



# The New Web-based Observing Tool (OT)

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Partial Material from the ALMA OT Working Group

# Steps to Prepare Your Proposal

## 1. Project Feasibility

- Cycle 13 Proposer's Guide (PG) – observational capability
- ALMA Archive – duplication check

## 2. Proposal drafting and submission

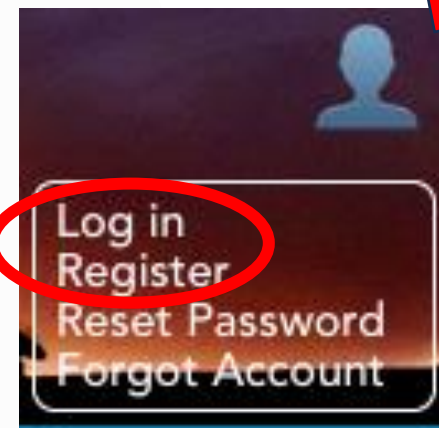
- Your ALMA user account and user profile – distributed peer-review
- Observing Tool (OT) – differences between the new and old OTs
- Knowledgebase & Helpdesk

# ALMA user account and profile

- ALMA Science Portal (ALMA SP): <https://almascience.org>



Log in or register your ALMA user account



# ALMA user account and profile

- Update your demographics and expertise

Account Info Project delegation **Demographics** Expertise Conflicts of Interest Confirm

## Demographics

← Previous → Next

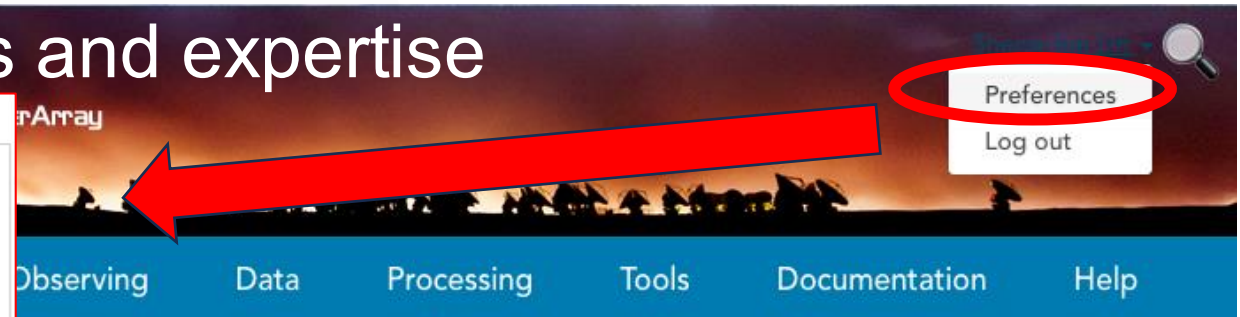
I agree to provide this information  Yes  No

Year of PhD

Professional status

Observing specialty	None	Novice	Intermediate	Experienced
Radio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
mm/Submm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
IR	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
UV/Optical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Xray	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Theory/Modeling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Techniques	None	Novice	Intermediate	Experienced
Interferometry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Total Power	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



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
- > Circumstellar disks, exoplanets and the solar system
- > Stellar Evolution and the Sun

Important for your distributed peer review assignments!

# Observing Tool (OT)



- Click  to enter **the web-based OT** or via <https://cycle-13.sps.alma.cl>

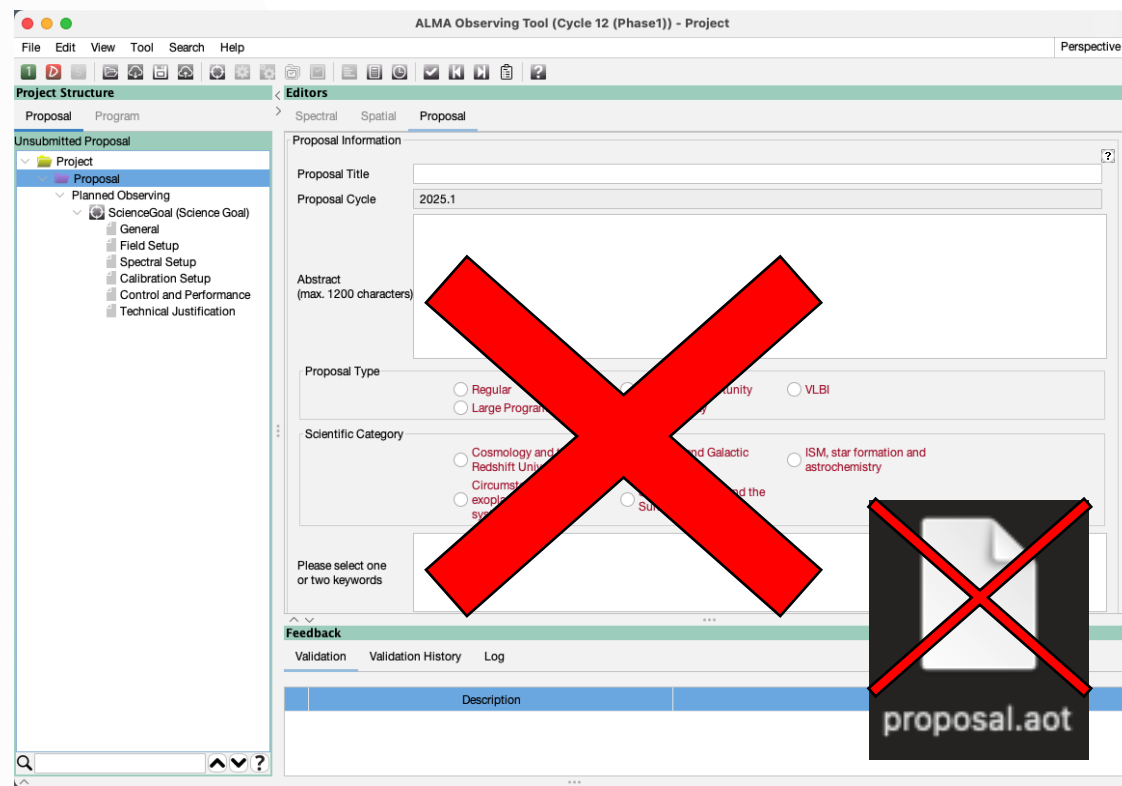
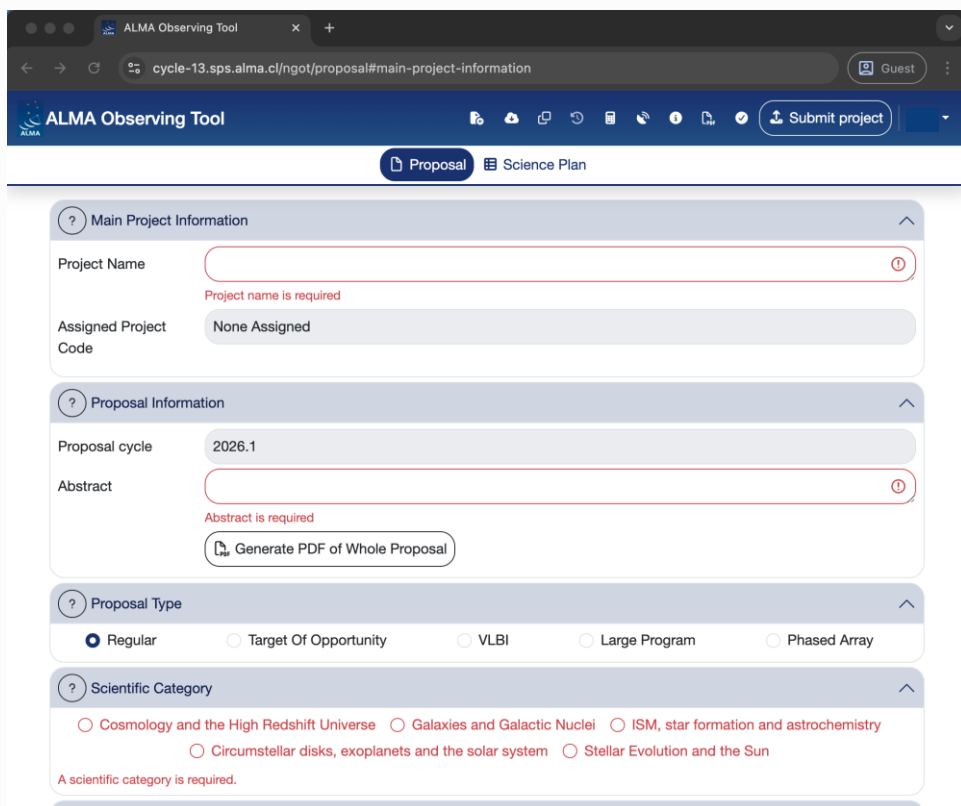
- Documentation
  - *OT video tutorials*
  - User & reference manuals
- Troubleshooting
  - FAQ and known issues
  - Knowledgebase
  - Helpdesk

