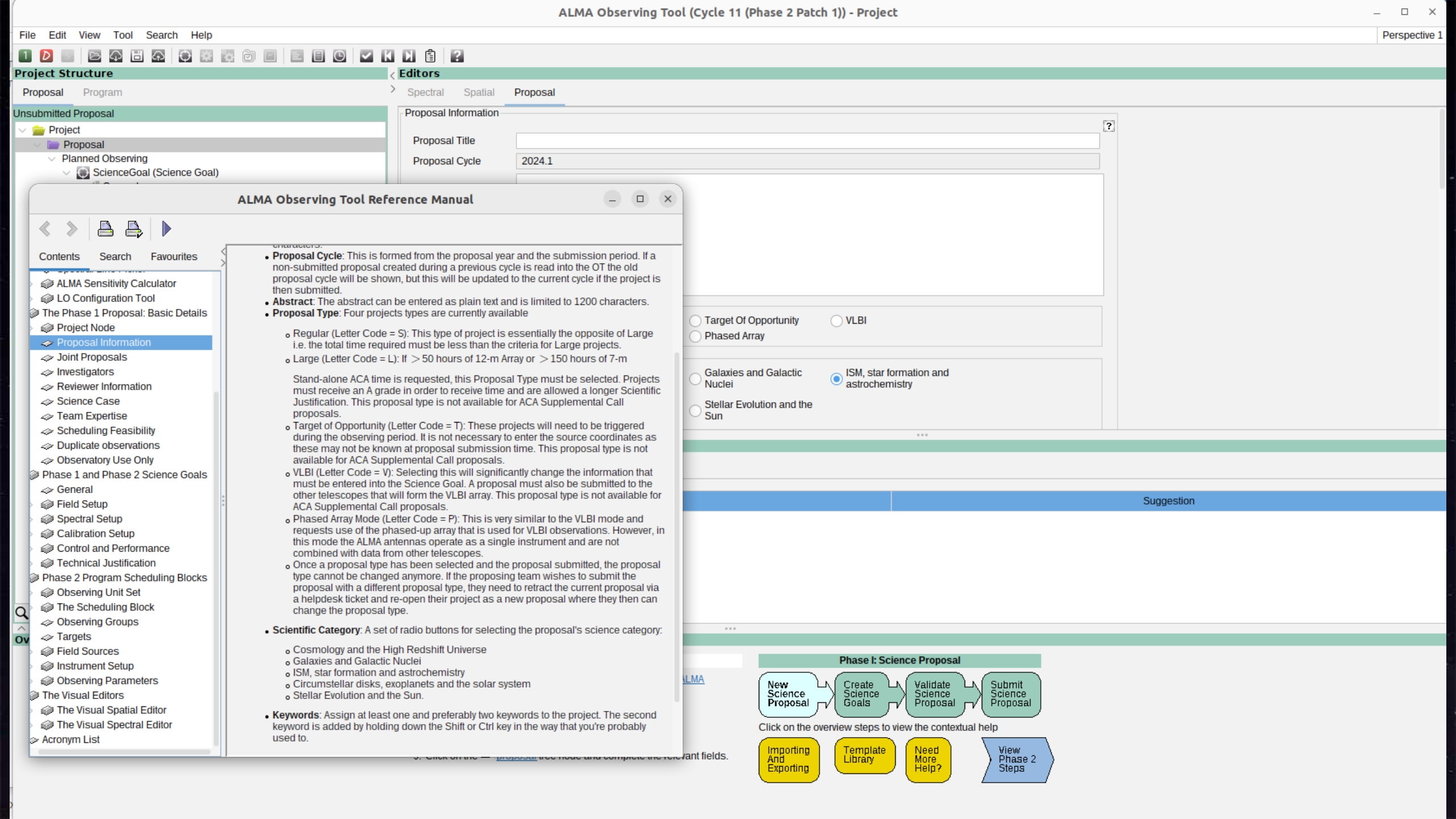
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help




ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - Project
File Edit View Tool Search Help
Perspective 1
Project Structure
Proposal Program
Unsubmitted Proposal
Project
Proposal
Planned Observing
ScienceGoal (Science Goal)
Editors
Spectral Spatial Proposal
Proposal Information
Proposal Title
Proposal Cycle
2024.1
Target Of Opportunity
VLBI
Phased Array
Galaxies and Galactic Nuclei
ISM, star formation and astrochemistry
Stellar Evolution and the Sun
Suggestion
ALMA Observing Tool Reference Manual
Contents Search Favourites
ALMA Sensitivity Calculator
LO Configuration Tool
The Phase 1 Proposal: Basic Details
Project Node
Proposal Information
Joint Proposals
Investigators
Reviewer Information
Science Case
Team Expertise
Scheduling Feasibility
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
Observing Unit Set
The Scheduling Block
Observing Groups
Targets
Field Sources
Instrument Setup
Observing Parameters
The Visual Editors
The Visual Spatial Editor
The Visual Spectral Editor
Acronym List
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
Regular (Letter Code = S): This type of project is essentially the opposite of Large i.e. the total time required must be less than the criteria for Large projects.
Large (Letter Code = L): If > 50 hours of 12-m Array or > 150 hours of 7-m
Stand-alone ACA time is requested, this Proposal Type must be selected. Projects must receive an A grade in order to receive time and are allowed a longer Scientific Justification. This proposal type is not available for ACA Supplemental Call proposals.
Target of Opportunity (Letter Code = T): These projects will need to be triggered during the observing period. It is not necessary to enter the source coordinates as these may not be known at proposal submission time. This proposal type is not available for ACA Supplemental Call proposals.
VLBI (Letter Code = V): Selecting this will significantly change the information that must be entered into the Science Goal. A proposal must also be submitted to the other telescopes that will form the VLBI array. This proposal type is not available for ACA Supplemental Call proposals.
Phased Array Mode (Letter Code = P): This is very similar to the VLBI mode and requests use of the phased-up array that is used for VLBI observations. However, in this mode the ALMA antennas operate as a single instrument and are not combined with data from other telescopes.
Once a proposal type has been selected and the proposal submitted, the proposal type cannot be changed anymore. If the proposing team wishes to submit the proposal with a different proposal type, they need to retract the current proposal via a helpdesk ticket and re-open their project as a new proposal where they then can change the proposal type.
Scientific Category: A set of radio buttons for selecting the proposal's science 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.
Keywords: Assign at least one and preferably two keywords to the project. The second keyword is added by holding down the Shift or Ctrl key in the way that you're probably used to.
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 11 (Phase 2 Patch 1)) - 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 Cycle: 2024.1

Abstract (max. 1200 characters)

Proposal Type

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

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

- Low-mass star formation
- Pre-stellar cores, Infra-Red Dark Clouds (IRDC)
- Astrochemistry
- Inter-Stellar Medium (ISM)/Molecular clouds
- Photon-Dominated Regions (P

Select the appropriate science category keywords, maximum 2 keywords

Student project

Joint Proposals

Is this a Joint Proposal? Yes No

Feedback

Validation Validation History Log

	Description	Suggestion

ALMA Observing Tool (Cycle 11 (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

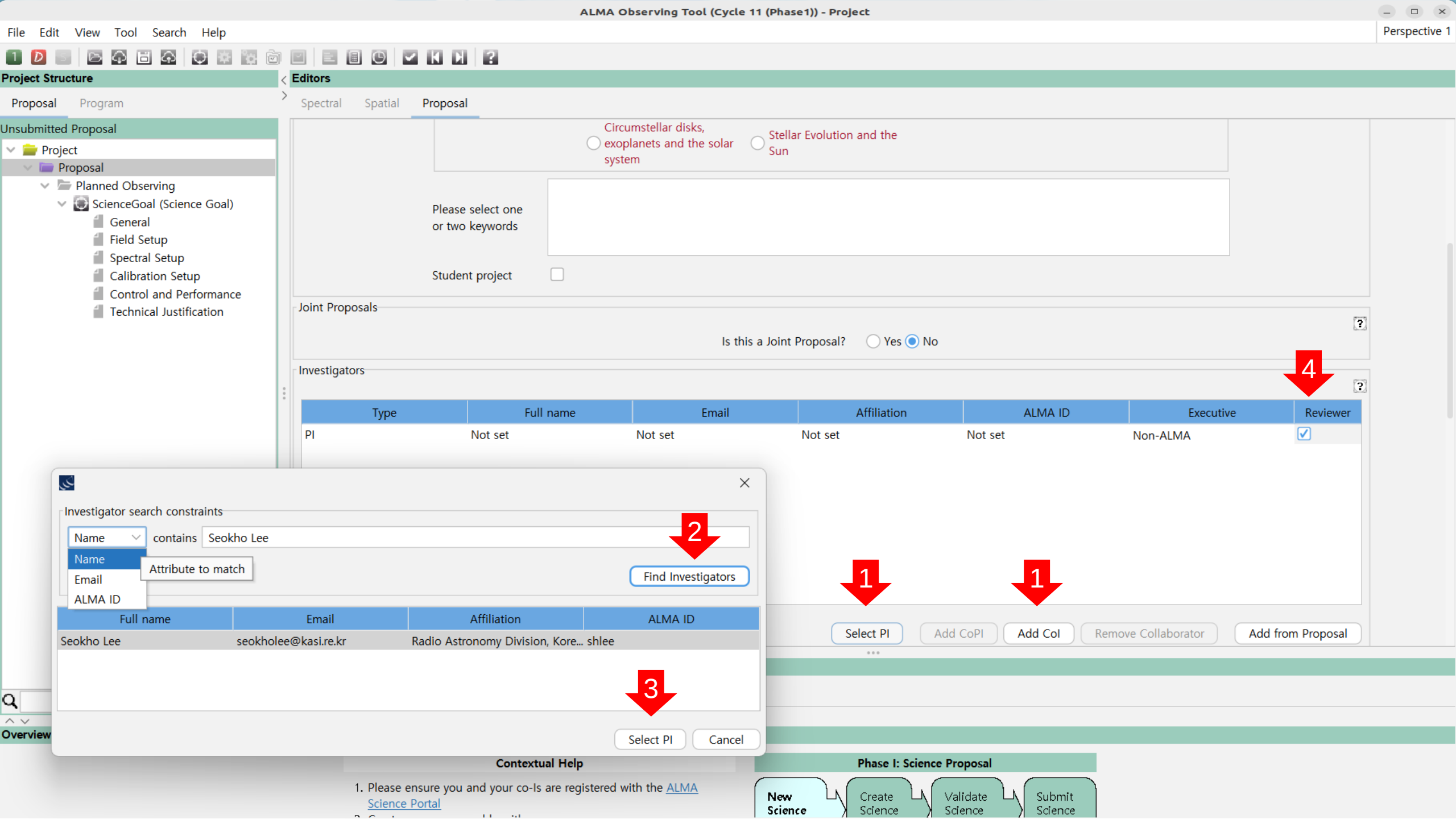
Overview

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 11 (Phase1)) - Project
File Edit View Tool Search Help
Perspective 1
Project Structure
Editors
Proposal Program
Spectral Spatial Proposal
Unsubmitted Proposal
Project
Proposal
Planned Observing
ScienceGoal (Science Goal)
General
Field Setup
Spectral Setup
Calibration Setup
Control and Performance
Technical Justification
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
4
Investigator search constraints
Name contains Seokho Lee
Name
Email
ALMA ID
Attribute to match
2
Find Investigators
Full name Email Affiliation ALMA ID
Seokho Lee seokholee@kasi.re.kr Radio Astronomy Division, Kore... shlee
3
Select PI Cancel
1
1
Select PI
Add CoPI
Add CoI
Remove Collaborator
Add from Proposal
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 11 (Phase 2 Patch 1)) - 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

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

- 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

Feedback

Validation Validation History Log

	Description	Suggestion

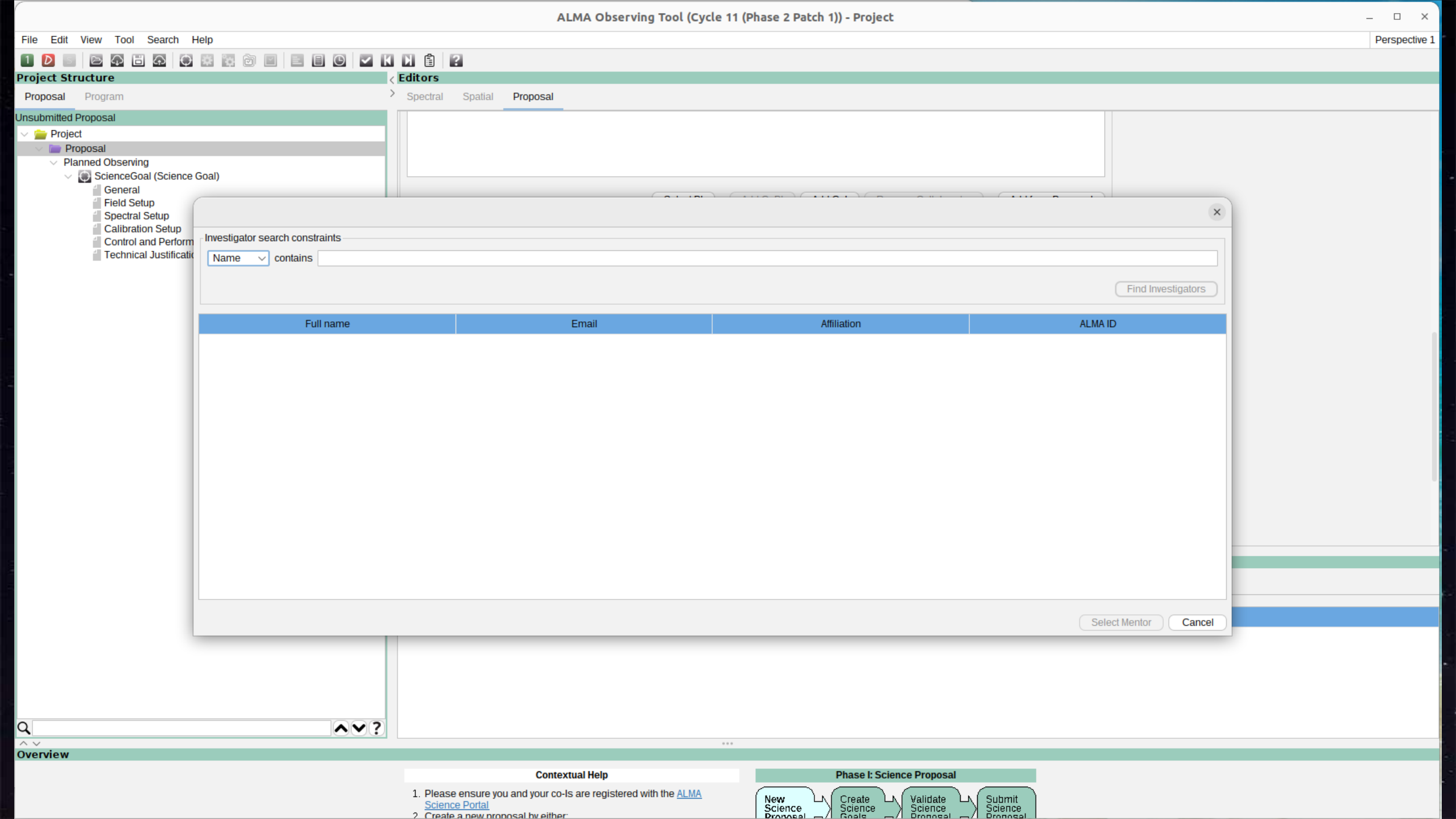
Overview

Contextual Help

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

Phase I: Science Proposal

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


ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - 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 Perform
Technical Justificati
Editors
Spectral Spatial Proposal
Investigator search constraints
Name contains
Find Investigators
Full name
Email
Affiliation
ALMA ID
Select Mentor
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 Proposal
Create Science Goals
Validate Science Proposal
Submit Science Proposal

ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
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        - Calibration Setup
        - Control and Performance
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Editors

Spectral Spatial Proposal

Select PI | Add CoPI | Add CoI | Remove Collaborator | Add from 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.
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https://asa.alma.cl/UserRegistration/secure/updateAccount.jsp

Reviewer 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

	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:

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

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

Editors

Spectral Spatial Proposal

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

Reviewer has a PhD? No Yes

Select Mentor

Mentor name

Mentor has a PhD? No Yes

12 point (<15%)
< 20 MB

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

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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 Proposal

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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

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

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Observatory Use Only

Feedback

Validation Validation History Log

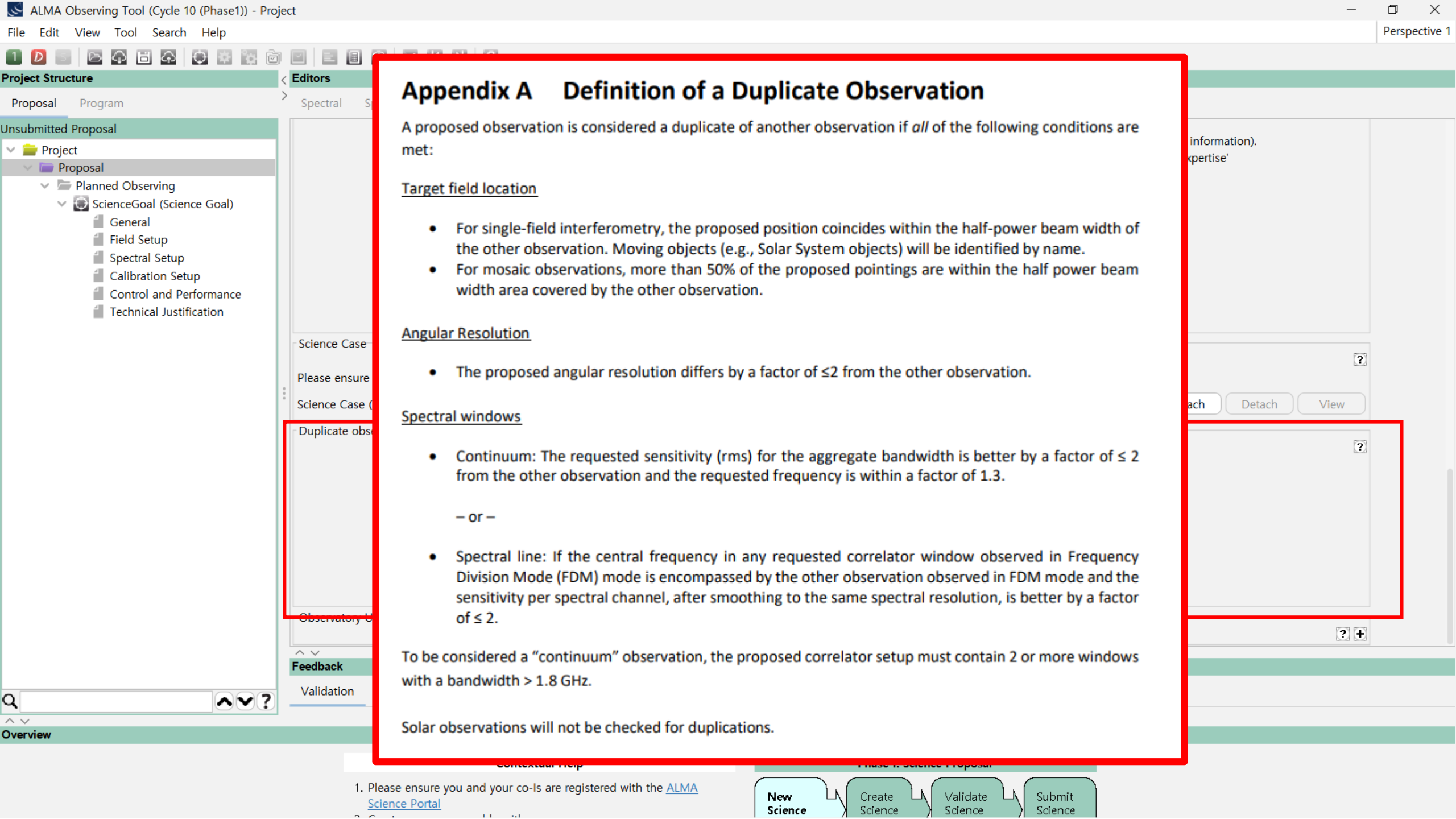
Overview

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



Appendix A Definition of a Duplicate Observation

A proposed observation is considered a duplicate of another observation if *all* of the following conditions are met:

Target field location

- For single-field interferometry, the proposed position coincides within the half-power beam width of the other observation. Moving objects (e.g., Solar System objects) will be identified by name.
- For mosaic observations, more than 50% of the proposed pointings are within the half power beam width area covered by the other observation.

Angular Resolution

- The proposed angular resolution differs by a factor of ≤2 from the other observation.

Spectral windows

- Continuum: The requested sensitivity (rms) for the aggregate bandwidth is better by a factor of ≤ 2 from the other observation and the requested frequency is within a factor of 1.3.

  – or –

- Spectral line: If the central frequency in any requested correlator window observed in Frequency Division Mode (FDM) mode is encompassed by the other observation observed in FDM mode and the sensitivity per spectral channel, after smoothing to the same spectral resolution, is better by a factor of ≤ 2.

To be considered a "continuum" observation, the proposed correlator setup must contain 2 or more windows with a bandwidth > 1.8 GHz.

Solar observations will not be checked for duplications.

ALMA Observing Tool (Cycle 11 (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

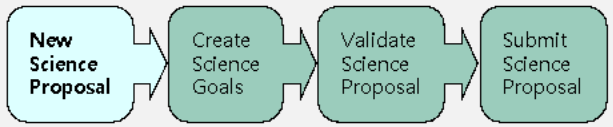
Science Goal	No. Sources	Band	Spec. Type	No. Spec. Win.	Pol.	Calibration Setup	Ang. Res.	Largest Scale	Rep. Freq.	Sens.
Science Goal	1	undefined	Spectral line	0	Dual	System	0.0 arcsec	Undefined	Undefined	Undefined

Overview

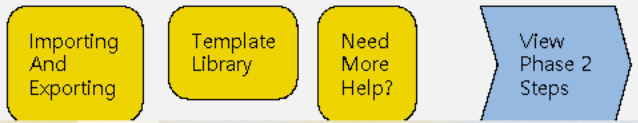
Contextual Help

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 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 11 (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*
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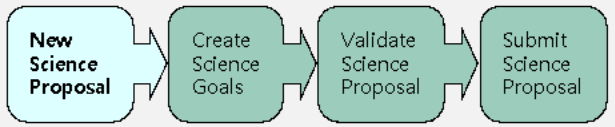
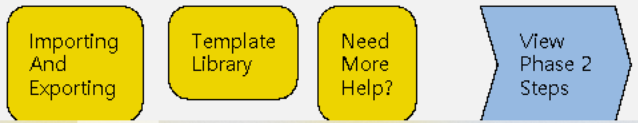
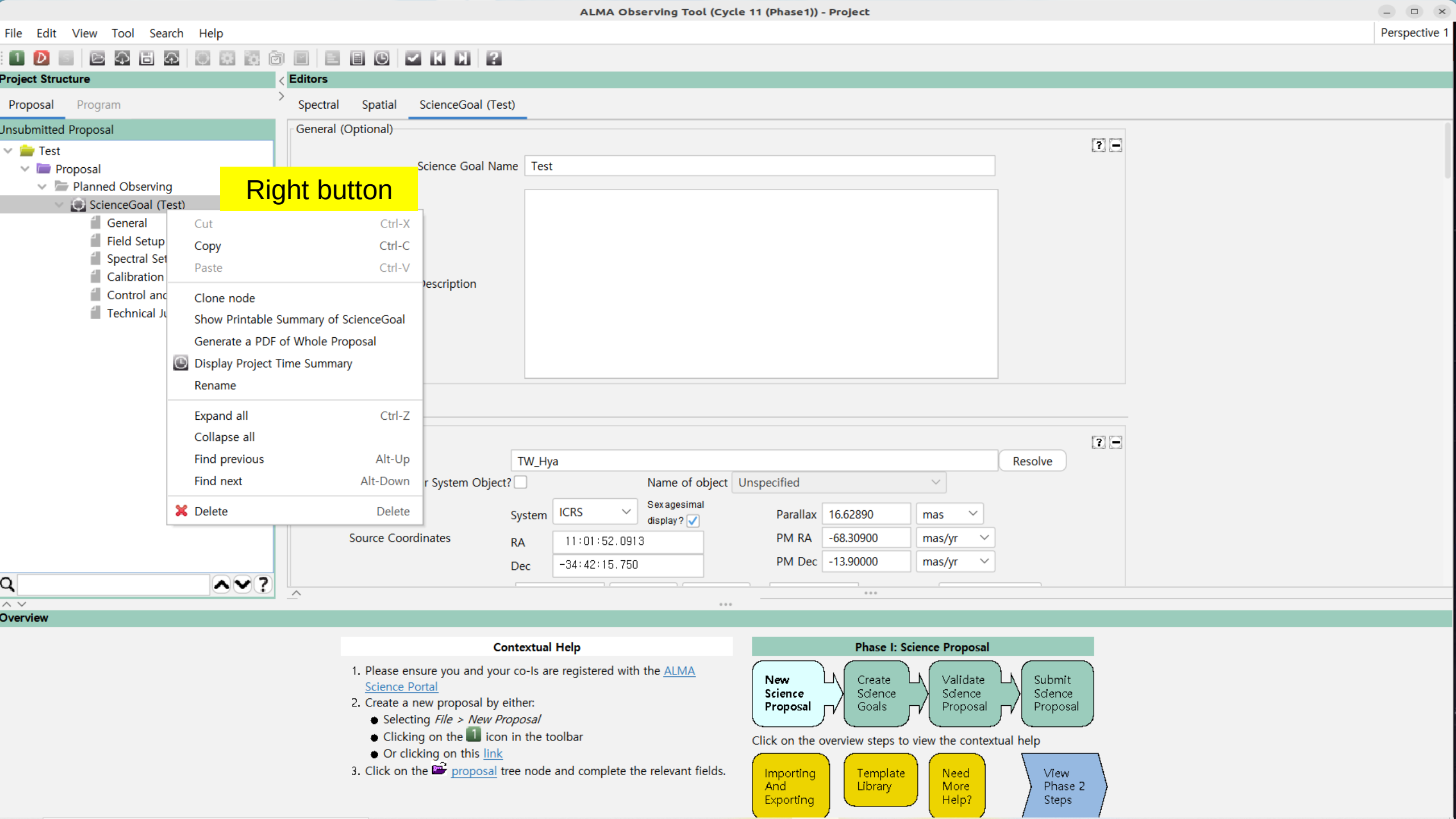
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help




ALMA Observing Tool (Cycle 11 (Phase1)) - Project
File Edit View Tool Search Help
Perspective 1
Project Structure
Editors
Proposal Program
Spectral Spatial ScienceGoal (Test)
Unsubmitted Proposal
Test
Proposal
Planned Observing
ScienceGoal (Test)
General
Field Setup
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Right button
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
General (Optional)
Science Goal Name
Test
escription
TW_Hya
Resolve
r System Object?
Name of object
Unspecified
System
ICRS
Sexagesimal display?
Source Coordinates
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 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 11 (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

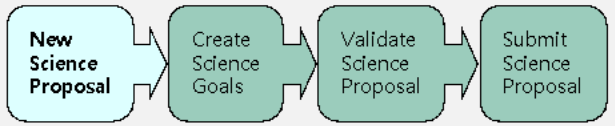
Science Goal	No. Sources	Band	Spec. Type	No. Spec. Win.	Pol.	Calibration Setup	Ang. Res.	Largest Scale	Rep. Freq.	Sens.
Test	1	7	Spectral line	3	Dual	System	0.015 arcsec	1.0 arcsec	345.795990 GHz	10 mJy

Overview

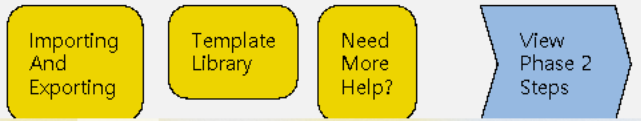
Contextual Help

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 11 (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

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   - Clicking on the icon in the toolbar
   - Or clicking on this link
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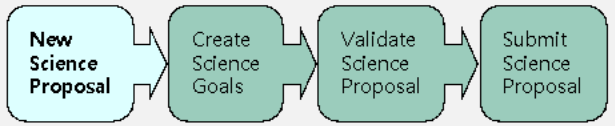
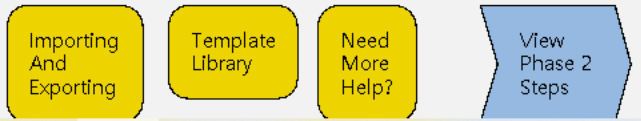
Phase I: Science Proposal



Click on the overview steps to view the contextual help



ALMA Observing Tool (Cycle 11 (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
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        - Control and Performance
        - Technical Justification

Editors

Spectral Spatial Field Setup

Spatial Image

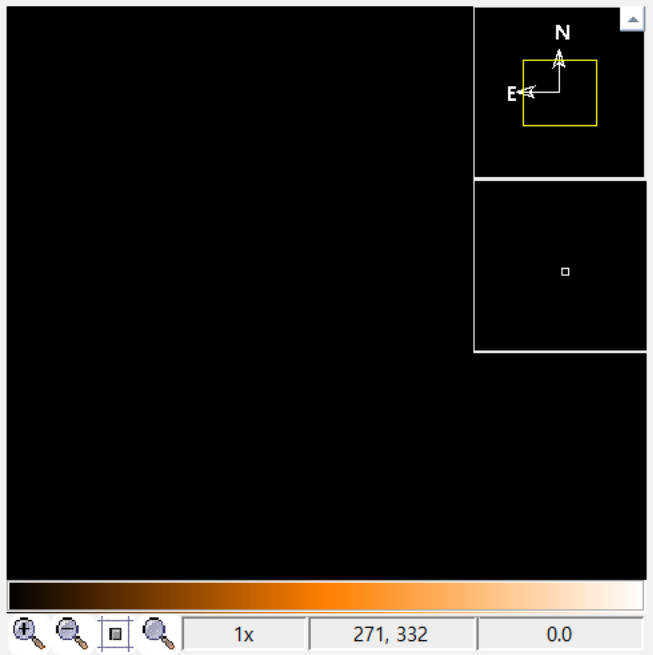

Image Filename

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

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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 11 (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

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 0.000000000 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

Image Filename

Name Resolver Results

simbad.u-strasbg.fr (SIMBAD) found 1 match for the object 'TW Hya'.

Name / Alias	Position		Proper Motion		Velocity
	RA	Dec	RA	Dec	
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
2. Create a new proposal by either:
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   - 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 11 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

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

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 Field Setup

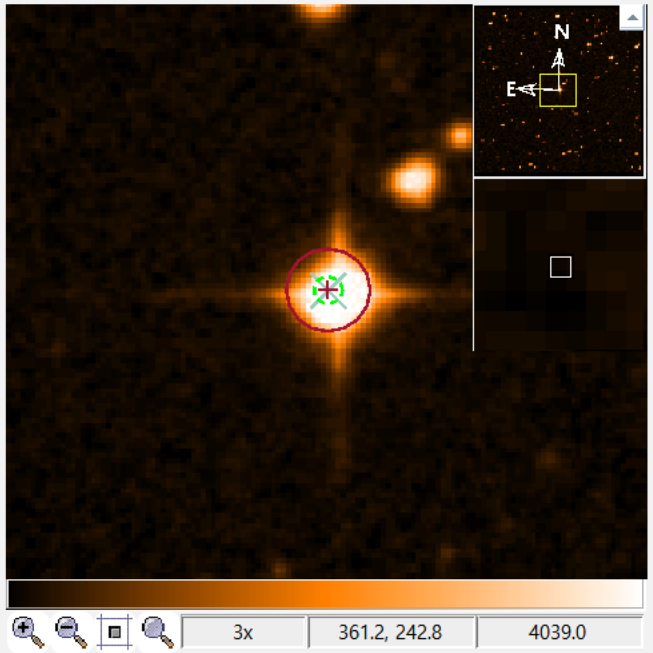

Image Filename unitl₩.jsky3₩cache₩jsky12077043586718440107.fits

FOV Parameters

Source

Source Name: TW Hya — Resolve

Choose a Solar System Object? Name of object: Unspecified

System: ICRS — Sexagesimal display? ☑

Source Coordinates: 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

Contextual Help

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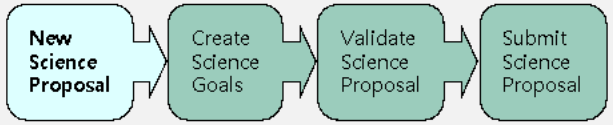
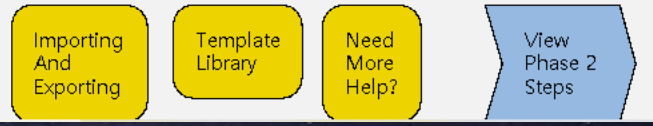
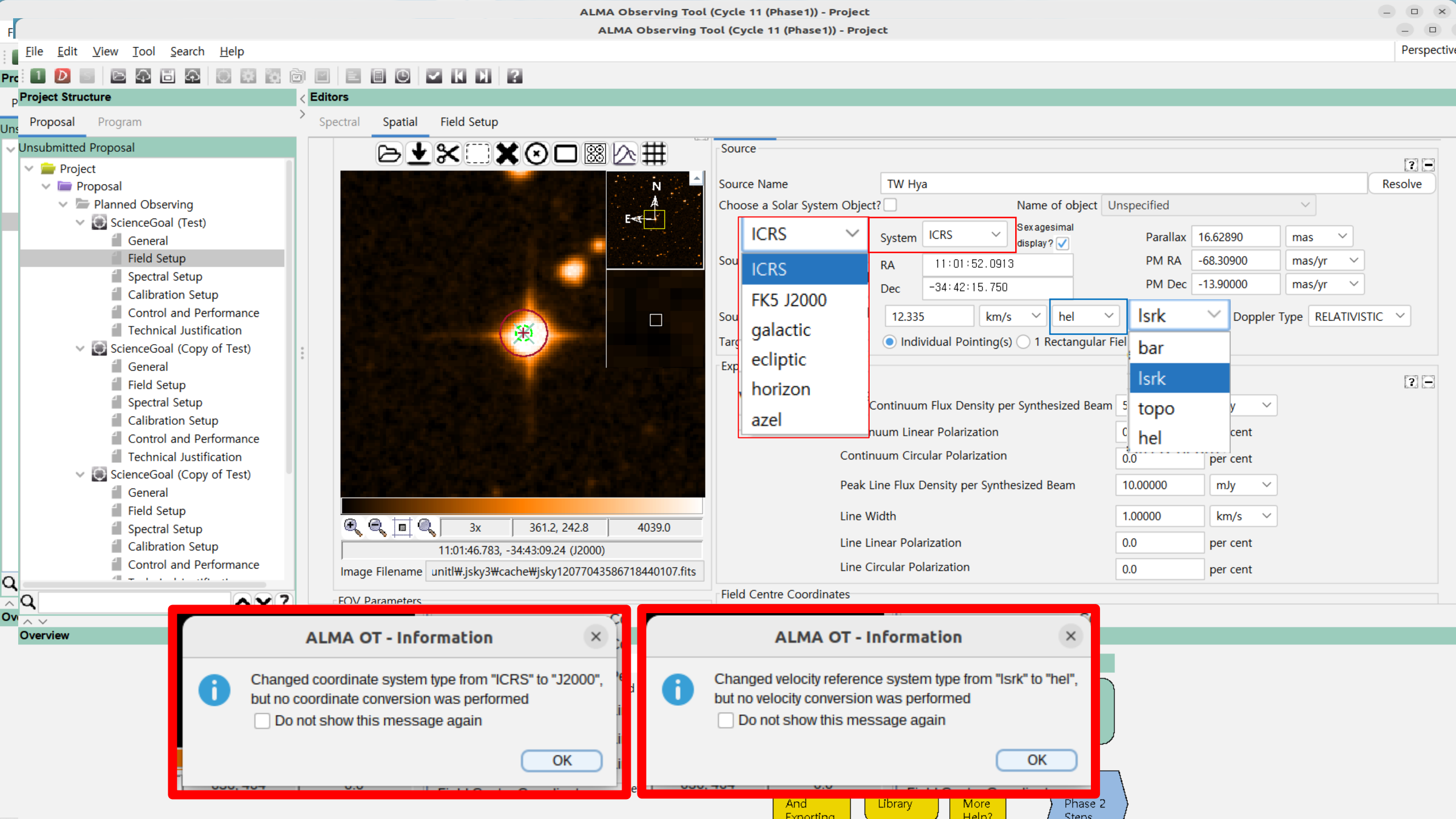
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help