<https://almascience.org/proposing/observing-tool>

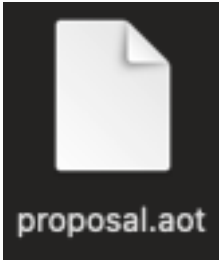
The screenshot shows the ALMA Observing Tool website. The navigation bar includes 'About', 'Science', 'Proposing', 'Observing', 'Data', 'Processing', 'Tools', 'Documentation', and 'Help'. The 'Tools' menu is expanded, listing various tools. A red arrow points to the 'Tools' menu, and another points to the 'Observing Tool' option. Below the main content, 'Documentation' and 'Troubleshooting' sections are highlighted with red arrows. Blue circles highlight specific links: 'OT video tutorials' in the documentation, 'FAQ and Known Issues' and 'Helpdesk Knowledgebase' in the troubleshooting section, and 'Helpdesk ticket' in the troubleshooting section. The footer contains 'Site Map', 'Accessibility', 'Contact', 'Privacy Statement', and 'Region: EA EU NA'.

# Observing Tool (OT)

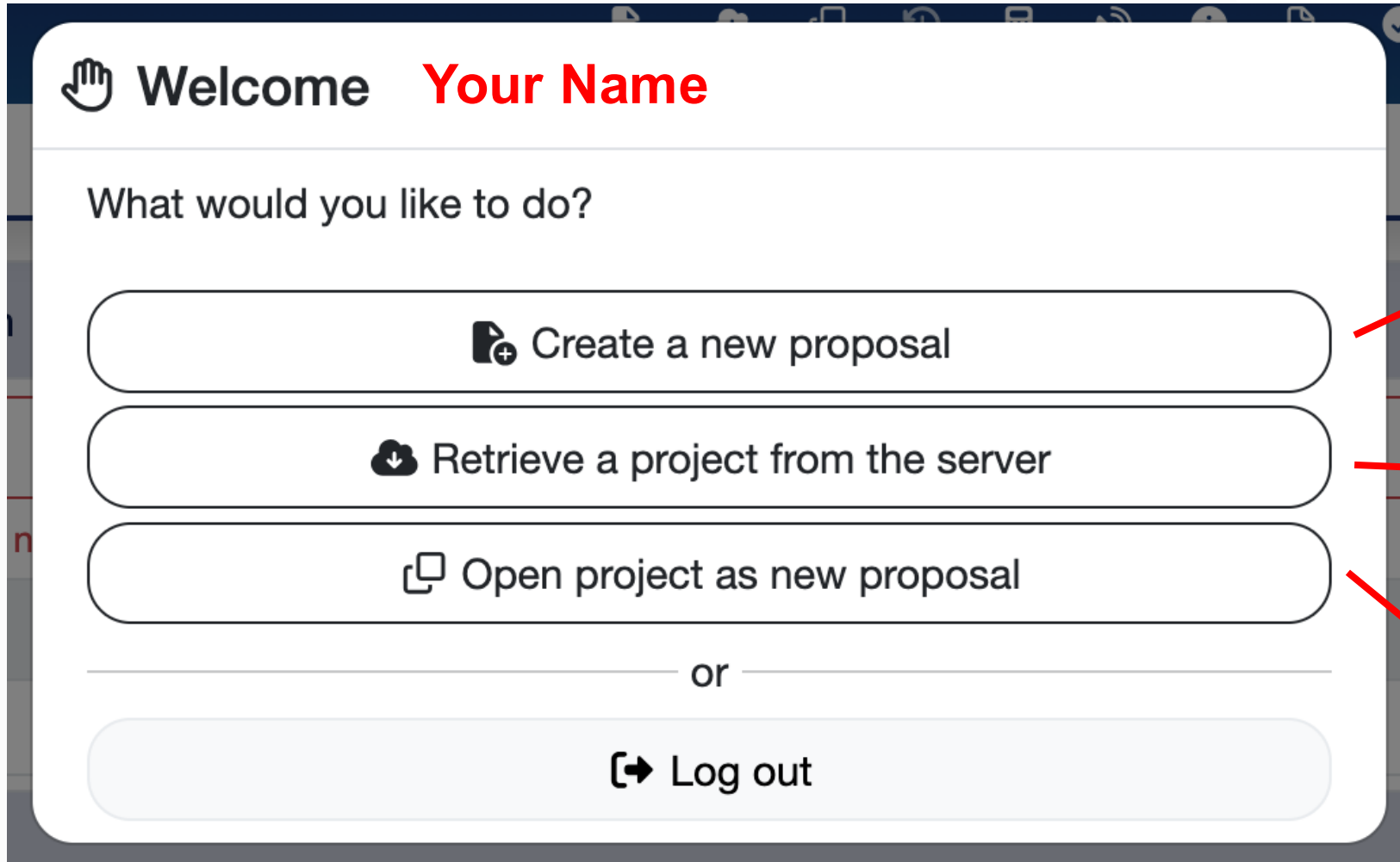
- The desktop-based OT is **replaced** by the new **web-based OT** in Cycle 13.
- Only the Cycle 12 DDT proposal submission uses the desktop-based OT.



# Main Differences

Feature	Old Desktop-based OT	New Web-based OT
Access	Java installation & local updates.	<p><b>Via Browser: Chrome, Firefox and Safari.</b></p> <p>Login via the Science Portal. <b>Offline work is no longer supported.</b></p>
Input fields	Done by hitting 'Enter' or clicking away.	<p><b>'Enter' doesn't always work in the browser.</b></p> <p>Use 'Tab' or click away.</p>
Saving	Local *.aot file. 	<p><b>Cloud autosave functionality overwrites the previous draft version when the user leaves a field or stops typing for 0.5 sec.</b></p> <p><b>No redo button! Saving to an *.aot file is no longer supported!</b></p> <p><b>Advice 1:</b> Make a copy of your proposal to test a different setup.</p> <p><b>Advice 2:</b> Submit your proposal when it is almost ready. Submitted proposals with <b>unsubmitted changes</b> can be reverted back to the last submitted version.</p>
Collaboration	Writing access is highly controlled by the PI.	<p><b>Writing access to draft proposals is open for the PI and all Co-(P)Is.</b></p> <p><b>Advice:</b> Clear communication between PI and Co-(P)Is regarding project editing is essential to prevent unwanted overwrites of the proposal.</p> <p>The PI can always share the OT-generated PDF file of the whole proposal.</p>
Spatial Visualizer (Aladin Interface)	Ability to manually draw and adjust a mosaic field.	<p><b>Only for adding pointings</b>, but currently lacks the functionality to move existing pointings.</p> <p><b>Advice:</b> Set up pointings in CARTA and then read them into the web-based OT via the import button.</p>

# Welcome Screen



Create a new draft proposal

Open a draft or a submitted proposal from the staging area

Make a copy of a draft or submitted proposal

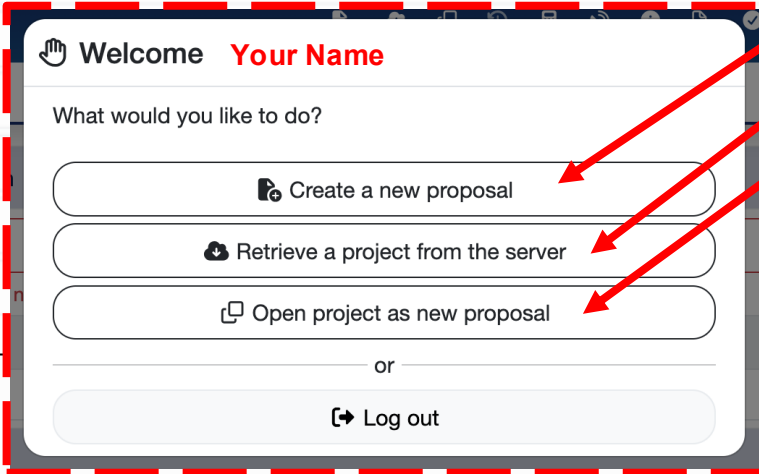
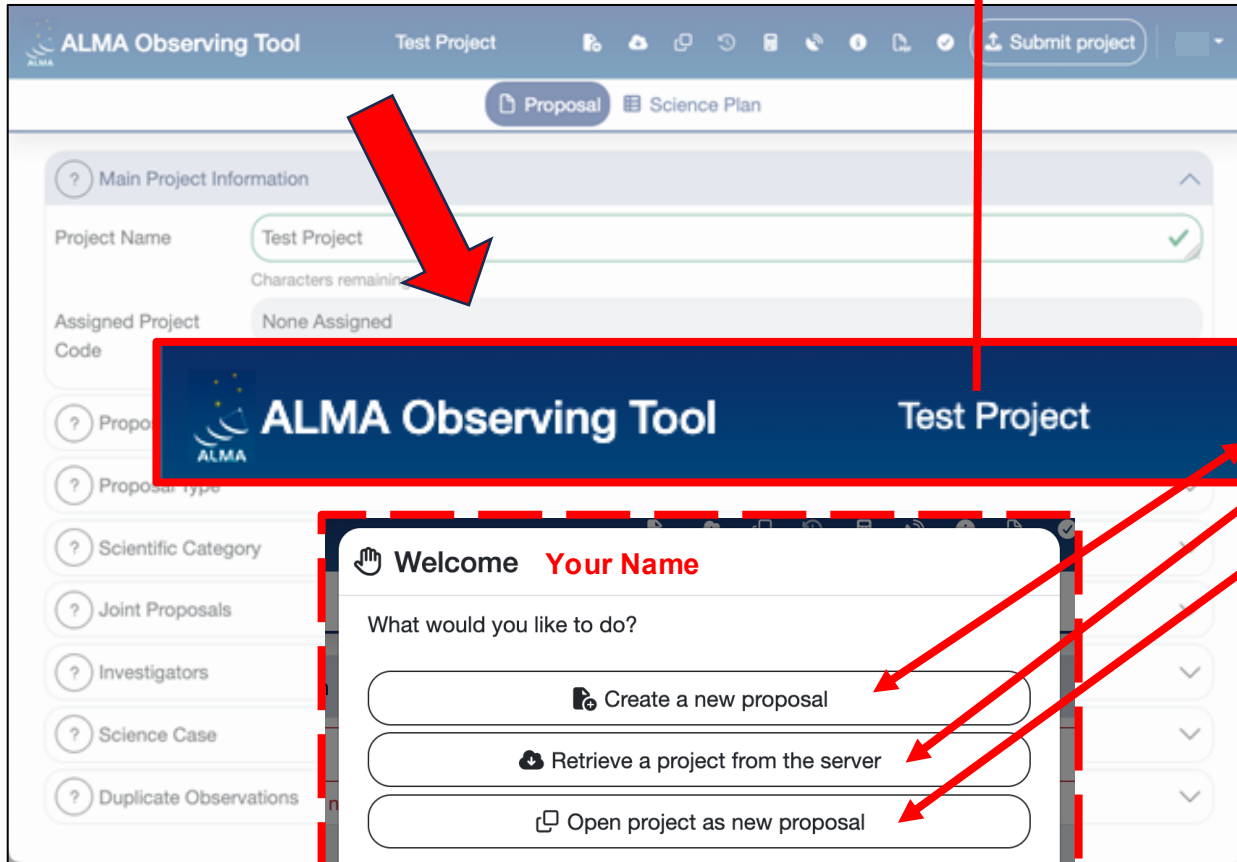
# Header Bar

Proposal title

Revert a project with  
unsubmitted changes to the  
last submitted version

Generate the PDF file  
of the whole proposal  
(4-page Science Case & OT setup)

Validate



Sensitivity  
calculator

*Only PI can submit!*

OT documentation

Open array configuration tables

# General Proposal Information

The screenshot shows the ALMA Observing Tool interface. At the top, there is a blue header with the ALMA logo, the text 'ALMA Observing Tool', and 'Test Project'. To the right of the header are several icons and a 'Submit project' button. Below the header is a navigation bar with two tabs: 'Proposal' (active) and 'Science Plan'. The main content area is divided into sections. The first section is 'Main Project Information', which is expanded. It contains two input fields: 'Project Name' with the value 'Test Project' and a green checkmark, and 'Assigned Project Code' with the value 'None Assigned'. Below this section are several collapsed sections: 'Proposal Information', 'Proposal Type', 'Scientific Category', 'Joint Proposals', 'Investigators', 'Science Case', and 'Duplicate Observations'. Each section has a question mark icon and a downward arrow.

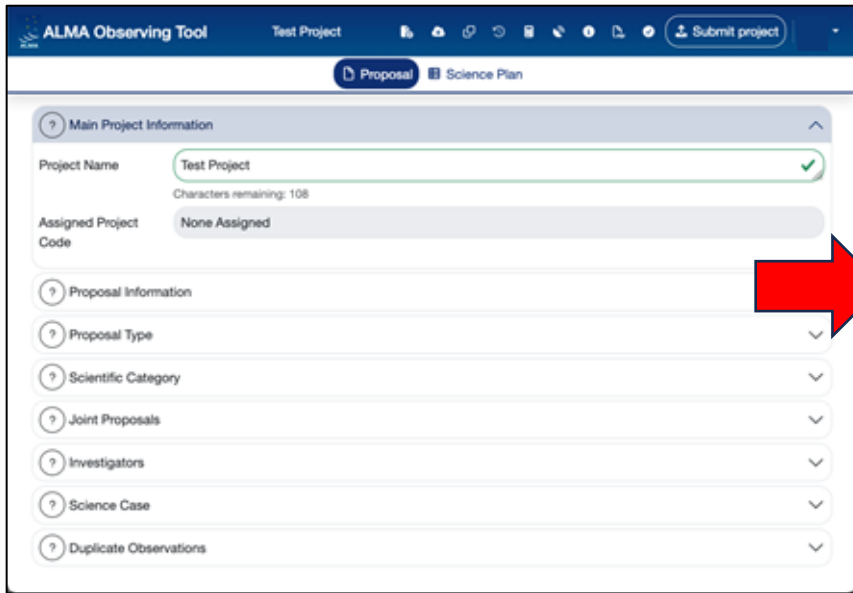
## Input fields

- It is recommended to use the tab button to leave a field. Enter will not always work.