ALMA Observing Tool (Cycle 11 (Phase1)) - Project
File Edit View Tool Search Help
Perspective
Project Structure
Editors
Proposal Program
Spectral Spatial Field Setup
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
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
FOV Parameters
Source
Source Name
TW Hya
Resolve
Choose a Solar System Object?
Name of object
Unspecified
ICRS
System
ICRS
Sexagesimal display?
ICRS
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
bar
lsrk
topo
hel
Individual Pointing(s)
1 Rectangular Fiel
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
Field Centre Coordinates
ALMA OT - Information
Changed coordinate system type from "ICRS" to "J2000", but no coordinate conversion was performed
Do not show this message again
OK
ALMA OT - Information
Changed velocity reference system type from "lsrk" to "hel", but no velocity conversion was performed
Do not show this message again
OK
Overview
And Exporting
Library
More Help?
Phase 2 Steps

ALMA Observing Tool (Cycle 11 (Phase1)) - Project

ALMA Observing Tool (Cycle 11 (Phase1)) - Project

File Edit View Tool Search Help

Perspective

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
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        - Field Setup
        - Spectral Setup
        - Calibration Setup
        - Control and Performance
        - Technical Justification
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        - 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 Field Setup

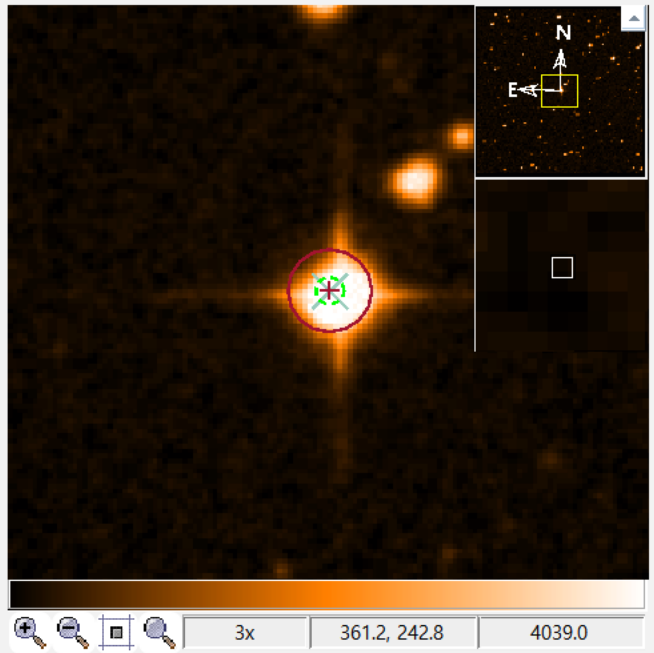

Image Filename unitl₩.jsky3₩cache₩jsky12077043586718440107.fits

FOV Parameters

Source

Source Name	TW Hya				Resolve
Choose a Solar System Object?		Name of object	Unspecified		
Source Coordinates	System ICRS	Sexagesimal display? ☑	Parallax	16.62890	mas
	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

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 11 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

Unsubmitted Proposal

- Project
  - Proposal
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        - Control and Performance
        - Technical Justification

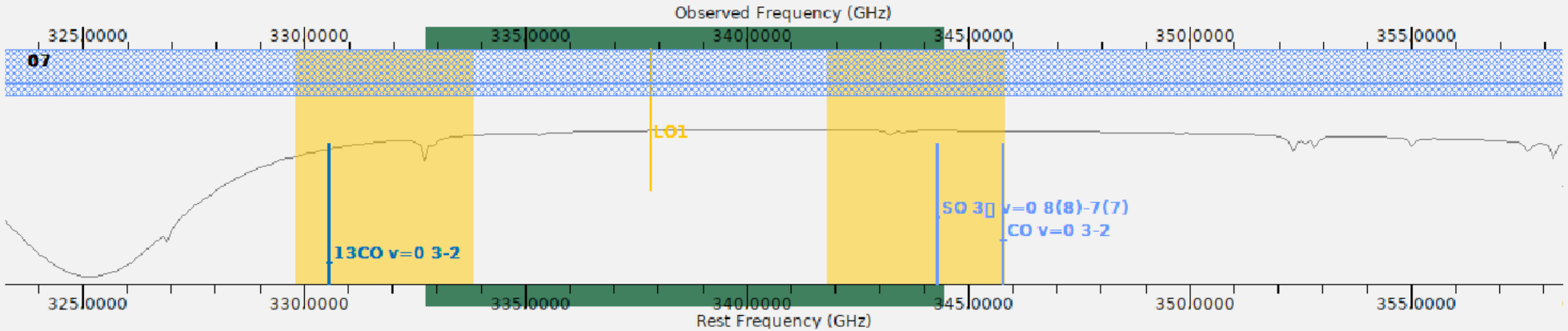
Editors

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

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

Toggle receiver bands overlay

Viewport: Pan to Spectral Window Zoom to Band Reset

Overview

Contextual Help

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   - Or clicking on this link
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Phase I: Science Proposal

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

ALMA Observing Tool (Cycle 11 (Phase1)) - Project

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

1.Continuum Obs.

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

2 Band (Freq.)

Sky Frequency: 343.50000 GHz

Rest Frequency:

Low spectral resolution (TDM)

High spectral resolution (FDM)

3. TDM vs. 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 11 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Project Structure

Proposal Program

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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

Editors

Spectral Spatial Spectral Setup

Line Obs.

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 11 (Phase1)) - Project

File Edit View Tool Search Help

Perspective

Project Structu

Proposal

Unsubmitted P

Test

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

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

Can't f
offline

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

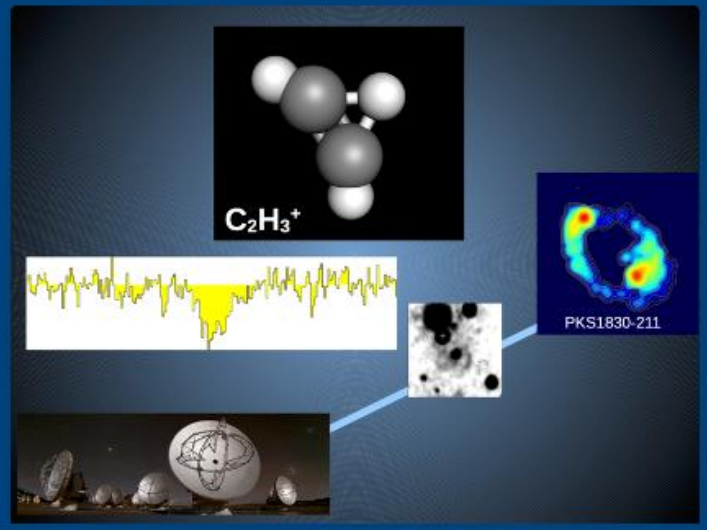
Remove spectral window(s)

Cancel Ok

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

Science Highlight

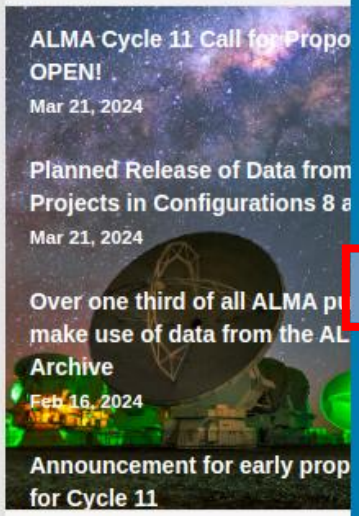
Protonated acetylene in the z=0.89 absorber toward PKS1830-211



View of the molecule (created with MolView) and an absorption spectrum observed with ALMA in the line of sight of the quasar PKS1830-211. The quasar (here observed with the MERLIN interferometer at radio wavelengths) is lensed by a foreground spiral galaxy at z=0.89 (optical image from HST).

The line of sight to the lensed blazar PKS1830-211 intercepts the disk of a foreground spiral galaxy at z=0.89 where absorption has been detected for more than 60 molecular species, mostly at mm wavelengths. In a paper accepted for publication in A&A. Dr. Sebastian Muller and colleagues report the detection of a new

Observatory News



More...

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

ALMA Status

More...

The ALMA Science Portal is a or whole, including proposers, archive researchers, ALMA staff, journalists, and funding age

Quick Links

ALMA Basics	
ALMA Science	SnooPI
ALMA Primer	DDT Proposals

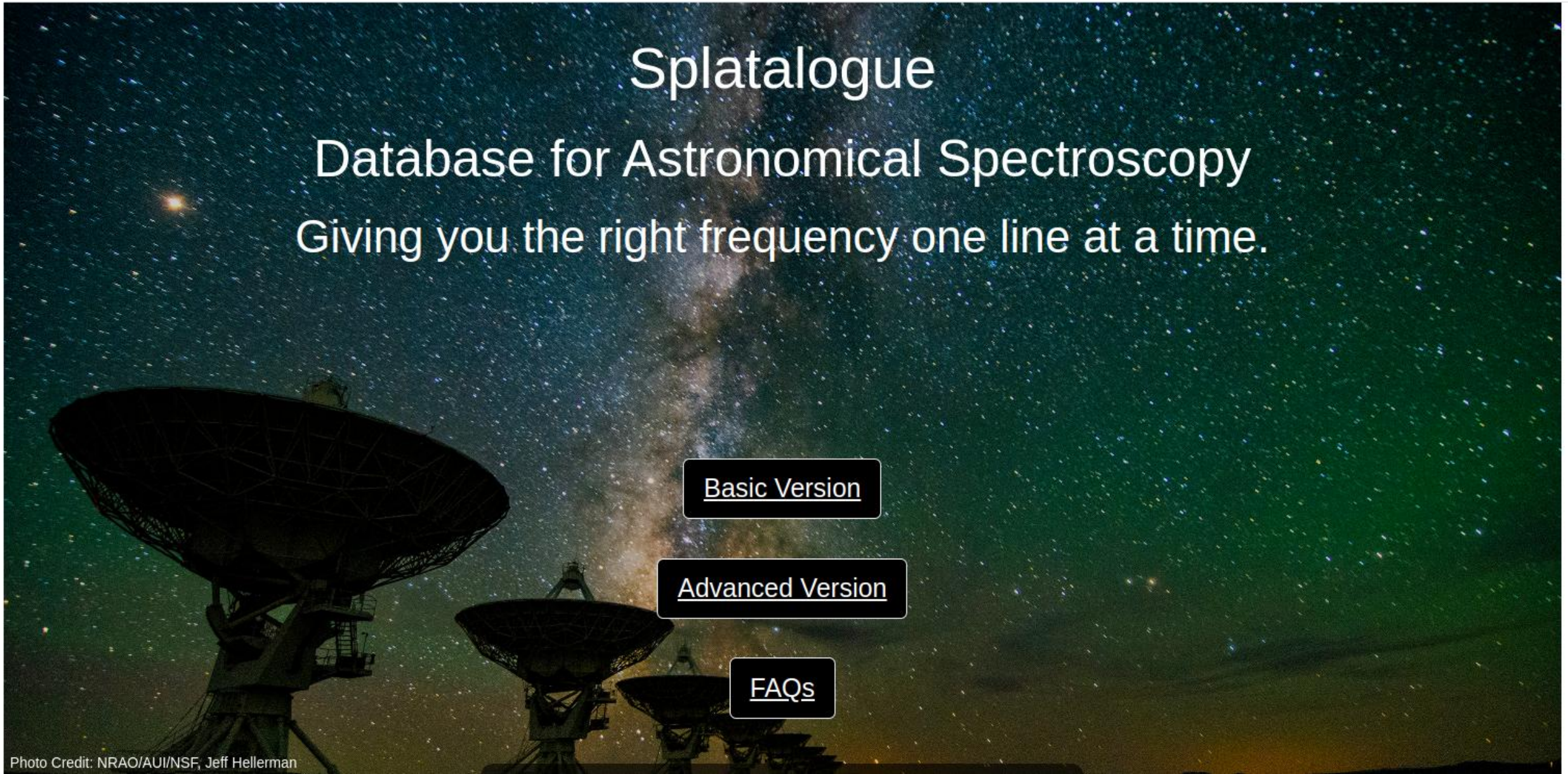

Splatalogue
Database for Astronomical Spectroscopy
Giving you the right frequency one line at a time.
Basic Version
Advanced Version
FAQs
Photo Credit: NRAO/AUI/NSF, Jeff Hellerman

Photo Credit: NRAO/AUI/NSF

Search Species

e.g. ammonia, carbon, methanol, CO

Search Parameters

Quick Picker

CO v = 0	☑	^{13}CO v = 0	☐
C^{17}O	☐	C^{18}O	☐
CH_3OH v_t = 0	☐	H_2CO	☐
HCN v = 0	☐	HNC v = 0	☐
H^{13}CN v = 0	☐	HC^{15}N v = 0	☐
DCN v = 0	☐	HCO$^+$ v = 0	☐
CS	☐	H^{13}CO$^+$	☐
NH_3	☐	C I	☐
C II	☐	O I	☐
O III	☐	N II	☐
H_2O v = 0	☐	HDO	☐
SiO v = 0	☐	More molecules	

Save and Restore Settings

Settings Name

Save Restore

Query Filters

Telescope Bands

ALMA Band 5 (163-211 GHz)
ALMA Band 6 (211-275 GHz)
ALMA Band 7 (275-373 GHz)
ALMA Band 8 (385-500 GHz)

Energy Range

From To

E_L (cm^{-1}) E_L (K)

Specify a Frequency Range

From To

+ Frequency Range - Frequency Range

Frequency Unit GHz

Load Freqs From listobs

Choose Files No file chosen

Load Freqs From ObsProposal.xml

Choose Files No file chosen

Redshift 0

Astronomical Filters

None	◉
Top 20 list	○
Planetary Atmosphere	○
Hot Cores	○
Dark Clouds	○
Diffuse Clouds	○
Comets	○
AGB/PPN/PN	○
Extragalactic	○

Export Data

Export Fields

Export current fields	◉
Export current fields without Resolved QNs	○
Export CASA fields	○

Field Separator

Tab	◉
Colon	○

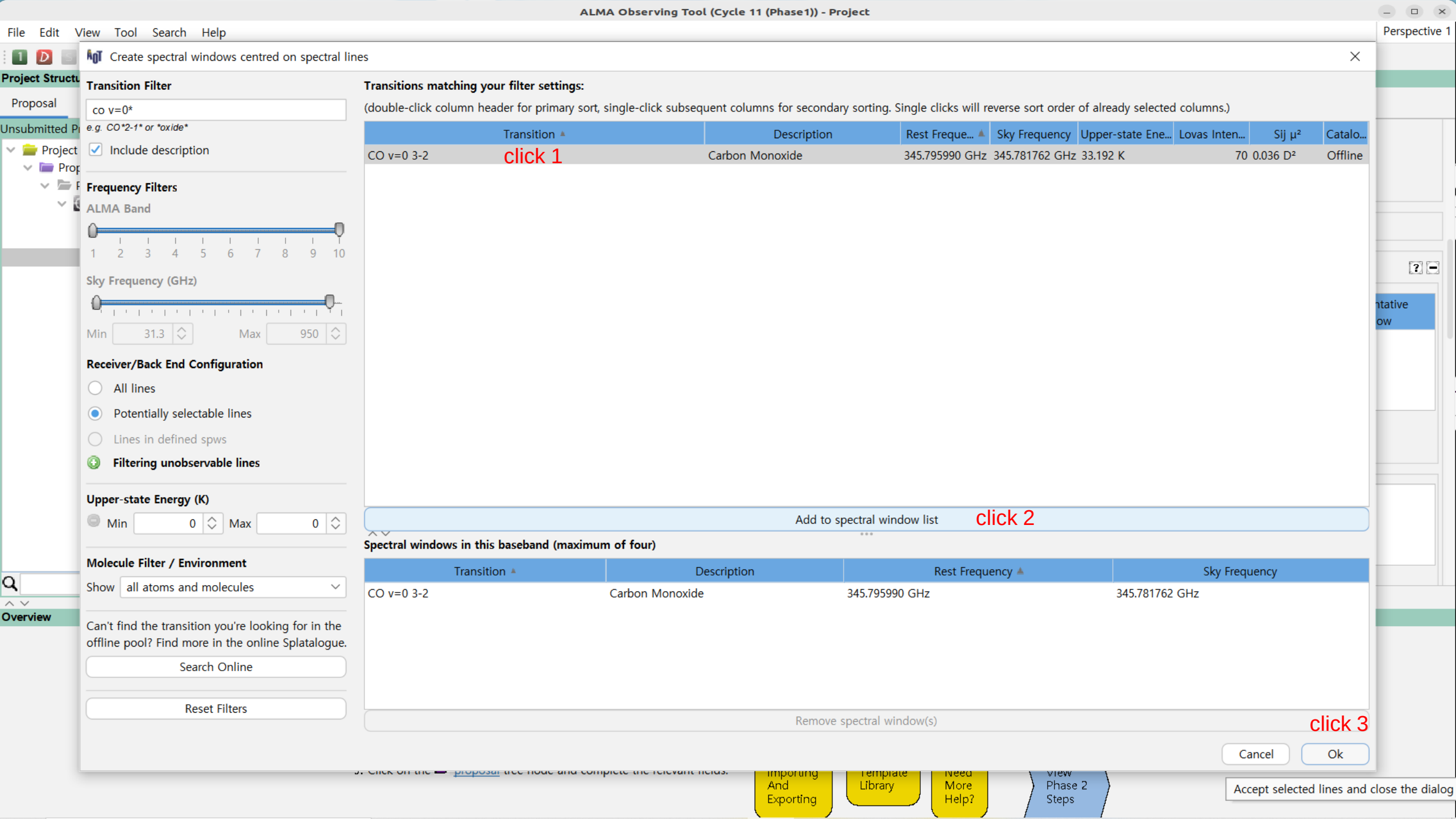
Range

All Records	◉
Current Page	○

Export

Search Results

Search


ALMA Observing Tool (Cycle 11 (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
Accept selected lines and close the dialog