## Autosaving

- The content of the proposal is automatically saved, either when the user leaves a field or when they stop typing for 0.5 sec.
- There is only one version of a proposal. Autosaving overwrites the previous version.

# General Proposal Information



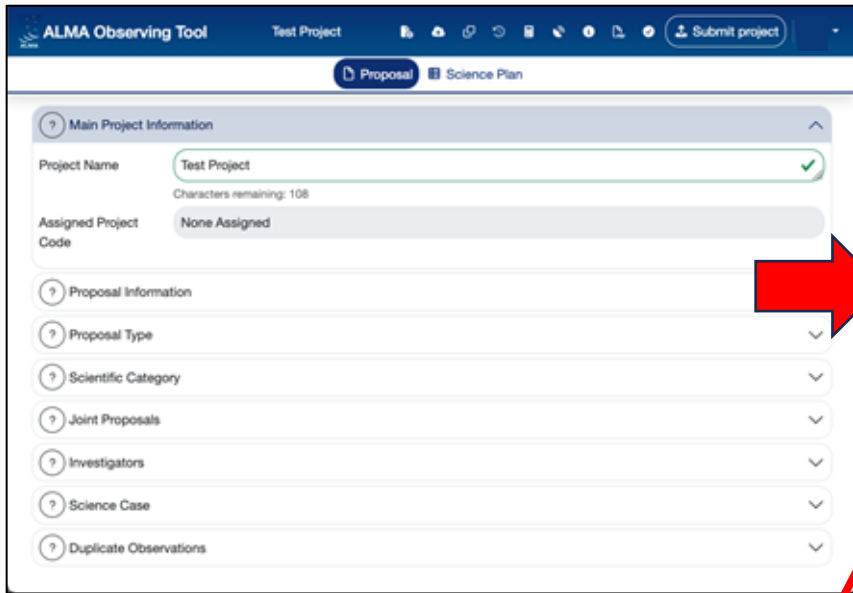
By default, the Proposal Type is set to Regular

The main screenshot shows the ALMA Observing Tool interface for a 'Test Project'. The top navigation bar includes the ALMA logo, 'ALMA Observing Tool', 'Test Project', and a 'Submit project' button. Below the navigation bar are tabs for 'Proposal' and 'Science Plan'. The interface is divided into several sections:

- Main Project Information:** Project Name: Test Project (with a green checkmark and 'Characters remaining: 108'); Assigned Project Code: None Assigned.
- Proposal Information:** Proposal cycle: 2026.1; Abstract: (empty field with a red border and a red exclamation mark icon); a red error message 'Abstract is required' is displayed below the field; a button 'Generate PDF of Whole Proposal' is located below the abstract field.
- Proposal Type:** Radio buttons for Regular (selected), Target Of Opportunity, VLBI, Large Program, and Phased Array.
- Scientific Category:** Radio buttons for Cosmology and the High Redshift Universe, Galaxies and Galactic Nuclei, ISM, star formation and astrochemistry, Circumstellar disks, exoplanets and the solar system, and Stellar Evolution and the Sun; a red error message 'A scientific category is required.' is displayed below the options.

Red arrows highlight specific elements: one points from the 'Submit project' button in the top right to the 'Generate PDF of Whole Proposal' button; another points from the 'Regular' radio button in the 'Proposal Type' section to the text 'By default, the Proposal Type is set to Regular'; and a third points from the right side of the thumbnail to the 'Main Project Information' section.

# General Proposal Information



By default, the creator of the proposal is set as PI. This can be changed with 'Select PI'. If the PI is changed, the previous PI is added as co-I to the proposal.

### Joint Proposals

Is this a Joint Proposal?  Yes  No

### Investigators

Reviewer	Type ↓	Full Name	Affiliation	ALMA ID	Executive
<input type="radio"/>	PI	-----Your information-----			East Asia ▾

0 selected / 1 collaborator(s) found

No reviewer has been defined.

### Science Case

Please ensure that your science case is properly anonymized following [instructions on the Science Portal](#).

Science Case (Mandatory, PDF, 4 pages max.)

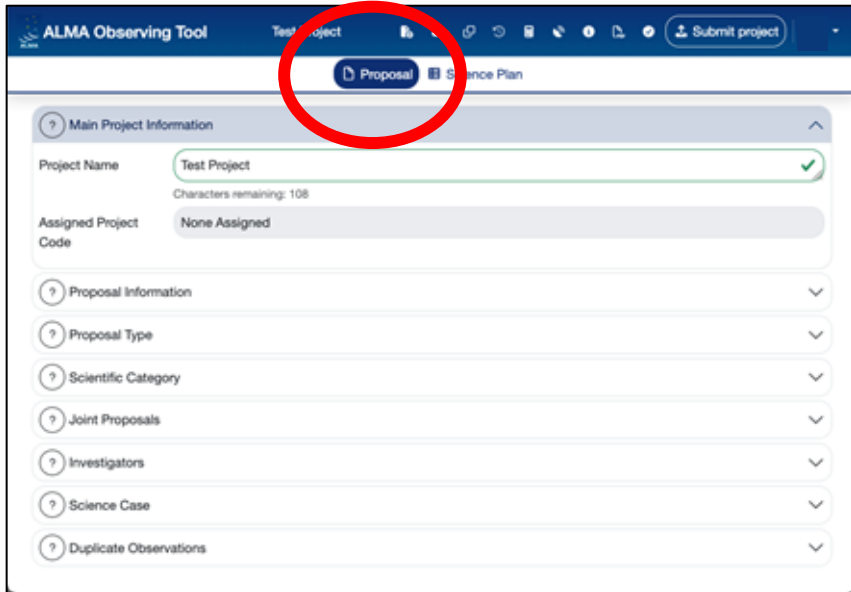
It is mandatory to attach a Science Case.

### Duplicate Observations

Briefly justify any new observations that duplicate archival data or accepted programs.

Information regarding the ALMA Duplication Policy and how to search archival data and accepted programs can be found at: <http://almascience.org/proposing/duplications>

# Science Plan and Science Goals (SGs)



Science Goals (1)

Project Overview Time Summary Data Volumes & Data Rates

Science Goal Name	No. Sources	Band	Spec. Type	No. Spec. Wind.	Pol.	Calibration Setup	Rep. Freq.	Ang. Res.	Largest Scale	Sens.
Science Goal	1	undefined	Spectral Line	0	Dual	System	0.00000 GHz	0.00000 arcsec	-1.00000 arcsec	0.00000 Jy

Summary for the whole project

Information for each science goal  
By default, an empty Science Goal is defined.