ALMA Observing Tool (Cycle 11 (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

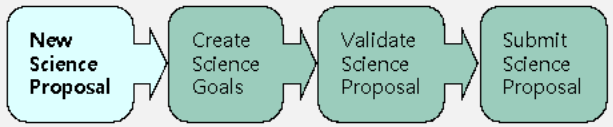
Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows

Overview

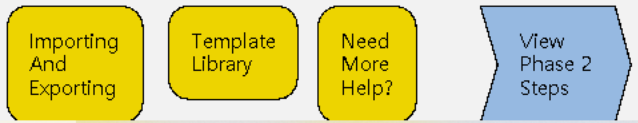
Contextual Help

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 11 (Phase 2 Patch 1)) - 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

Fraction 1(Full)

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

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)	230.53800 GHz	230.52851 GHz	CO v=0 2-1	58.594 MHz(76 km/s), 35.278 kHz(0.046 km/s) (2-bit)	2	

58.594 MHz(76 km/s), 35.278 kHz(0.046 km/s) (2-bit)
58.594 MHz(76 km/s), 141.113 kHz(0.184 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(0.184 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(46.979 km/s) (2-bit)

Add spectral window centred on a spectral line | Add spectral window manually | De

Baseband-2

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

Baseband-3

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

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 11 (Phase 2 Patch 1)) - 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

Fraction 1/2

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

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	230.53800 GHz	230.52851 GHz	CO v=0 2-1	58.594 MHz(76 km/s), 70.557 kHz(0.092 km/s) (2-bit)	2	

58.594 MHz(76 km/s), 70.557 kHz(0.092 km/s) (2-bit)
117.188 MHz(152 km/s), 141.113 kHz(0.184 km/s) (2-bit)
234.375 MHz(305 km/s), 282.227 kHz(0.367 km/s) (2-bit)
468.750 MHz(610 km/s), 564.453 kHz(0.734 km/s) (2-bit)
937.500 MHz(1219 km/s), 1.129 MHz(1.468 km/s) (2-bit)

Add spectral window centred on a spectral line | Add spectral window manually | De

Baseband-2

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

Baseband-3

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

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 11 (Phase 2 Patch 1)) - 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

Fraction 1/4

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

Spectral Setup Errors

Spectral Line

Baseband-1

Fraction	Centre Freq (rest,hel)	Centre Freq (sky,hel)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
1/4	230.53800 GHz	230.52851 GHz	CO v=0 2-1	58.594 MHz(76 km/s), 141.113 kHz(0.184 km/s) (2-bit)	2	

58.594 MHz(76 km/s), 141.113 kHz(0.184 km/s) (2-bit)
117.188 MHz(152 km/s), 282.227 kHz(0.367 km/s) (2-bit)
234.375 MHz(305 km/s), 564.453 kHz(0.734 km/s) (2-bit)
468.750 MHz(610 km/s), 1.129 MHz(1.468 km/s) (2-bit)

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

Baseband-3

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

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 11 (Phase1)) - Project

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 11 (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:
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   - 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 11 (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 11 (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

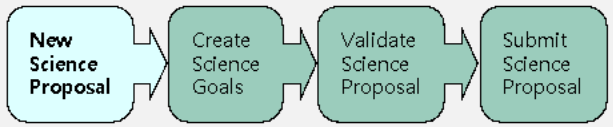
Baseband-3

Overview

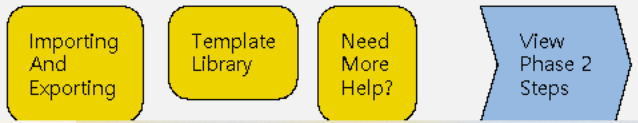
Contextual Help

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 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 11 (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 11 (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

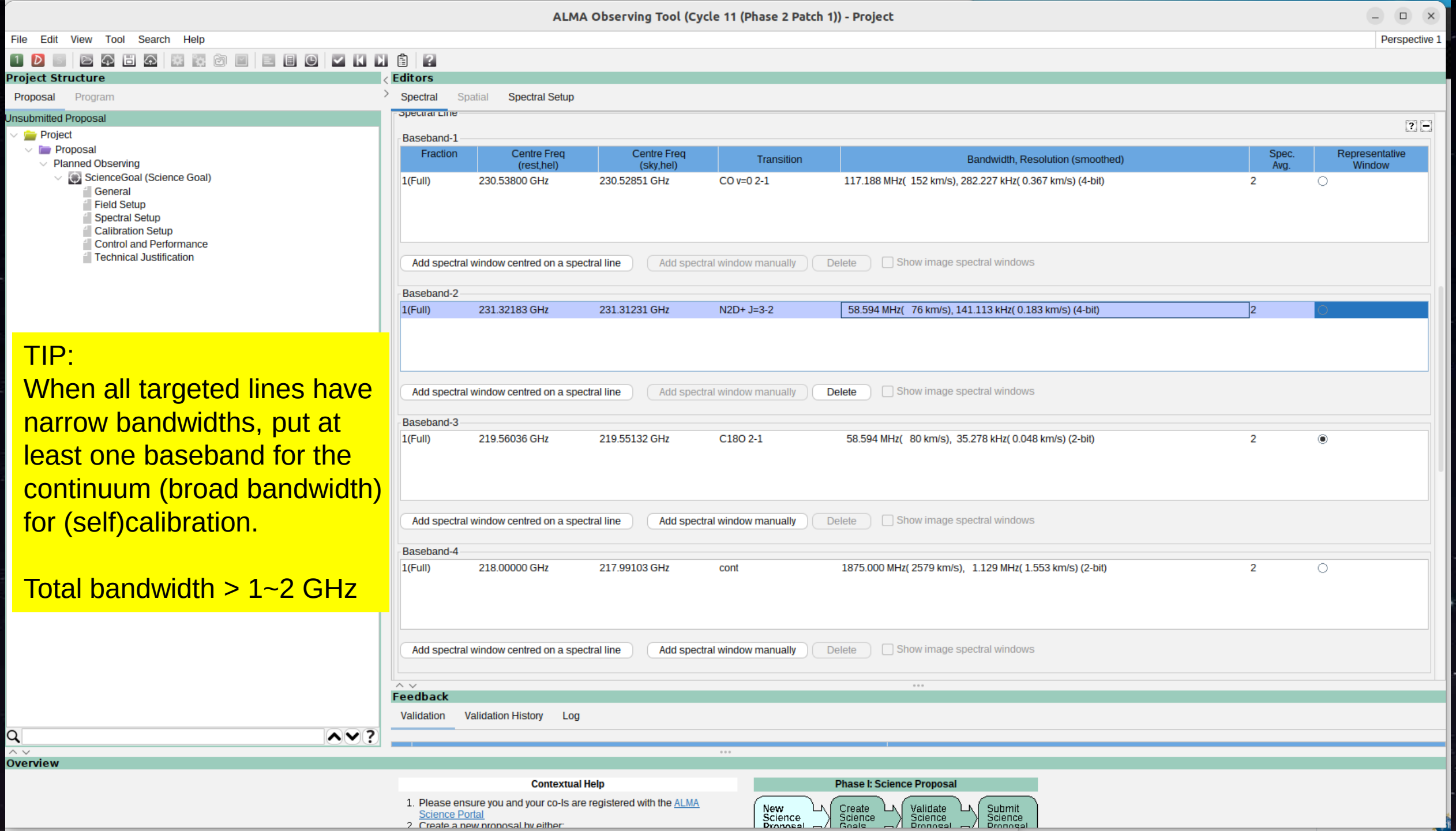
Contextual Help

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 11 (Phase 2 Patch 1)) - 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 Spectral Setup
Baseband-1
Fraction | Centre Freq (rest,hel) | Centre Freq (sky,hel) | Transition | Bandwidth, Resolution (smoothed) | Spec. Avg. | Representative Window
1(Full) | 230.53800 GHz | 230.52851 GHz | CO v=0 2-1 | 117.188 MHz(152 km/s), 282.227 kHz(0.367 km/s) (4-bit) | 2
Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows
Baseband-2
1(Full) | 231.32183 GHz | 231.31231 GHz | N2D+ J=3-2 | 58.594 MHz(76 km/s), 141.113 kHz(0.183 km/s) (4-bit) | 2
Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows
Baseband-3
1(Full) | 219.56036 GHz | 219.55132 GHz | C18O 2-1 | 58.594 MHz(80 km/s), 35.278 kHz(0.048 km/s) (2-bit) | 2
Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows
Baseband-4
1(Full) | 218.00000 GHz | 217.99103 GHz | cont | 1875.000 MHz(2579 km/s), 1.129 MHz(1.553 km/s) (2-bit) | 2
Add spectral window centred on a spectral line | Add spectral window manually | Delete | Show image spectral windows
TIP:
When all targeted lines have narrow bandwidths, put at least one baseband for the continuum (broad bandwidth) for (self)calibration.
Total bandwidth > 1~2 GHz
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 Proposal
Create Science Goals
Validate Science Proposal
Submit Science Proposal

ALMA Observing Tool (Cycle 11 (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

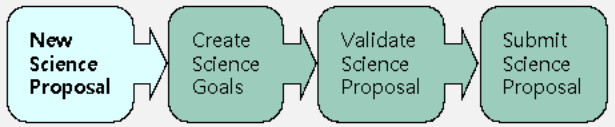
DGC Override (observatory-use only)

Overview

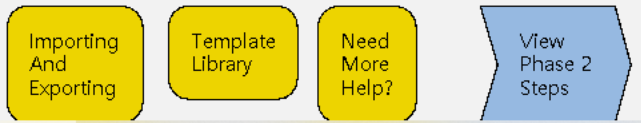
Contextual Help

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 11 (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 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	16.840 arcsec	7m	28.868 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	16.197 km
Synthesized beamsize	3.632 arcsec	0.938 arcsec	0.016 arcsec
Shortest baseline	0.009 km	0.015 km	0.256 km
Maximum recoverable scale	19.388 arcsec	8.391 arcsec	0.145 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 1.00000 arcsec

Desired sensitivity per pointing 3.3 mJy equivalent to 45.450 mK @ 0.150 "

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
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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 11 (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 Control and Performance

Shortest baseline	0.009 km	0.015 km	0.256 km
Maximum recoverable scale	19.388 arcsec	8.391 arcsec	0.145 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: 1.00000 arcsec

Desired sensitivity per pointing: 3.3 mJy equivalent to 1.4998 K @ 0.150 "

and 13.499 K @ 0.0500 "

Bandwidth used for Sensitivity: RepWindowEffectiveChannelWidth Frequency Width 0.195313 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

Are the observations time-constrained? 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

	Description	Suggestion

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 11 (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 Control and Performance

Shortest baseline	0.009 km	0.015 km	0.256 km
Maximum recoverable scale	19.388 arcsec	8.391 arcsec	0.145 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 1.00000 arcsec

Desired sensitivity per pointing 3.3 mJy equivalent to 1.4998 K @ 0.150 "

and 13.499 K @ 0.0500 "

Bandwidth used for Sensitivity RepWindowEffectiveChannelWidth Frequency Width 0.195313 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

Are the observations time-constrained? ○ Yes ◉ No

Line

Continuum

Feedback

Validation Validation History Log

	Description	Suggestion

Overview

Contextual Help

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   - 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 11 (Phase1)) - Proje

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 Control and Performance

Maximum recoverable scale	19.388 arcsec	8.391 arcsec	0.145 arc

Desired Performance

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

0.05000 arcsec to 0.15000

Largest Angular Structure in source 1.00000 arcsec

Desired sensitivity per pointing 3.30000 mJy equivalent to 1.4998 K

and 13.499 K

Bandwidth used for Sensitivity RepWindowEffectiveChannelWidth Frequency Widt

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

Are the observations time-constrained? ○ Yes ◉ No

Feedback

Validation Validation History Log

Description

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.

Phas

New Science Proposal

Cre Scie Goa

Click on the overview s

Importing And Exporting

Ten Libr

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	0.195 MHz
Representative frequency (sky, first source)	345.782 GHz

Estimated Total time for Science Goal **8.93 h**

Cluster 1

Source Name	RA	Dec	Velocity
TW Hya	11:01:51.9053	-34:42:17.033	12.335 km/s

Possible Configuration Combinations

12-m (1)	12-m (2)	7-m	TP
C-6	None	No	No

Input Parameters

Precipitable water vapour (all sources)	1.262mm (4th Octile)

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

Time on source per pointing (first source)	2.82 h [2.77 h]
Total number of pointings (all sources)	1
Number of tunings	1
Total time on source	2.82 h [2.77 h]
Total calibration time	5.80 h
Other overheads	18.40 min
Total time for 1 SB execution	1.49 h
Number of SB executions	6
Total time to complete SB	8.93 h

Calibration Breakdown per SB execution

4 x Pointing	8.00 min
1 x Amplitude/bandpass	10.00 min
19 x Phase	5.70 min
4 x CheckSource	2.00 min
2 x DGC	8.00 min
10 x Atmospheric	6.67 min
1 x DGC Bandpass	5.00 min

Close

ALMA Observing Tool (Cycle 11 (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 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

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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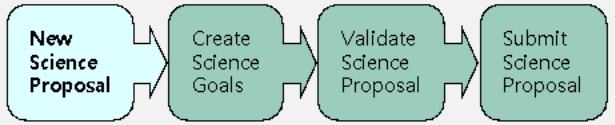
Imaging

Overview

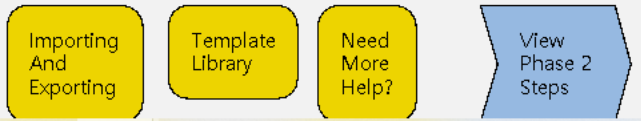
Contextual Help

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



Sensitivity

Requested RMS over 88.563 m/s is 7.07 mJy

A For a peak flux density of 45.00 mJy , the S/N is 6.4

Achieved RMS over the total 4.102 GHz bandwidth is 34.29 uJy

For a continuum flux density of 0.00 mJy , the achieved S/N is 0.0

For a peak line flux of 45.00 mJy B the achieved S/N over 1/3 of the source line width (300.00 m/s / 3 = 100.00 m/s) is 6.8

Line width / bandwidth used for sensitivity (300.00 m/s / 88.56 m/s) = 3.39

C **Integrated Intensity**

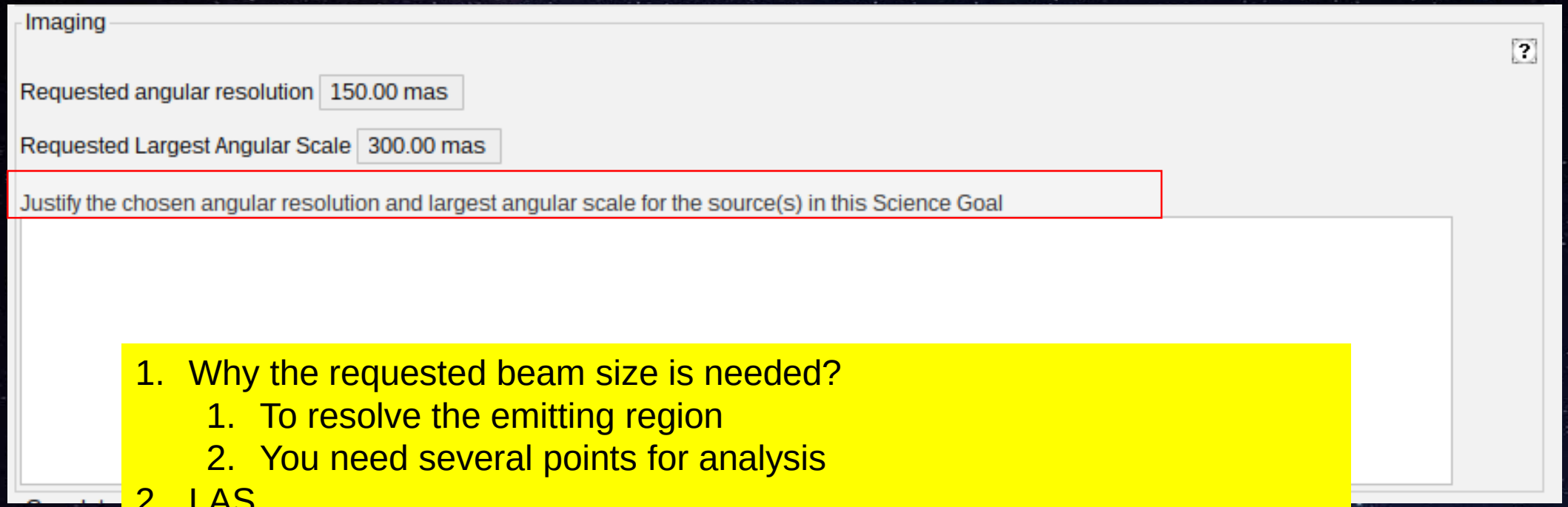
Justify your requested RMS and resulting S/N for the spectral line and/or continuum observations.

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

1. How the expected intensity is calculated
2. Which SNR is used among A, B, and C.
3. Why is the SNR enough to achieve the Science Goal?

- the fine spectral resolution can be chosen because of the kinematics, but analysis will be done with poor spectral resolution (B)
- Although it is a line observation, describe the information and arguments for the continuum

Tip: You can refer the figures in S.J. and/or cite references (XX et al. ApJ, ###, ###)



1. Why the requested beam size is needed?
    1. To resolve the emitting region
    2. You need several points for analysis
2. LAS
    1. Guarantees No flux missing, i.e., if the total flux is important in your science, you should set LAS as the largest emitting area
    2. If not, LAS can be smaller than the latter, but you describe that you are interested in just morphonology, ...

The expected emitting area is ~0.3”, thus the requested angular resolution **can resolve** the emitting area by a factor of two, which can ...

The disk is extended up to 0.3”, and we set LAS of 0.3”.

Correlator configuration

line width / representative spectral window resolution: 300.00 m/s / 63.99 m/s = 4.69

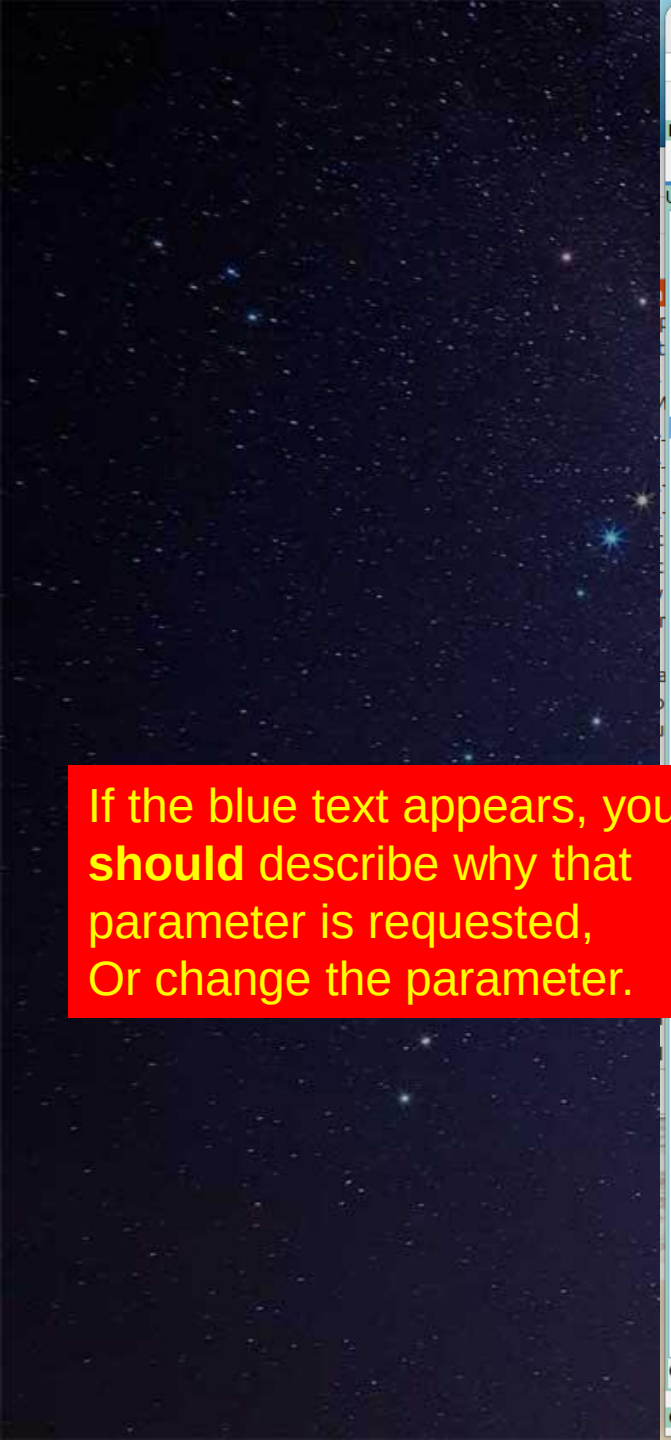
Representative spectral window width : 106.28 km/s

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

The spectral resolution is based on
- flux measurement (3 points within Line width)
- Kinematics (more fine resolution is needed)
ex) resolution of 0.065 km/s is enough to resolve the line width of 0.3.

Goals of each targeted lines and why the transitions are selected
CO and 13CO lines are chosen for ...
Furthermore, the lines in the Band 7 provide the highest SNR for a given observing time.
SO and HCO+ are set for bonus lines, which can provide ...

Tips) At least One baseband is set to continuum for the (self) calibration



If the blue text appears, you **should** describe why that parameter is requested,
Or change the parameter.

ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - Project

File Edit View Tool Search Help

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 Technical Justification

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

Sensitivity

Requested RMS over 177.126 m/s is 5.00 mJy — For a peak flux density of 45.00 mJy, the S/N is 9.0

Achieved RMS over the total 468.750 MHz bandwidth is 101.97 uJy — For a continuum flux density of 30.00 mJy, the achieved S/N is 294.2

For a peak line flux of 45.00 mJy, the achieved S/N over 1/3 of the source line width (300.00 m/s / 3 = 100.00 m/s) is 6.8

Line width / bandwidth used for sensitivity (300.00 m/s / 177.13 m/s) = 1.69

Note that the bandwidth used for sensitivity is larger than 1/3 of the linewidth.
The S/N achieved for a resolution element that allows the line to be resolved will be lower than that reported.

Spectral Dynamic Range (continuum flux / line rms): 6.01

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.

Imaging

Requested angular resolution 150.00 mas

Requested Largest Angular Scale 300.00 mas

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

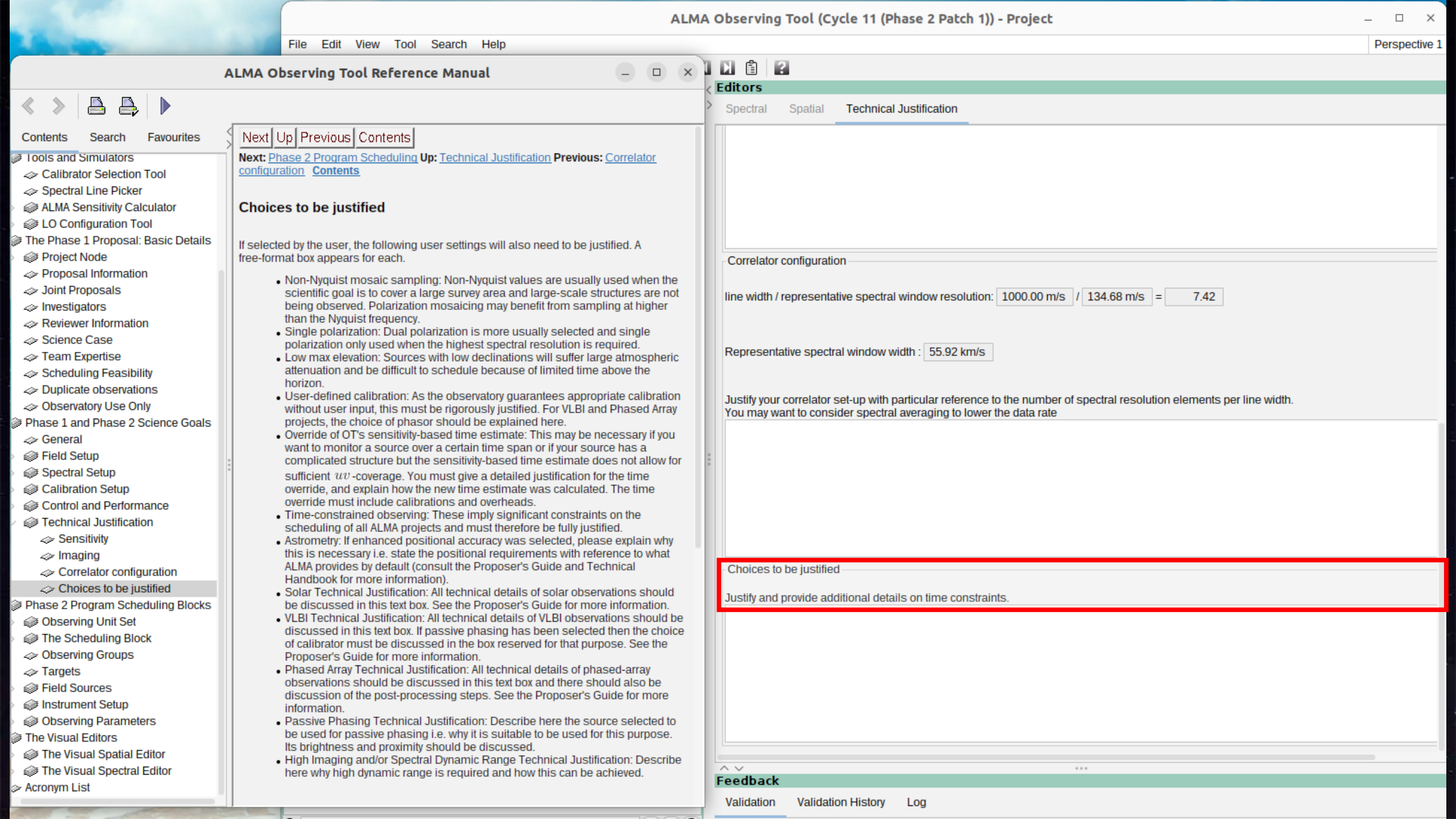
Correlator configuration

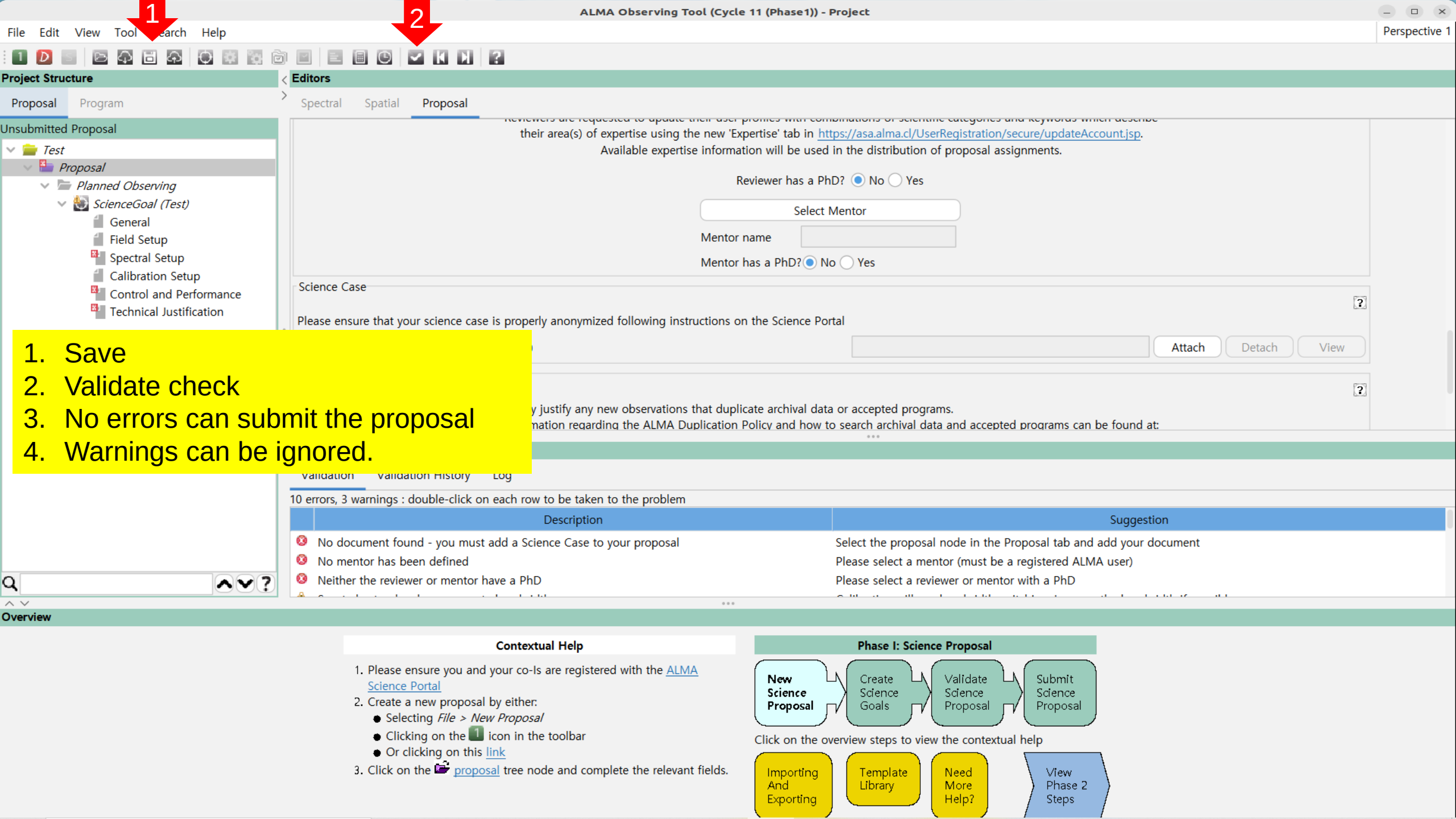
line width / representative spectral window resolution: 300.00 m/s / 127.97 m/s = 2.34