- General
- Field setup
- Spectral Setup
- Calibration Setup
- Control and Performance
- Technical Justification

# Science Plan and Science Goals (SGs)

Proposal Science Plan

ALMA Observing Tool Test Project

Submit project

Main Project Information

Project Name: Test Project

Assigned Project Code: None Assigned

Proposal Information

Proposal Type

Scientific Category

Joint Proposals

Investigators

Science Case

Duplicate Observations

ALMA Observing Tool Test Project

Submit project

Project Overview Time Summary Data Volumes & Data Rates

Science Goal Name	No. Sources	Band	Spec. Type	No. Spec. Wind.	Pol.	Calibration Setup	Rep. Freq.	Ang. Res.	Largest Scale	Sens.
Science Goal	1	undefined	Spectral Line	0	Dual	System	0.00000 GHz	0.00000 arcsec	-1.00000 arcsec	0.00000 Jy

Science Goals (1)

General

Field setup

Spectral Setup

Calibration Setup

Control and Performance

Technical Justification

Summary for the whole project

Information for each science goal  
By default, an empty Science Goal is defined.

Science Goals (1)

+

Science Goal

Copy science goal

Delete science goal

Spectral Setup

Calibration Setup

Control and Performance

Technical Justification

Science Goals can be added with **the plus button** or **copied/removed under the down arrow**.

Copy a SG to test your different setup!

# Science Goal (SG): General information

The screenshot shows the ALMA Observing Tool interface. At the top, there's a header with the ALMA logo and 'ALMA Observing Tool' text. Below that, 'Test Project' is displayed. A navigation bar contains 'Proposal' and 'Science Plan' buttons. A 'Submit project' button is in the top right. Below the navigation bar, there are three tabs: 'Project Overview', 'Time Summary', and 'Data Volumes & Data Rates'. The 'Project Overview' tab is active, showing a table with the following data:

Science Goal Name	No. Sources	Band	Spec. Type	No. Spec. Wind.	Pol.	Calibration Setup	Rep. Freq.	Ang. Res.	Largest Scale	Sens.
Science Goal	1	undefined	Spectral Line	0	Dual	System	0.00000 GHz	0.00000 arcsec	-1.00000 arcsec	0.00000 Jy

A red box highlights the table and the sidebar menu on the left. The sidebar menu includes: Science Goals (1), General, Field setup, Spectral Setup, Calibration Setup, Control and Performance, and Technical Justification. A large blue text overlay reads 'Summary for the whole project'.

This screenshot shows the 'General (Optional)' form for a selected Science Goal. A red arrow points to the 'General' option in the sidebar menu. The form includes a text input field for a name and description, a 'Science goal name' field with the value 'Science Goal', and a 'Description' field. A large blue text overlay reads 'General information for a selected SG'.

# Science Goal (SG): Field setup

By default, an empty source field is defined in the Field setup.

Science Goals (1)

Source

Source name

Source name is required

Resolve source

Choose a Solar System Object?

System ICRS  Sexagesimal display

RA 00:00:00.0000 ✓ hh:mm:ss

Dec +00:00:00.000 ✓ dd:mm:ss

Source coordinates

Parallax 0.00000 ✓ mas

PM RA 0.00000 ✓ mas/yr

PM Dec 0.00000 ✓ mas/yr

Source Radial Velocity 0.00000 ✓ km/s  lsrk

z 0.000000000 ✓ Doppler Type RADIO

Target Type Individual Pointing(s)

Spatial visualizer

ICRS 00 00 00.0 +0 0 0

Set coordinates + Add pointing Reset FOV

FOV Parameters

Representative Frequency (Sky) 1.00000 GHz

Array Type 12m

Antenna Beamsize (HPBW) 5822.94963 arcsec

Show Antenna Beamsize

Expected Source Properties

Peak Continuum Flux Density per Synthesized Beam 0.00000 ✓ Jy

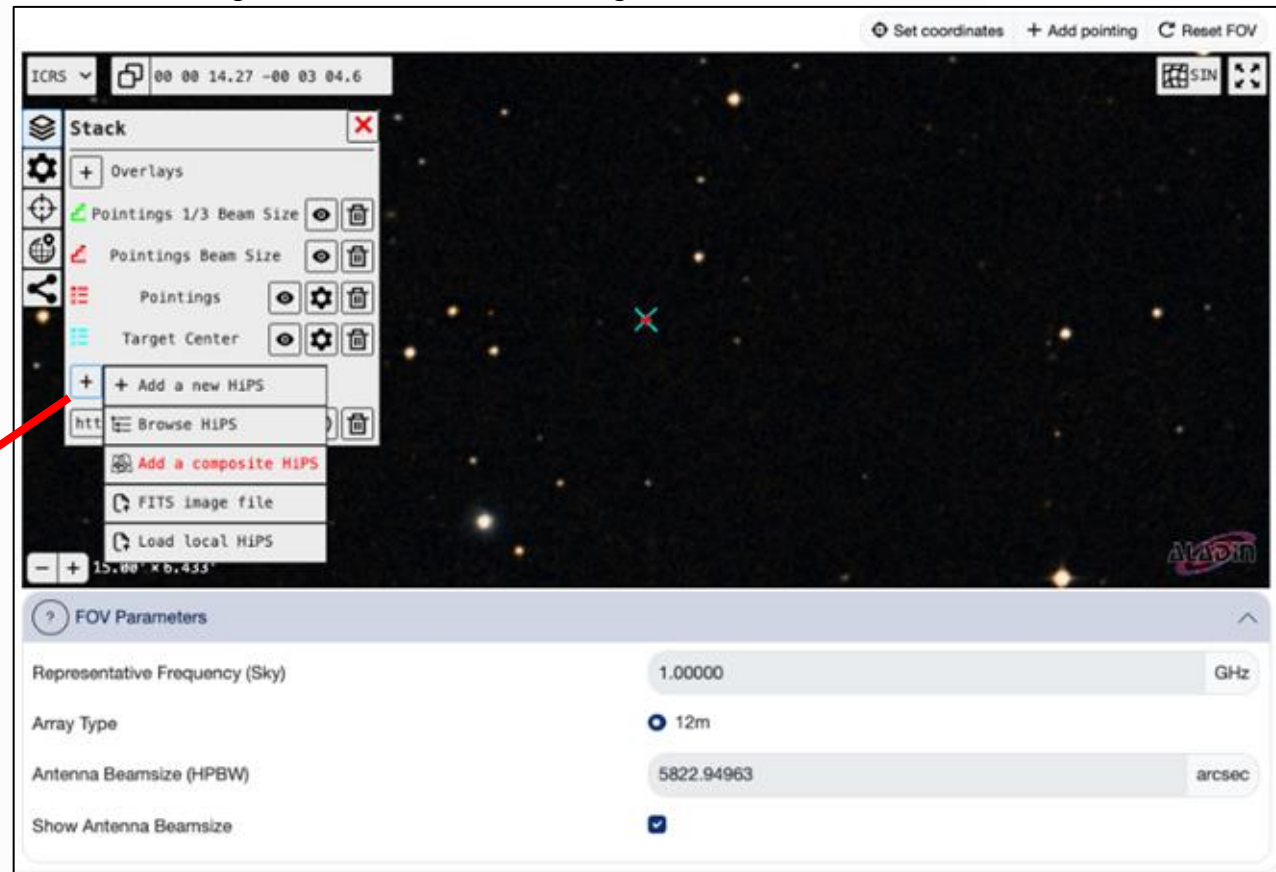
Continuum Linear Polarization 0.00000 ✓ per cent

Sources can be added, imported, exported or deleted.

Target Type:  
Individual Pointing(s)  
Rectangular field

# Field setup - Spatial visualizer

Spatial visualizer displays the browser version of the Aladin interactive Sky Atlas, functionality is basically the same.



Loading user FITS file by clicking on the plus next to 'Survey' and 'FITS image file'

Click for full window view of visualizer

# Field setup - Target Type

Target Type

Individual Pointing(s) ▾

Target Type

1 Rectangular Field ▾

Individual pointings can be added one by one, reset, imported or exported.

delete

Field Centre Coordinates

Coordinates Type  Relative  Absolute

Array Type  12m  7m

Offset Unit

Number of Pointings 12m Array 3 7m Array 3

Pointings

+ Add Reset Import Export ▾

RA [arcsec]	Dec [arcsec]
<input type="text" value="0.00000"/>	<input type="text" value="0.00000"/>
<input type="text" value="23.59548"/>	<input type="text" value="32.86514"/>
<input type="text" value="-12.64045"/>	<input type="text" value="27.80896"/>

Rectangle

Coordinates Type  Relative  Absolute

Field Centre Coordinates

Offset (Longitude)   arcsec ▾

Offset (Latitude)   arcsec ▾

p length   arcsec ▾

q length   arcsec ▾

Position Angle   deg ▾

Spacing

fraction of antenna beamsize ▾

Number of Pointings 12m Array 38  7m Array 13

Reset to Nyquist

Export ▾

Pointings of a rectangular field can be exported.

# Field setup - Target Type

Target Type Individual Pointing(s) ▾

Target Type 1 Rectangular Field ▾

Individual pointings can be added one by one, reset, imported or exported.

Field Centre Coordinates

Coordinates Type  Relative  Absolute

Array Type  12m  7m

Offset Unit  ▾

Number of Pointings 12m Array 3 7m Array 3

Pointings

+ Add Reset Import Export ▾

RA [arcsec]	Dec [arcsec]
<input type="text" value="0.00000"/>	<input type="text" value="0.00000"/>
<input type="text" value="23.59548"/>	<input type="text" value="32.86514"/>
<input type="text" value="-12.64045"/>	<input type="text" value="27.80896"/>

delete

Rectangle

Coordinates Type  Relative  Absolute

Field Centre Coordinates

Offset (Longitude)  ✓  ▾

Offset (Latitude)  ✓  ▾

p length  ✓  ▾

q length  ✓  ▾

Position Angle  ✓  ▾

Spacing  ✓

fraction of antenna beamsize ▾

Reset to Nyquist

Number of Pointings 12m Array 38 ✓ 7m Array 13 ✓

Export ▾

Pointings of a rectangular field can be exported.

Export using absolute coordinates

Sexagesimal

Degrees

Radians

Export using offset coordinates

Arcsec

Arcmin

Degrees

Export

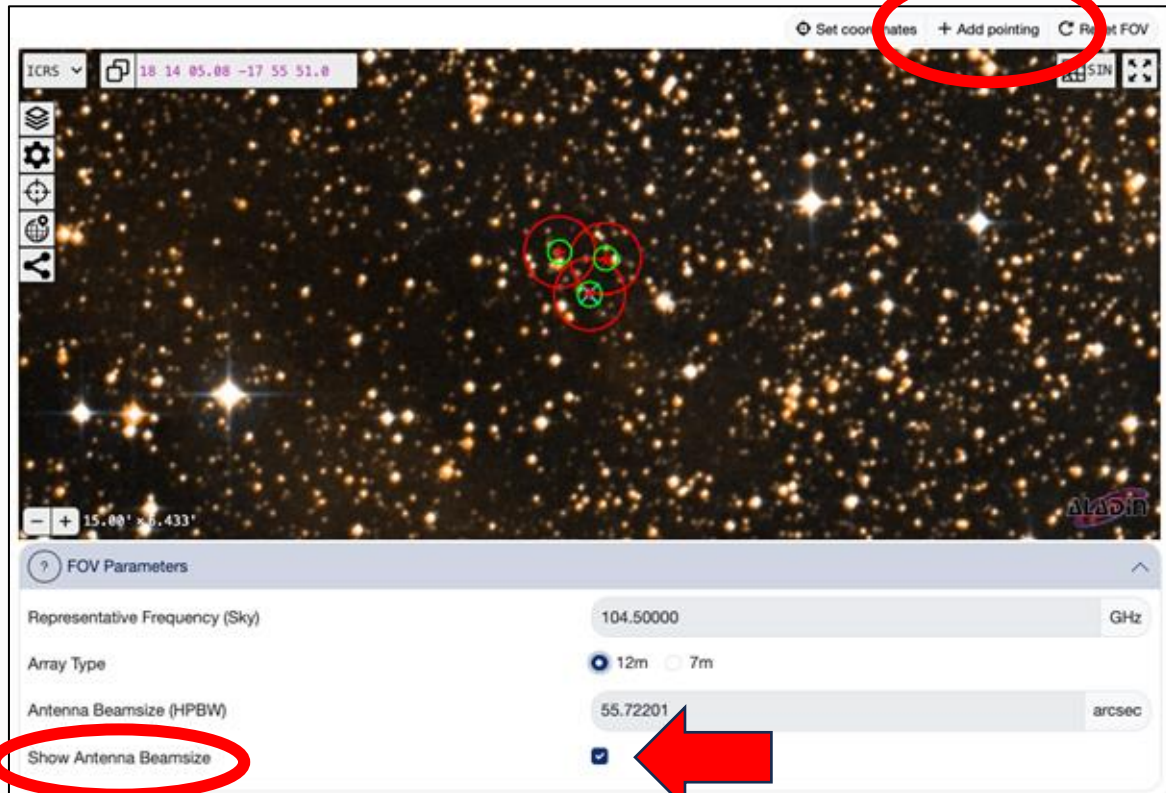
Pointings can be defined in CARTA (or old OT) and exported into OT using the right file format.

```
RA,Dec,Coordinate Type,Coordinate Units
-- This signals end of the header
0.00000,0.00000,Absolute,DEGREES
0.0065543,0.0091292055555556,Absolute,DEGREES
359.99648876388886,0.0077247111111111,Absolute,DEGREES
```