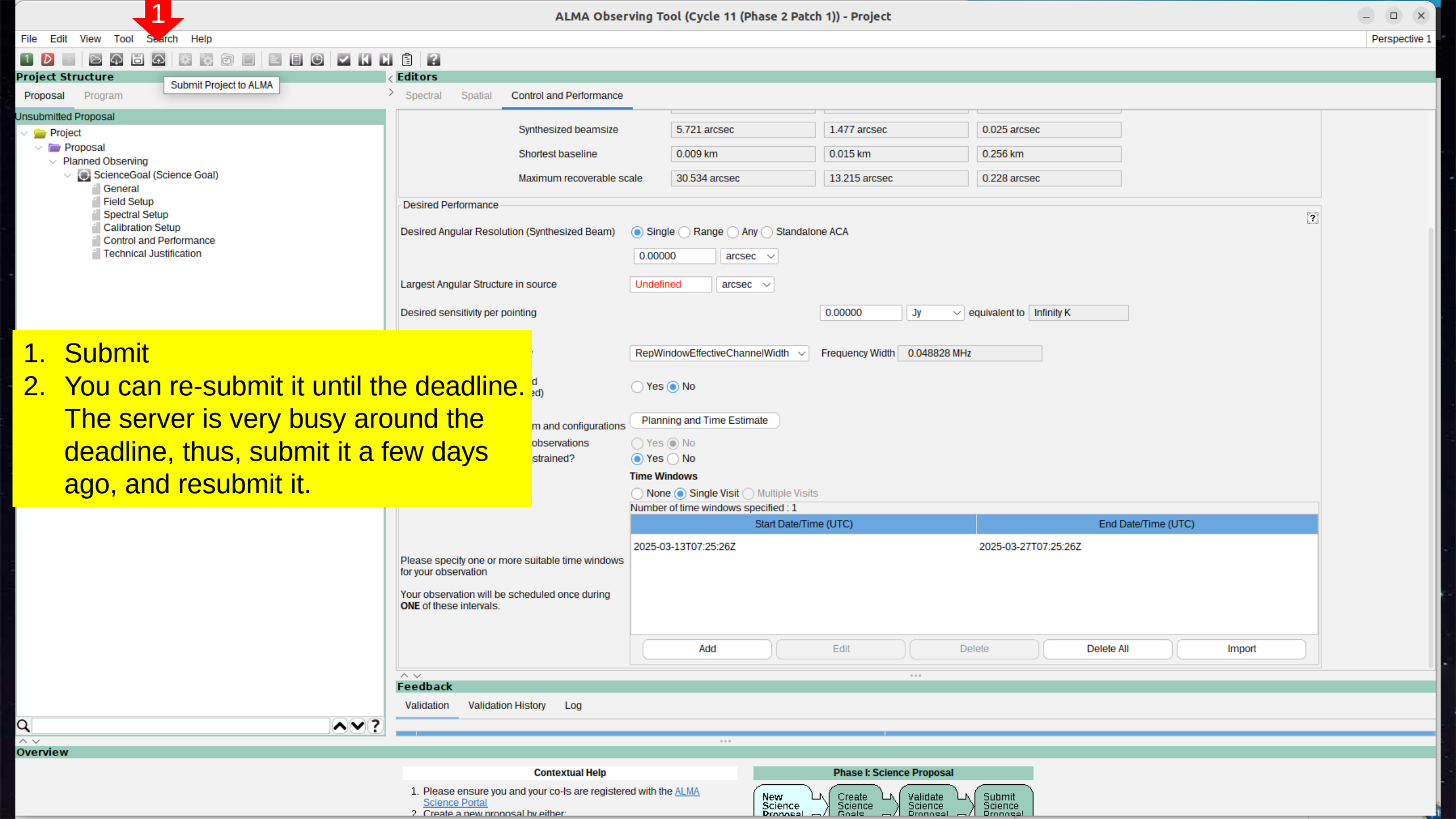
Feedback

Validation Validation History Log

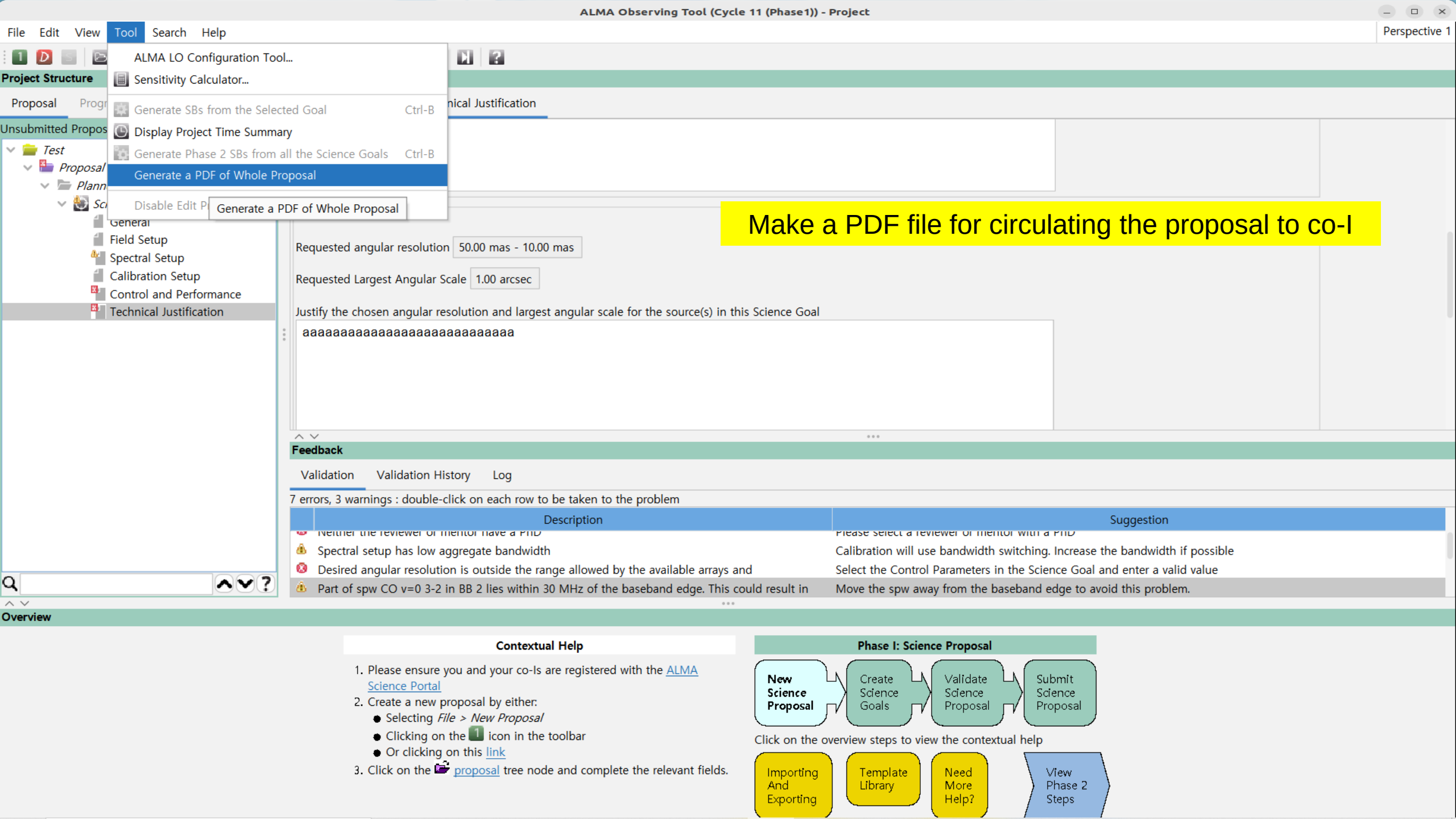
Overview


ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - Project
File Edit View Tool Search Help
Perspective 1
ALMA Observing Tool Reference Manual
Contents Search Favourites
Tools and Simulators
Calibrator Selection Tool
Spectral Line Picker
ALMA Sensitivity Calculator
LO Configuration Tool
The Phase 1 Proposal: Basic Details
Project Node
Proposal Information
Joint Proposals
Investigators
Reviewer Information
Science Case
Team Expertise
Scheduling Feasibility
Duplicate observations
Observatory Use Only
Phase 1 and Phase 2 Science Goals
General
Field Setup
Spectral Setup
Calibration Setup
Control and Performance
Technical Justification
Sensitivity
Imaging
Correlator configuration
Choices to be justified
Phase 2 Program Scheduling Blocks
Observing Unit Set
The Scheduling Block
Observing Groups
Targets
Field Sources
Instrument Setup
Observing Parameters
The Visual Editors
The Visual Spatial Editor
The Visual Spectral Editor
Acronym List
Next Up Previous Contents
Next: Phase 2 Program Scheduling Up: Technical Justification Previous: Correlator configuration Contents
Choices to be justified
If selected by the user, the following user settings will also need to be justified. A free-format box appears for each.
Non-Nyquist mosaic sampling: Non-Nyquist values are usually used when the scientific goal is to cover a large survey area and large-scale structures are not being observed. Polarization mosaicing may benefit from sampling at higher than the Nyquist frequency.
Single polarization: Dual polarization is more usually selected and single polarization only used when the highest spectral resolution is required.
Low max elevation: Sources with low declinations will suffer large atmospheric attenuation and be difficult to schedule because of limited time above the horizon.
User-defined calibration: As the observatory guarantees appropriate calibration without user input, this must be rigorously justified. For VLBI and Phased Array projects, the choice of phasor should be explained here.
Override of OT's sensitivity-based time estimate: This may be necessary if you want to monitor a source over a certain time span or if your source has a complicated structure but the sensitivity-based time estimate does not allow for sufficient uv-coverage. You must give a detailed justification for the time override, and explain how the new time estimate was calculated. The time override must include calibrations and overheads.
Time-constrained observing: These imply significant constraints on the scheduling of all ALMA projects and must therefore be fully justified.
Astrometry: If enhanced positional accuracy was selected, please explain why this is necessary i.e. state the positional requirements with reference to what ALMA provides by default (consult the Proposer's Guide and Technical Handbook for more information).
Solar Technical Justification: All technical details of solar observations should be discussed in this text box. See the Proposer's Guide for more information.
VLBI Technical Justification: All technical details of VLBI observations should be discussed in this text box. If passive phasing has been selected then the choice of calibrator must be discussed in the box reserved for that purpose. See the Proposer's Guide for more information.
Phased Array Technical Justification: All technical details of phased-array observations should be discussed in this text box and there should also be discussion of the post-processing steps. See the Proposer's Guide for more information.
Passive Phasing Technical Justification: Describe here the source selected to be used for passive phasing i.e. why it is suitable to be used for this purpose. Its brightness and proximity should be discussed.
High Imaging and/or Spectral Dynamic Range Technical Justification: Describe here why high dynamic range is required and how this can be achieved.
Editors
Spectral Spatial Technical Justification
Correlator configuration
line width / representative spectral window resolution: 1000.00 m/s / 134.68 m/s = 7.42
Representative spectral window width : 55.92 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
Choices to be justified
Justify and provide additional details on time constraints.
Feedback
Validation Validation History Log

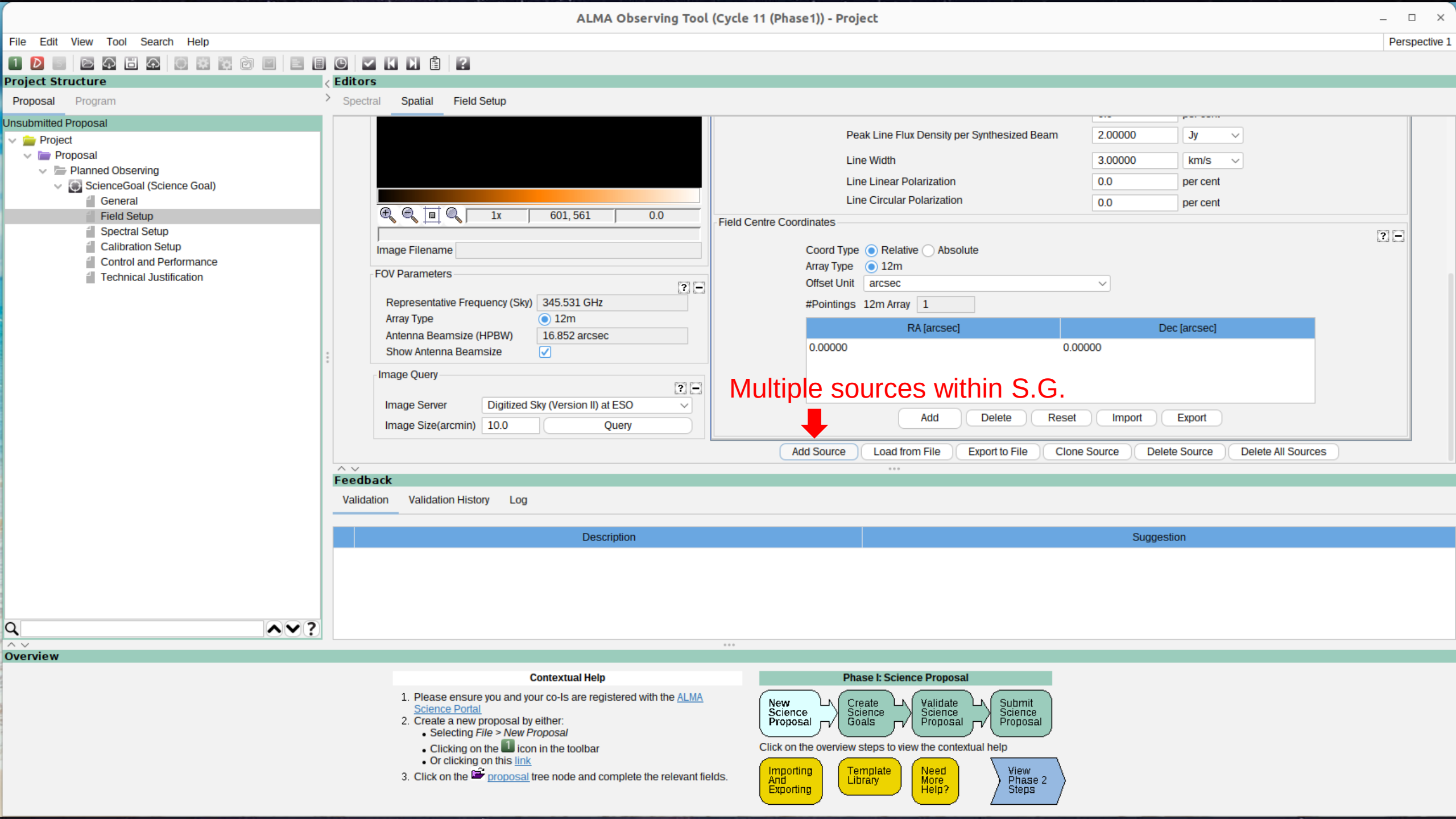

1
2
ALMA Observing Tool (Cycle 11 (Phase1)) - Project
File Edit View Tool Search Help
Perspective 1
Project Structure
Proposal Program
Unsubmitted Proposal
Test
Proposal
Planned Observing
ScienceGoal (Test)
General
Field Setup
Spectral Setup
Calibration Setup
Control and Performance
Technical Justification
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
Attach Detach View
justify any new observations that duplicate archival data or accepted programs.
mation regarding the ALMA Duplication Policy and how to search archival data and accepted programs can be found at:
1. Save
2. Validate check
3. No errors can submit the proposal
4. Warnings can be ignored.
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
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



1. Submit
2. You can re-submit it until the deadline. The server is very busy around the deadline, thus, submit it a few days ago, and resubmit it.


ALMA Observing Tool (Cycle 11 (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
Unsubmitted Propos
Test
Proposal
Plann
Sci
General
Field Setup
Spectral Setup
Calibration Setup
Control and Performance
Technical Justification
nical Justification
Make a PDF file for circulating the proposal to co-I
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
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
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

Multiple targets & Mosaics


ALMA Observing Tool (Cycle 11 (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 Field Setup
1x 601, 561 0.0
Image Filename
FOV Parameters
Representative Frequency (Sky) 345.531 GHz
Array Type 12m
Antenna Beamsize (HPBW) 16.852 arcsec
Show Antenna Beamsize
Image Query
Image Server Digitized Sky (Version II) at ESO
Image Size(arcmin) 10.0 Query
Peak Line Flux Density per Synthesized Beam 2.00000 Jy
Line Width 3.00000 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
Multiple sources within S.G.
Add Delete Reset Import Export
Add Source Load from File Export to File Clone Source Delete Source Delete All Sources
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
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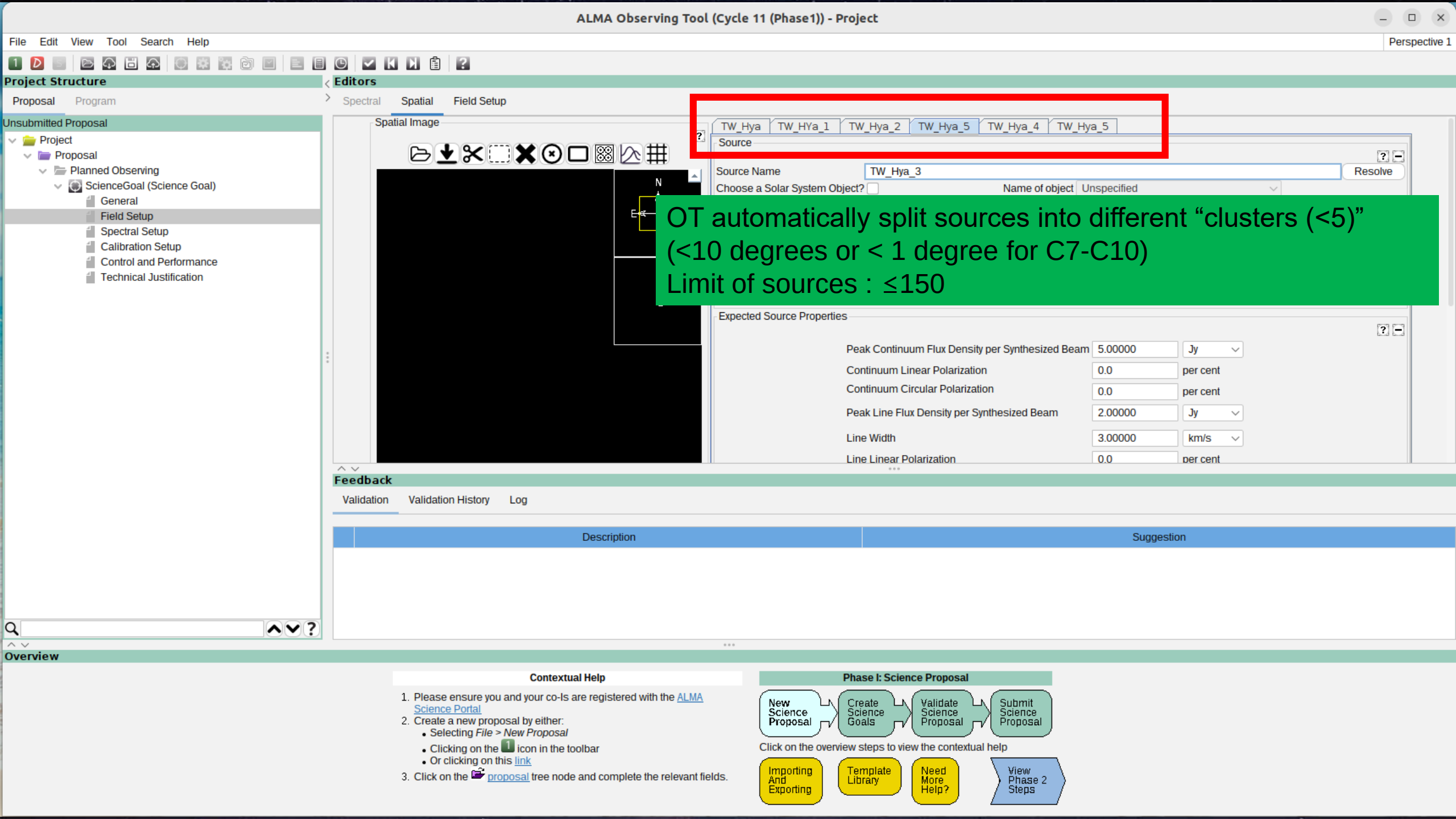
Phase I: Science Proposal
New Science Proposal
Create Science Goals
Validate Science Proposal
Submit Science Proposal
Click on the overview steps to view the contextual help
Importing And Exporting
Template Library
Need More Help?
View Phase 2 Steps


ALMA Observing Tool (Cycle 11 (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 Field Setup
Spatial Image
TW_Hya TW_HYa_1 TW_Hya_2 TW_Hya_5 TW_Hya_4 TW_Hya_5
Source
Source Name TW_Hya_3
Resolve
Choose a Solar System Object?
Name of object Unspecified
OT automatically split sources into different “clusters (<5)”
(<10 degrees or < 1 degree for C7-C10)
Limit of sources : ≤150
Expected Source Properties
Peak Continuum Flux Density per Synthesized Beam 5.00000 Jy
Continuum Linear Polarization 0.0 per cent
Continuum Circular Polarization 0.0 per cent
Peak Line Flux Density per Synthesized Beam 2.00000 Jy
Line Width 3.00000 km/s
Line Linear Polarization 0.0 per cent
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
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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 11 (Phase1)) - Project