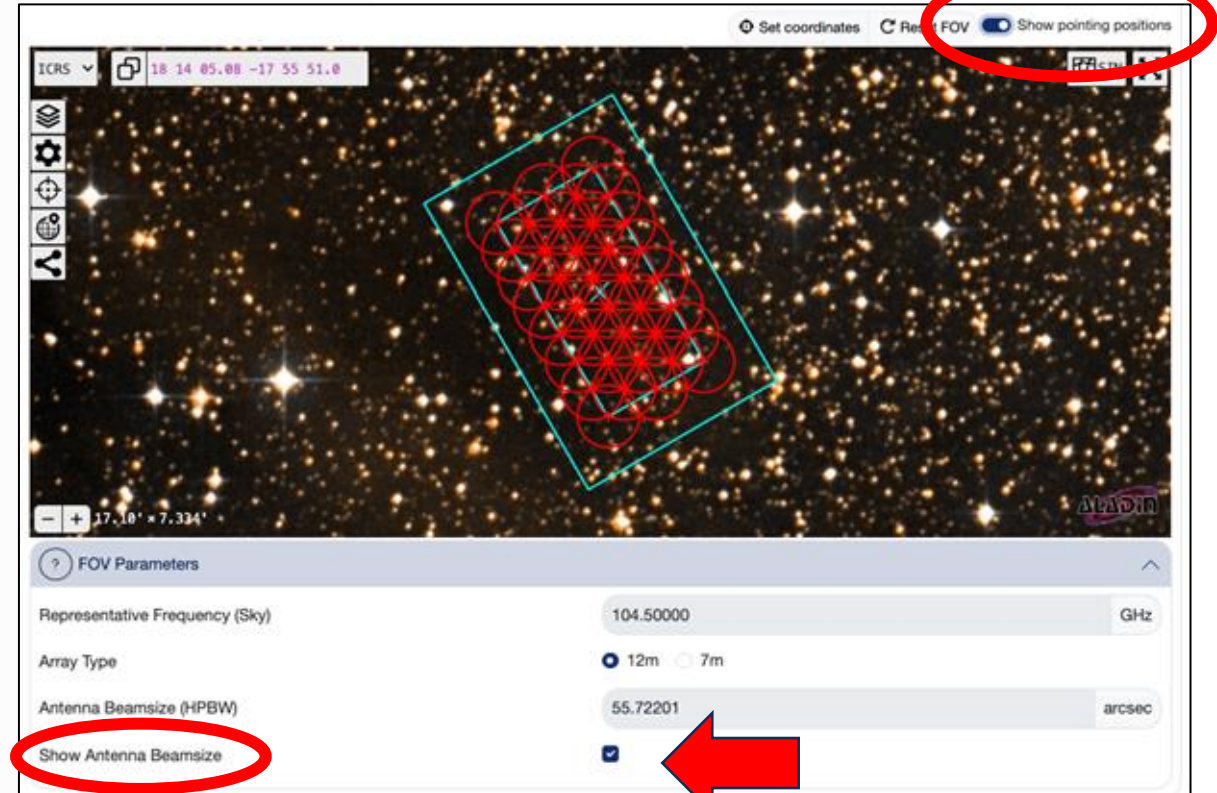
# Field setup - Target Type



Individual pointings can be added in the visualizer but **not moved or removed**.



**NO** interactivity implemented for rectangles. Toggle activates pointing positions.



# Science Goal (SG): Spectral Setup

Science Goal

- General
- Field setup
- Spectral Setup** ←
- Calibration Setup
- Control and Performance
- Technical Justification

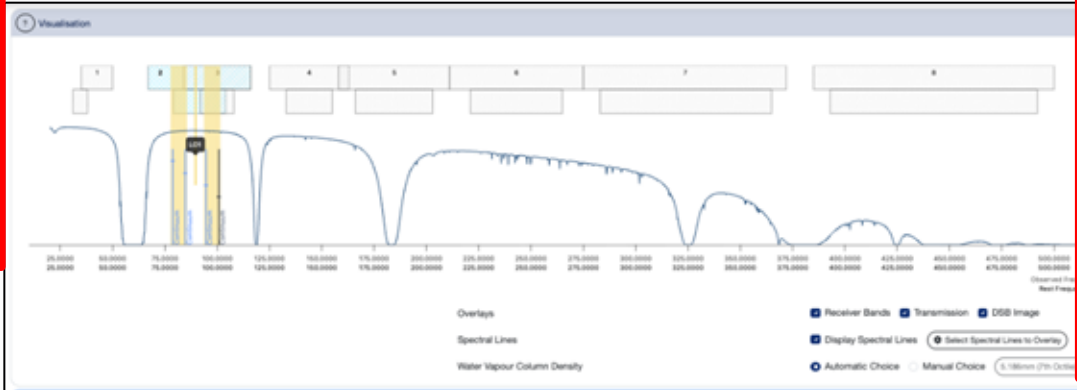
The interface displays a visualization of the spectral setup with receiver bands and transmission lines overlaid on a frequency spectrum. Below the visualization, the 'Spectral Type' is set to 'Single Continuum'. The 'Receiver Band' is 2 [87.0-116.0 GHz]. The 'Sky Frequency' is 89.70000 GHz, and the 'Rest Frequency' is 89.70000 GHz. The 'Spectral Resolution' is set to 'Low spectral resolution (TDM)'. The table below lists the parameters for four basebands.

Baseband	Fraction	Centre Freq (rest, top)	Centre Freq (sky, top)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
Baseband-1	1 (Full)	78.70000 GHz	78.70000 GHz	Single Continuum	1875.000 MHz(7142 km/s), 31.250 MHz(119.041 km/s) (2-bit)	1	
Baseband-2	1 (Full)	84.70000 GHz	84.70000 GHz	Single Continuum	1875.000 MHz(6636 km/s), 31.250 MHz(110.408 km/s) (2-bit)	1	
Baseband-3	1 (Full)	94.70000 GHz	94.70000 GHz	Single Continuum	1875.000 MHz(5936 km/s), 31.250 MHz(98.928 km/s) (2-bit)	1	
Baseband-4	1 (Full)	100.70000 GHz	100.70000 GHz	Single Continuum	1875.000 MHz(5282 km/s), 31.250 MHz(93.034 km/s) (2-bit)	1	

# Science Goal (SG): Spectral Setup

Science Goal

- General
- Field setup
- Spectral Setup**
- Calibration Setup
- Control and Performance
- Technical Justification



Known issue – Band 2 Single Continuum: The broader IF range (4–12 GHz) is only available at the default sky frequency; otherwise, the Band 3 IF range (4–8 GHz) is used.

To set up a continuum observation with wider separation of the spectral windows the user shall choose the spectral line spectral type.

Spectral Type

Single Continuum

Receiver Band: 2 [87.0-116.0 GHz]

Sky Frequency: 89.70000 GHz

Rest Frequency: 89.70000 GHz

Spectral Resolution:  Low spectral resolution (TDM)  High spectral resolution (FDM)

Baseband	Fraction	Centre Freq (rest, top)	Centre Freq (sky, top)	Transition	Bandwidth, Resolution (smoothed)	Spec. Avg.	Representative Window
Baseband-1	1 (Full)	78.70000 GHz	78.70000 GHz	Single Continuum	1875.000 MHz(7142 km/s), 31.250 MHz(119.041 km/s) (2-bit)	1	
Baseband-2	1 (Full)	84.70000 GHz	84.70000 GHz	Single Continuum	1875.000 MHz(6636 km/s), 31.250 MHz(110.608 km/s) (2-bit)	1	
Baseband-3	1 (Full)	94.70000 GHz	94.70000 GHz	Single Continuum	1875.000 MHz(5936 km/s), 31.250 MHz(98.928 km/s) (2-bit)	1	
Baseband-4	1 (Full)	100.70000 GHz	100.70000 GHz	Single Continuum	1875.000 MHz(5582 km/s), 31.250 MHz(93.034 km/s) (2-bit)	1	

# Spectral Setup - Spectral line picker

? Spectral Line

No spectral window in the list. No suitable receiver band for the range :[0.0 GHz, 0.0 GHz]

Baseband-1

+ Add spectral window centred on a spectral line + Add spectral window manually Delete all

Baseband-2

+ Add spectral window centred on a spectral line + Add spectral window manually

Baseband-3

+ Add spectral window centred on a spectral line + Add spectral window manually

Baseband-4

+ Add spectral window centred on a spectral line + Add spectral window manually

### Create spectral windows centred on spectral lines

Transition Filter: CO  Include description

ALMA Bands: Min 1 Max 10

Sky Frequency (GHz): Min 35 Max 950

Upper-state Energy (K): Min Max

Molecular Filter/Environment: Show All atoms and molecules

Receiver/Back End Configuration:  All lines  Potentially selectable lines  Lines in defined spws  Filtering unobservable lines