File Edit View Tool Search Help

Perspective 1

Mosaic or several positions within a target

- set Representative Frequency before Field setup
- Upload or Query the image

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 Field Setup

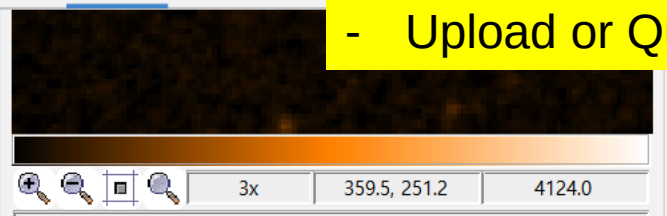


Image Filename unitl₩.jsky3₩cache₩jsky12077043586718440107.fits

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

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

Length of the 'p' side of the rectangle

Position Angle 0.0 deg

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

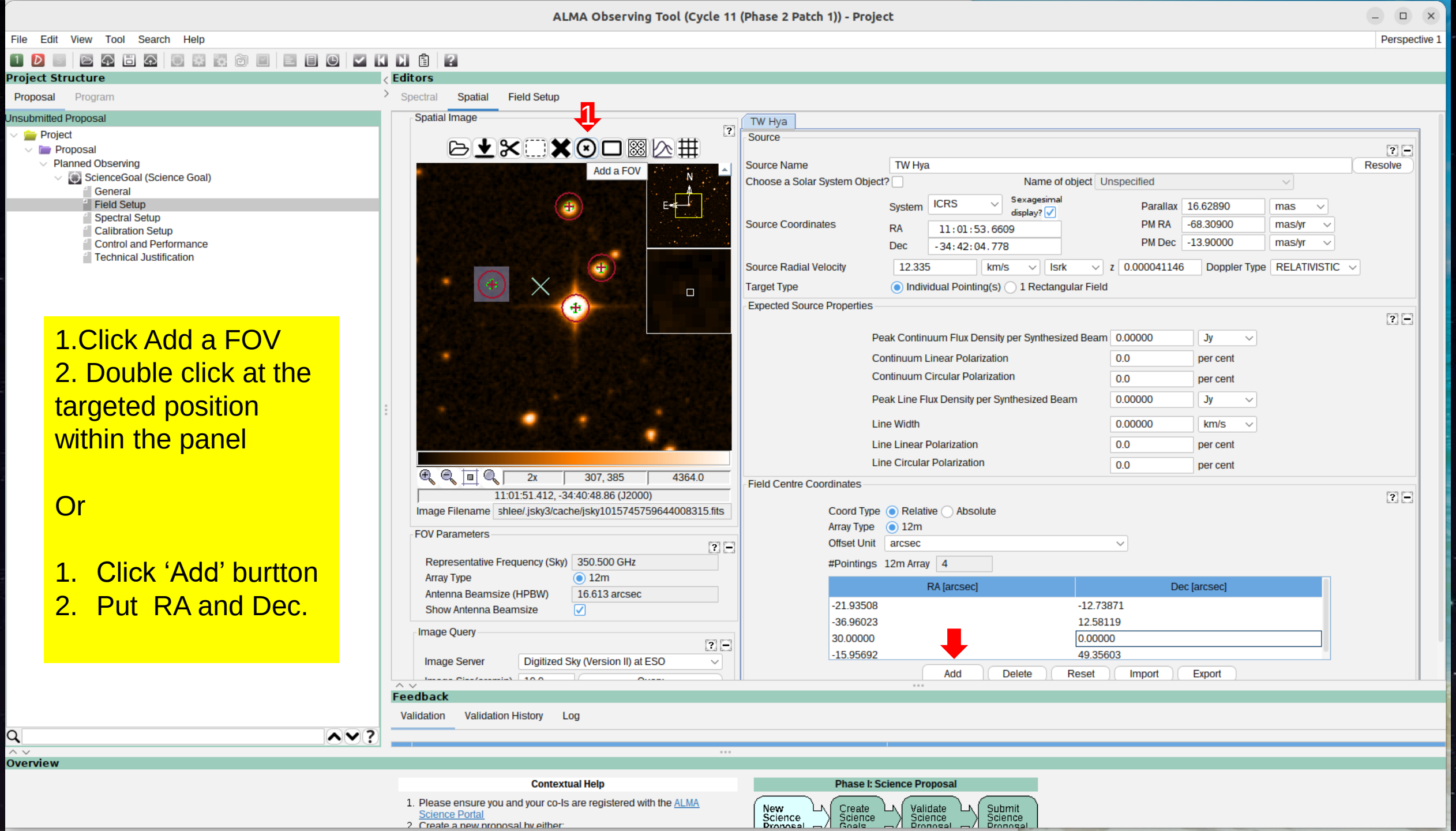
1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - Selecting *File > New Proposal*
   - Clicking on the 1 icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

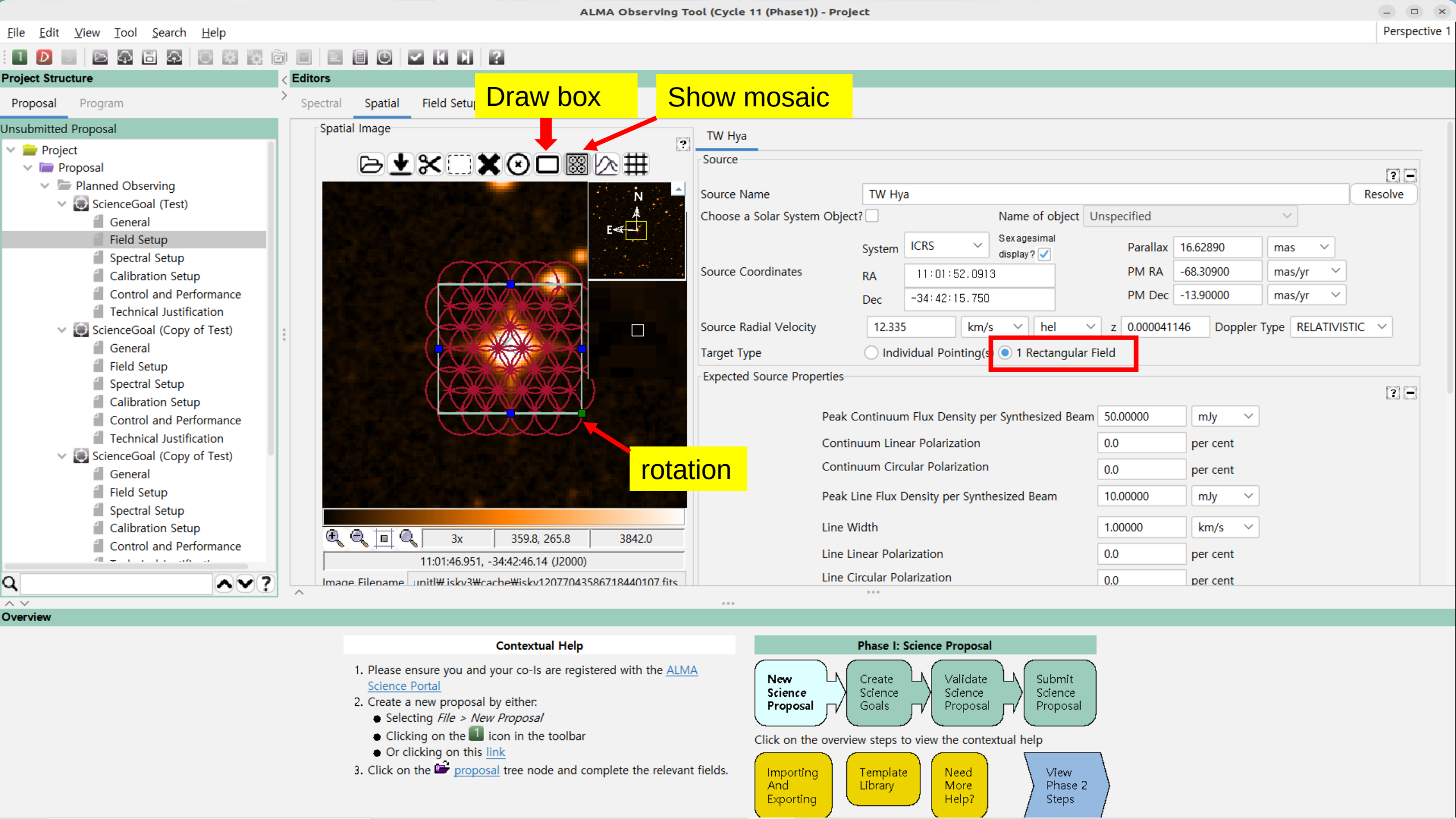
Phase I: Science Proposal

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 11 (Phase 2 Patch 1)) - 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 Field Setup
Spatial Image
1
Add a FOV
N
E
2x
307, 385
4364.0
11:01:51.412, -34:40:48.86 (J2000)
Image Filename shlee/.jsky3/cache/jsky10157457596440083l5.fits
FOV Parameters
Representative Frequency (Sky) 350.500 GHz
Array Type 12m
Antenna Beamsize (HPBW) 16.613 arcsec
Show Antenna Beamsize
Image Query
Image Server Digitized Sky (Version II) at ESO
TW Hya
Source
Source Name TW Hya
Resolve
Choose a Solar System Object?
Name of object Unspecified
System ICRS
Sexagesimal display?
Source Coordinates
RA 11:01:53.6609
Dec -34:42:04.778
Parallax 16.62890 mas
PM RA -68.30900 mas/yr
PM Dec -13.90000 mas/yr
Source Radial Velocity 12.335 km/s lsrk z 0.000041146 Doppler Type RELATIVISTIC
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
Field Centre Coordinates
Coord Type Relative Absolute
Array Type 12m
Offset Unit arcsec
#Pointings 12m Array 4
RA [arcsec] Dec [arcsec]
-21.93508 -12.73871
-36.96023 12.58119
30.00000 0.00000
-15.95692 49.35603
Add Delete Reset Import Export
1.Click Add a FOV
2. Double click at the targeted position within the panel
Or
1. Click 'Add' burtton
2. Put RA and Dec.
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 Proposal
Create Science Goals
Validate Science Proposal
Submit Science Proposal


ALMA Observing Tool (Cycle 11 (Phase1)) - Project
File Edit View Tool Search Help
Perspective 1
Project Structure
Editors
Proposal Program
Spectral Spatial Field Setu
Draw box
Show mosaic
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
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
Contextual Help
1. Please ensure you and your co-Is are registered with the ALMA Science Portal
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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 11 (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 Field Setup

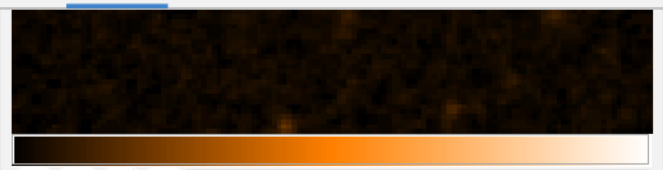

Image Filename unitl₩.jsky3₩cache₩jsky12077043586718440107.fits

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

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

Time Constrain Observation

ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - 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 Control and Performance

Synthesized beamsize	5.721 arcsec	1.477 arcsec	0.025 arcsec
Shortest baseline	0.009 km	0.015 km	0.256 km
Maximum recoverable scale	30.534 arcsec	13.215 arcsec	0.228 arcsec

Desired Performance

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

0.00000 arcsec

Largest Angular Structure in source: Undefined arcsec

Desired sensitivity per pointing: 0.00000 Jy equivalent to Infinity K

Bandwidth used for Sensitivity: RepWindowEffectiveChannelWidth Frequency Width 0.048828 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

Are the observations time-constrained?: (•) Yes ( ) No

Time Windows

( ) None (•) Single Visit ( ) Multiple Visits

Number of time windows specified : 1

Start Date/Time (UTC)	End Date/Time (UTC)
2025-03-13T07:25:26Z	2025-03-27T07:25:26Z

Please specify one or more suitable time windows for your observation

Your observation will be scheduled once during **ONE** of these intervals.

Add Edit Delete Delete All Import

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 11 (Phase 2 Patch 1)) - 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 Control and Performance

Synthesized beamsize	5.721 arcsec	1.477 arcsec	0.025 arcsec
Shortest baseline	0.009 km	0.015 km	0.256 km
Maximum recoverable scale	30.534 arcsec	13.215 arcsec	0.228 arcsec

Desired Performance

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

0.00000 arcsec

Largest Angular Structure in source: Undefined arcsec

Desired sensitivity per pointing: 0.00000 Jy equivalent to Infinity K

Bandwidth used for Sensitivity: RepWindowEffectiveChannelWidth Frequency Width 0.048828 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

Are the observations time-constrained? (•) Yes ( ) No

Time Windows

( ) None ( ) Single Visit (•) Multiple Visits

Visits specified : 2

Please specify the arrangement of visits for your observation.

Visits can either be for a specific date or relative to a previous visit.

The first visit can be defined as having an arbitrary start date/time

Visit Constraints (UTC)
Visit 1 : Arbitrary start
Visit 2 : To be scheduled 14.0 d after visit 1 with a margin of ± 7.0 d

Add Edit Delete Delete All

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

Joint Proposal

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:
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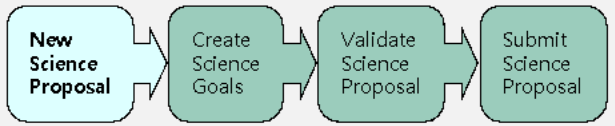
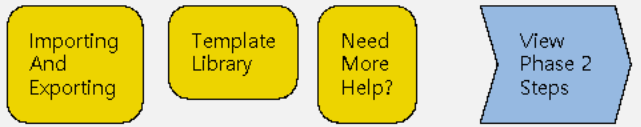
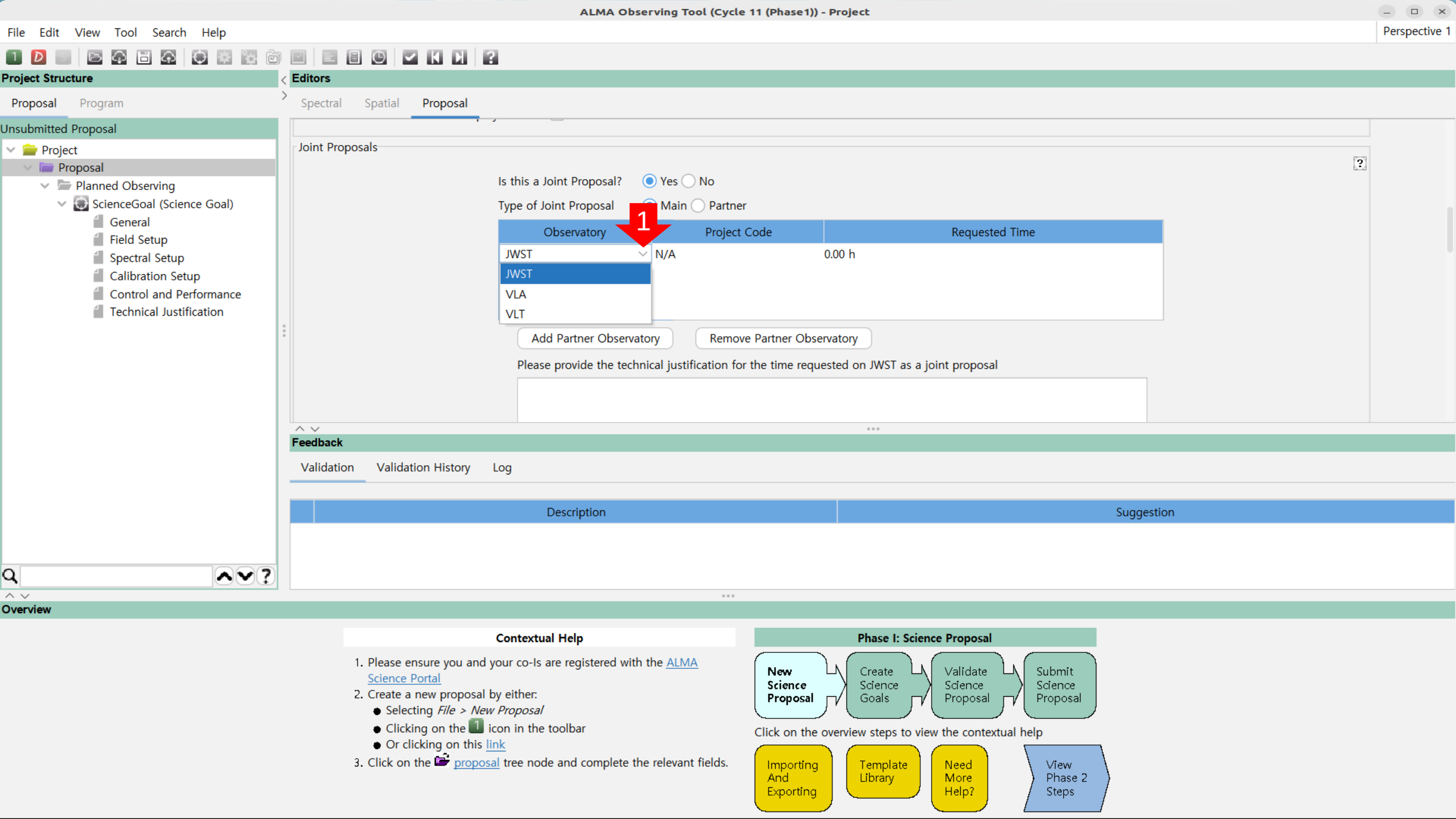
   - Clicking on the 1 icon in the toolbar
   - Or clicking on this link
3. Click on the proposal tree node and complete the relevant fields.

Phase I: Science Proposal



Click on the overview steps to view the contextual help




ALMA Observing Tool (Cycle 11 (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 11 (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

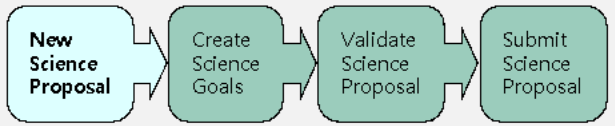
	Description	Suggestion

Overview

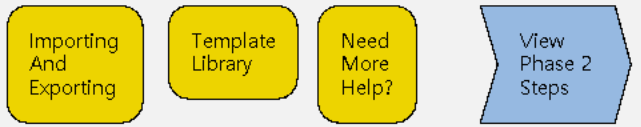
Contextual Help

1. Please ensure you and your co-Is are registered with the ALMA Science Portal
2. Create a new proposal by either:
   - 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 11 (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

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

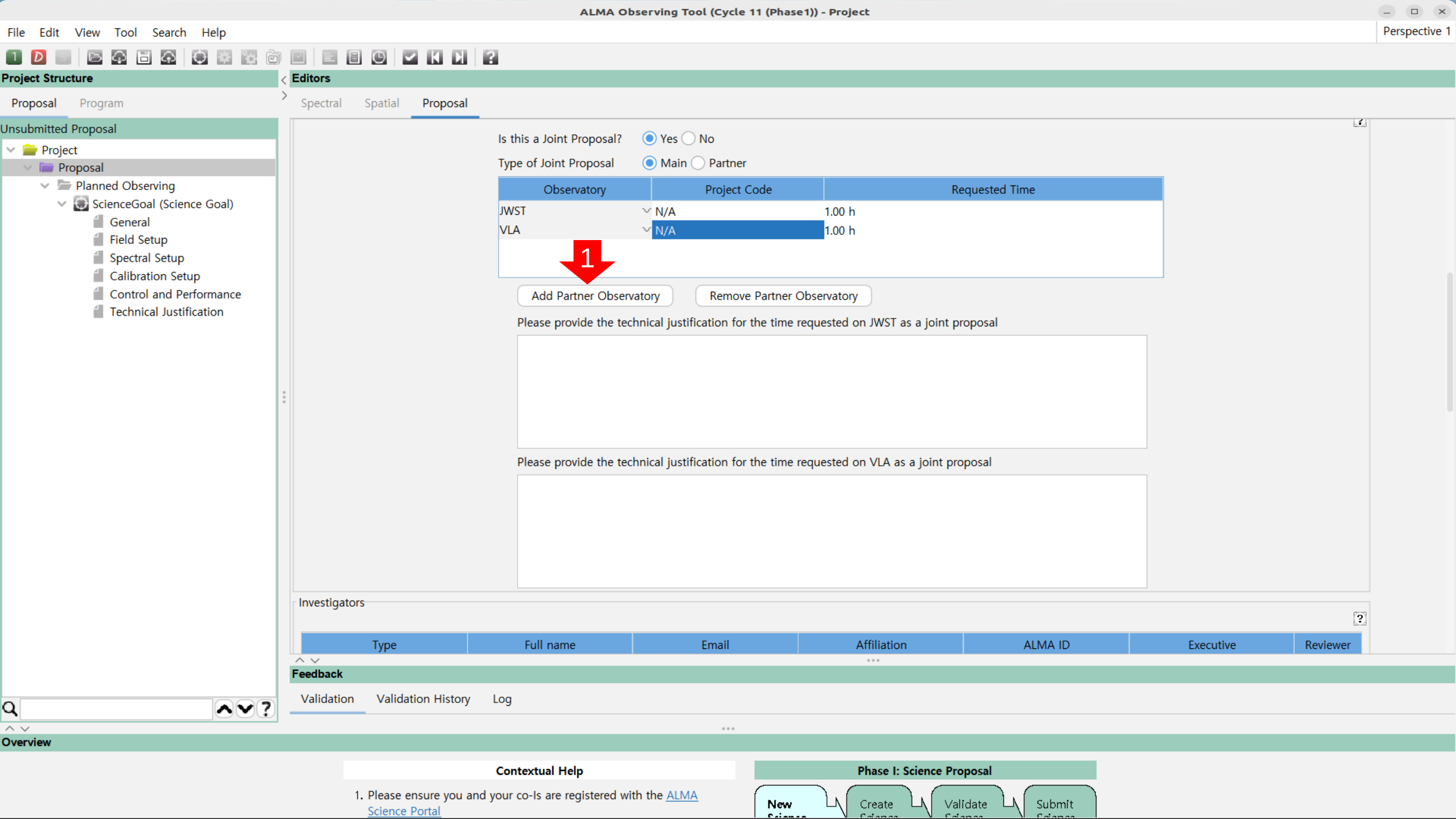
Overview

Contextual Help

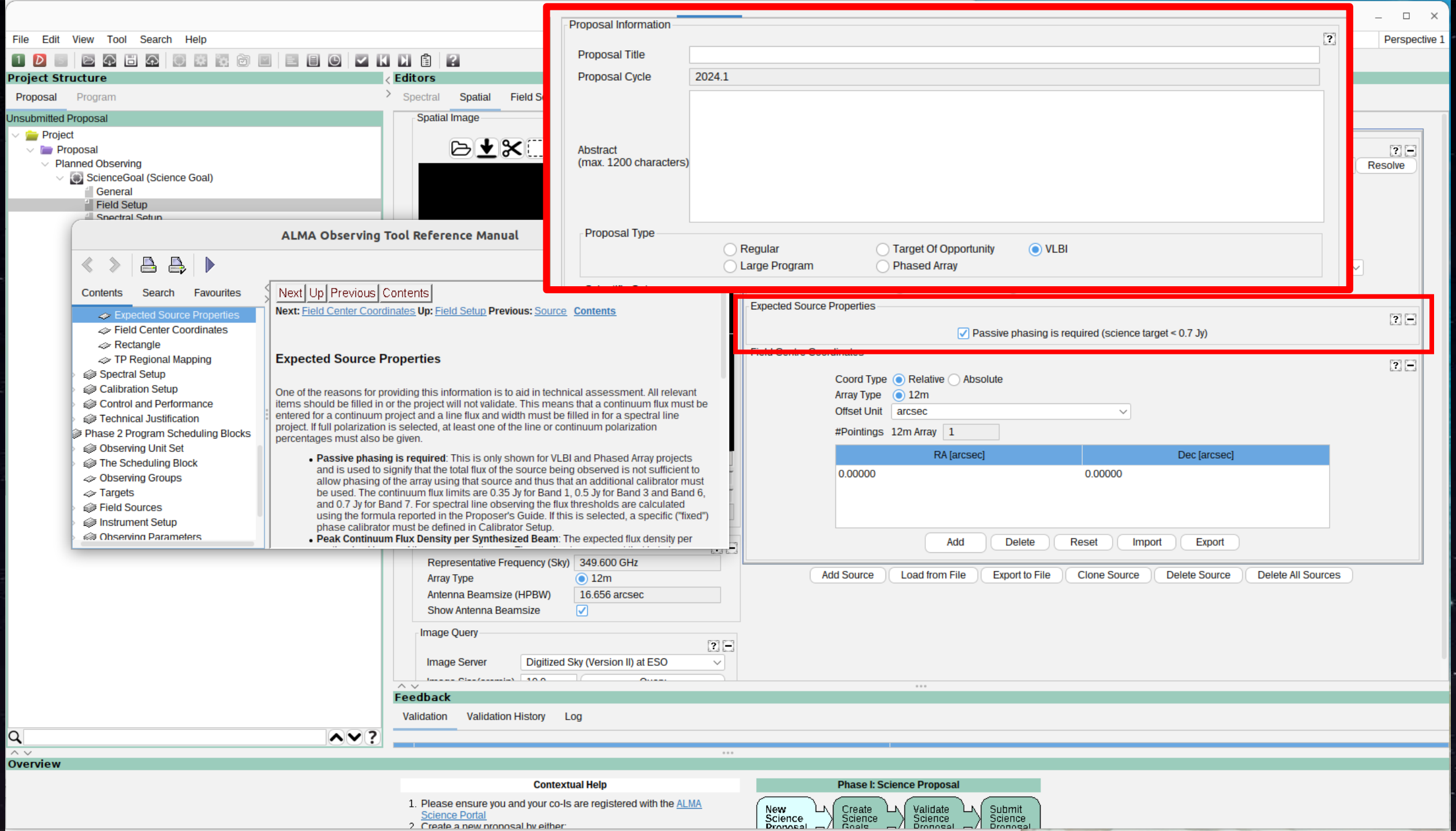
1. Please ensure you and your co-Is are registered with the ALMA Science Portal

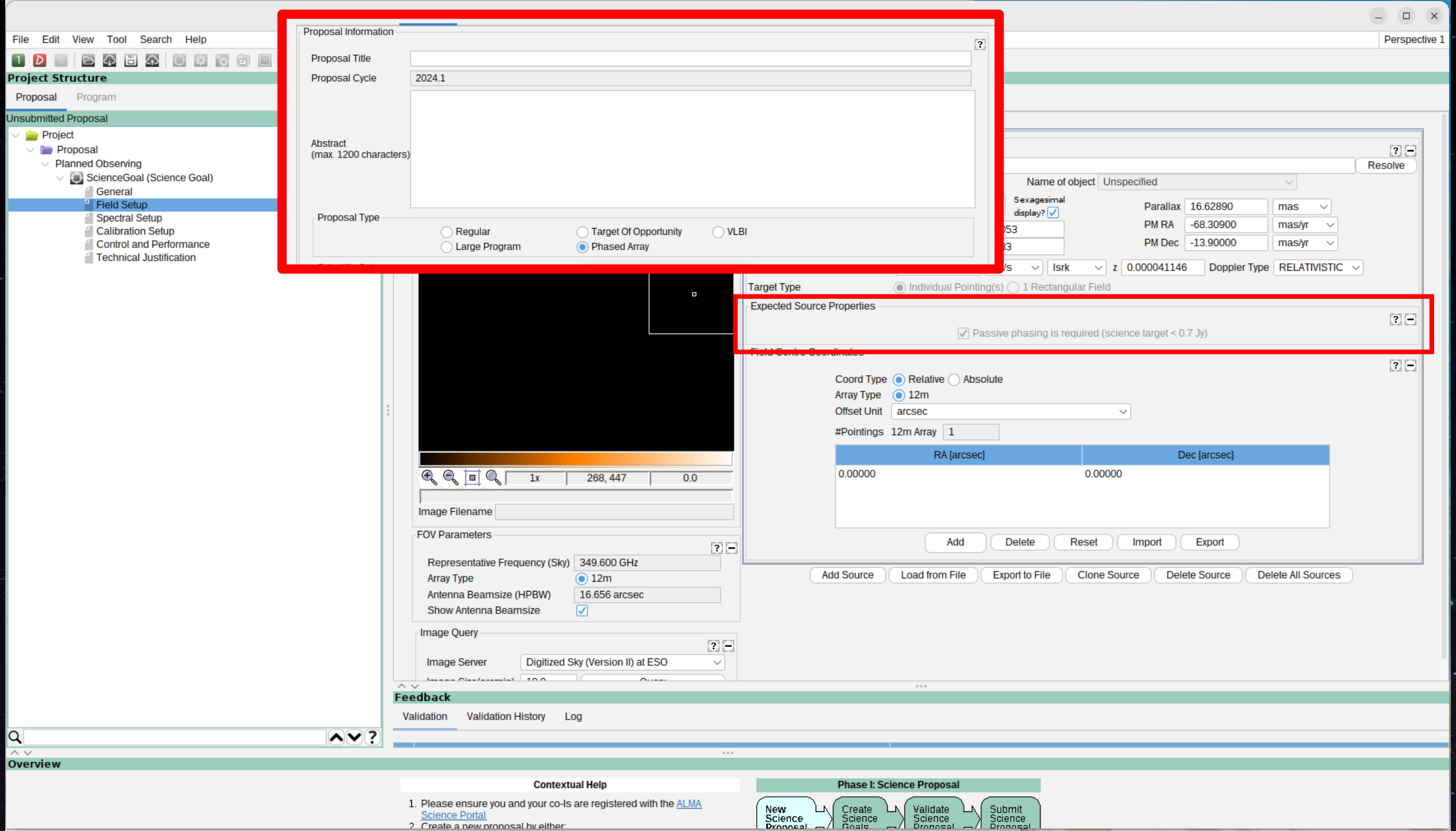
Phase I: Science Proposal

New | Create | Validate | Submit


ALMA Observing Tool (Cycle 11 (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

Proposal type of VLBI & Phased Array


File Edit View Tool Search Help
Perspective 1
Project Structure
Proposal Program
Unsubmitted Proposal
Project
Proposal
Planned Observing
ScienceGoal (Science Goal)
General
Field Setup
Editors
Spectral Spatial Field S
Spatial Image
Proposal Information
Proposal Title
Proposal Cycle
2024.1
Abstract
(max. 1200 characters)
Proposal Type
Regular
Target Of Opportunity
VLBI
Large Program
Phased Array
Resolve
ALMA Observing Tool Reference Manual
Contents Search Favourites
Next Up Previous Contents
Next: Field Center Coordinates Up: Field Setup Previous: Source Contents
Expected Source Properties
Field Center Coordinates
Rectangle
TP Regional Mapping
Spectral Setup
Calibration Setup
Control and Performance
Technical Justification
Phase 2 Program Scheduling Blocks
Observing Unit Set
The Scheduling Block
Observing Groups
Targets
Field Sources
Instrument Setup
Observing Parameters
Expected Source Properties
One of the reasons for providing this information is to aid in technical assessment. All relevant items should be filled in or the project will not validate. This means that a continuum flux must be entered for a continuum project and a line flux and width must be filled in for a spectral line project. If full polarization is selected, at least one of the line or continuum polarization percentages must also be given.
Passive phasing is required: This is only shown for VLBI and Phased Array projects and is used to signify that the total flux of the source being observed is not sufficient to allow phasing of the array using that source and thus that an additional calibrator must be used. The continuum flux limits are 0.35 Jy for Band 1, 0.5 Jy for Band 3 and Band 6, and 0.7 Jy for Band 7. For spectral line observing the flux thresholds are calculated using the formula reported in the Proposer's Guide. If this is selected, a specific ("fixed") phase calibrator must be defined in Calibrator Setup.
Peak Continuum Flux Density per Synthesized Beam: The expected flux density per
Expected Source Properties
Passive phasing is required (science target < 0.7 Jy)
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
Representative Frequency (Sky) 349.600 GHz
Array Type 12m
Antenna Beamsize (HPBW) 16.656 arcsec
Show Antenna Beamsize
Image Query
Image Server Digitized Sky (Version II) at ESO
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 Proposal
Create Science Goals
Validate Science Proposal
Submit Science Proposal


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
Proposal Information
Proposal Title
Proposal Cycle
2024.1
Abstract
(max. 1200 characters)
Proposal Type
Regular
Target Of Opportunity
VLBI
Large Program
Phased Array
Resolve
Name of object
Unspecified
Sexagesimal display?
Parallax
16.62890
mas
PM RA
-68.30900
mas/yr
PM Dec
-13.90000
mas/yr
Isrk
z
0.000041146
Doppler Type
RELATIVISTIC
Target Type
Individual Pointing(s)
1 Rectangular Field
Expected Source Properties
Passive phasing is required (science target < 0.7 Jy)
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
1x
268, 447
0.0
Image Filename
FOV Parameters
Representative Frequency (Sky)
349.600 GHz
Array Type
12m
Antenna Beamsize (HPBW)
16.656 arcsec
Show Antenna Beamsize
Image Query
Image Server
Digitized Sky (Version II) at ESO
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 Proposal
Create Science Goals
Validate Science Proposal
Submit Science Proposal

ALMA Observing Tool (Cycle 11 (Phase 2 Patch 1)) - Project

File Edit View Tool Search Help Perspective 1

Project Structure

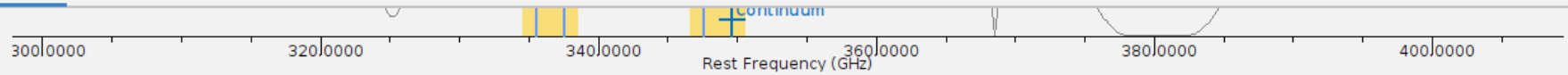
Proposal Program

Unsubmitted Proposal

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

Editors

Spectral Spatial Spectral Setup



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

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] (1 [35.0-50.0 GHz] / 3 [84.0-116.0 GHz] / 6 [211.0-275.0 GHz] / 7 [275.0-373.0 GHz])

Sky Frequency

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)	335.60000 GHz	335.60000 GHz	Single Continuum	1875.000 MHz(1675 km/s), 7.813 MHz(6.979 km/s) (2-bit)+VLBI	8	

Show image spectral windows

Baseband-2

1(Full)	337.60000 GHz	337.60000 GHz	Single Continuum	1875.000 MHz(1665 km/s) 7.813 MHz(6.938 km/s) (2-bit)+VLBI	8	

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

Sensitivity

Requested RMS over 88.563 m/s is 7.07 mJy

For a peak flux density of 45.00 mJy , the S/N is 6.4

Achieved RMS over the total 4.102 GHz bandwidth is 34.29 uJy

For a continuum flux density of 0.00 mJy , the achieved S/N is 0.0

For a peak line flux of 45.00 mJy , the achieved S/N over 1/3 of the source line width (300.00 m/s / 3 = 100.00 m/s) is 6.8

Line width / bandwidth used for sensitivity (300.00 m/s / 88.56 m/s) = 3.39

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.

Spectral dynamic range

Spectral dynamic range is related with the bandpass accuracy.
It is 1000 (B3-B6), 400 (B7), 250 (B8), 170 (B9), and 150 (B10).