Transition	Description	Rest Frequency (GHz) ↑	Sky Frequency (GHz)	Upper-state Energy (K)	Loias Intensity	S <sub>ij</sub> μJ (D <sup>2</sup> )
CO v=2 1-0	Carbon Monoxide	113.172380	113.177432	6134.675000		0.012000
CO v=1 1-0	Carbon Monoxide	114.221757	114.226856	3089.154000		0.012000
CO v=0 1-0	Carbon Monoxide	115.271202	115.276348	5.532000	60.000000	0.012000
CO v=2 2-1	Carbon Monoxide	226.340357	226.350461	6145.538000		0.024000
CO v=1 2-1	Carbon Monoxide	228.439110	228.449308	3100.118000	0.620000	0.024000
CO v=0 2-1	Carbon Monoxide	230.538000	230.548291	16.596000	70.000000	0.024000

25 lines(s) found

Spectral windows in this baseband (maximum of four)

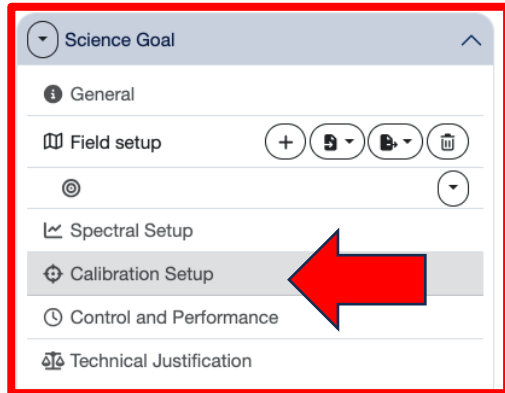
Transition	Rest Frequency (GHz)	Sky Frequency (GHz)
------------	----------------------	---------------------

0 spectral window(s) found

If one uses the transition filter, one needs to click outside of the field for the search to commence.

The catalogue available in the spectral line picker is based on an offline catalogue from Splatalogue. Thus, not all transitions are available. Spectral windows for non-available transitions can be added manually in the spectral line setup.

# Science Goal (SG): Calibration setup



Select calibration strategy

? Goal Calibrators

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)

DGC Override

# Science Goal (SG): Control and Performance - Desired Performance

Science Goal - Band3 (3pt)

- General
- Field setup
- W33
- Spectral Setup
- Calibration Setup
- Control and Performance**
- Technical Justification

Desired Performance

Desired Angular Resolution

Custom (Single/Range)  Any  Standalone ACA

Enter the desired minimum and maximum angular resolution. For a single angular resolution, please enter the same value twice.

1.00000 ✓ arcsec to 3.00000 ✓ arcsec

Largest Angular Structure in source

50.00000 ✓ arcsec

Desired mosaic sensitivity

0.00100 ✓ Jy equivalent to 12.44065 mK @ 3.00 " and 111.96585 mK @ 1.00 "

Bandwidth used for Sensitivity

AggregateBandWidth Frequency Width 7.50000 ✓ GHz

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

Yes  No

Simultaneous 12-m and ACA observations

Yes  No

Are the observations time-constrained?

Yes  No

# Science Goal (SG): Control and Performance - Planning and Time Estimate

Science Goal - Band3 (3pt)

- General
- Field setup
- W33
- Spectral Setup
- Calibration Setup
- Control and Performance** ←
- Technical Justification

Desired Performance
Planning and Time Estimate
Configuration Information

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	1.000 mJy
Bandwidth used for sensitivity	7.500 GHz
Representative frequency (sky, first source)	104.500 GHz
<b>Estimated Total time for Science Goal</b>	<b>56.15 min</b>

Cluster 1

Sources			
Source Name	RA	Dec	Velocity
W33	18:14:05.0757	-17:55:50.989	0 km/s

Possible Configuration Combinations				
12-m(1)	12-m(2)	7-m	TP	
C-1	None	Yes	No	
C-2	None	Yes	No	
C-3	None	Yes	No	

**Input Parameters**

Precipitable water vapour (all sources)	5.186mm (7th Octile)
---	----------------------

**Time required for 12m (1) [C-3]**

Time on source per pointing (first source)	1.75 min [440.86 ms]
Total number of pointings (all sources)	3
Number of tunings	1
Total time on source	5.24 min [1.32 s]
Total calibration time	13.17 min
Other overheads	1.97 min
Total time for 1 SB execution	20.37 min
Number of SB executions	1
Total time to complete SB	20.37 min

**Calibration Breakdown per SB execution**

2 x Pointing	4.00 min
1 x Amplitude/bandpass	5.00 min
2 x Phase	60.00 s
2 x Atmospheric	1.33 min
Calibration overheads	1.83 min

**Additional Arrays**

ACA 7-m on-source time	13.61 min
Total 7-m time	35.78 min
Total ACA time (max[t_7-m, t_TP])	35.78 min
<b>Estimated total time for cluster 1</b>	<b>56.15 min</b>

# Science Goal (SG): Control and Performance - Configuration Information

Open array configuration tables

Science Goal - Band3 (3pt)

- General
- Field setup
- W33
- Spectral Setup
- Calibration Setup
- Control and Performance**
- Technical Justification

Desired Performance | Planning and Time Estimate | **Configuration Information**

Antenna Beamsize (1.13 \* λ/D): 12m 55.72201 arcsec | 7m 95.52344 arcsec

Number of Antennas: 12m 43 | 7m 10 | TP 3

	ACA 7m Configuration	Most compact 12m configuration	Most extended 12m configuration
<b>Longest baseline</b>	49 m	160.7 m	16196.6 m
<b>Synthesized beamsize</b>	12.07065 arcsec	3.17525 arcsec	0.04946 arcsec
<b>Shortest baseline</b>	9 m	15.1 m	256.1 m
<b>Maximum recoverable scale</b>	63.99939 arcsec	27.32853 arcsec	0.47464 arcsec

Open configuration

Configurations are displayed for @100 GHz

ACA C-1 C-2 C-3 C-4 C-5 C-6 C-7  
C-8 C-9 C-10

Dec (deg)	min AR (")	max AR (")	MRS
-80	15.96	15.96	75.43
-77	15.357	15.357	72.542
-74	14.926	14.926	71.747
-71	14.419	14.419	71.236
-68	14.52	14.52	73.889
-65	14.329	14.329	73.168
-62	14.047	14.047	72.465
-59	13.671	13.671	71.794
-56	13.437	13.437	71.154
-53	13.166	13.166	70.557
-50	12.899	12.899	70.005
-47	12.82	12.82	68.96
-44	12.706	12.706	68.102
-41	12.627	12.627	67.435
-38	12.561	12.561	67.165

# Science Goal (SG): Technical Justification

- Science Goal - Band3 (3pt)
- General
- Field setup
- W33
- Spectral Setup
- Calibration Setup
- Control and Performance
- Technical Justification

Enter a technical justification for this science goal, paying special attention to the parameters reproduced below.

### Sensitivity

Requested RMS over 7.500 GHz is 1.00 mJy  
Achieved RMS over the total 7.500 GHz bandwidth is 64.86  $\mu$ Jy, 0.81 mK-7.26 mK  
For a continuum flux density of 0.00 Jy, 0.00 mK-0.00 mK , the achieved S/N is 0.0  
**Note that one or more of the S/N estimates are < 3. Please double-check the RMS and/or line fluxes entered and/or address the issue below.**

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.

Technical Justification cannot be blank.

### Imaging

Requested angular resolution 3.00 arcsec - 1.00 arcsec  
Requested Largest Angular Scale 50.00 arcsec

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

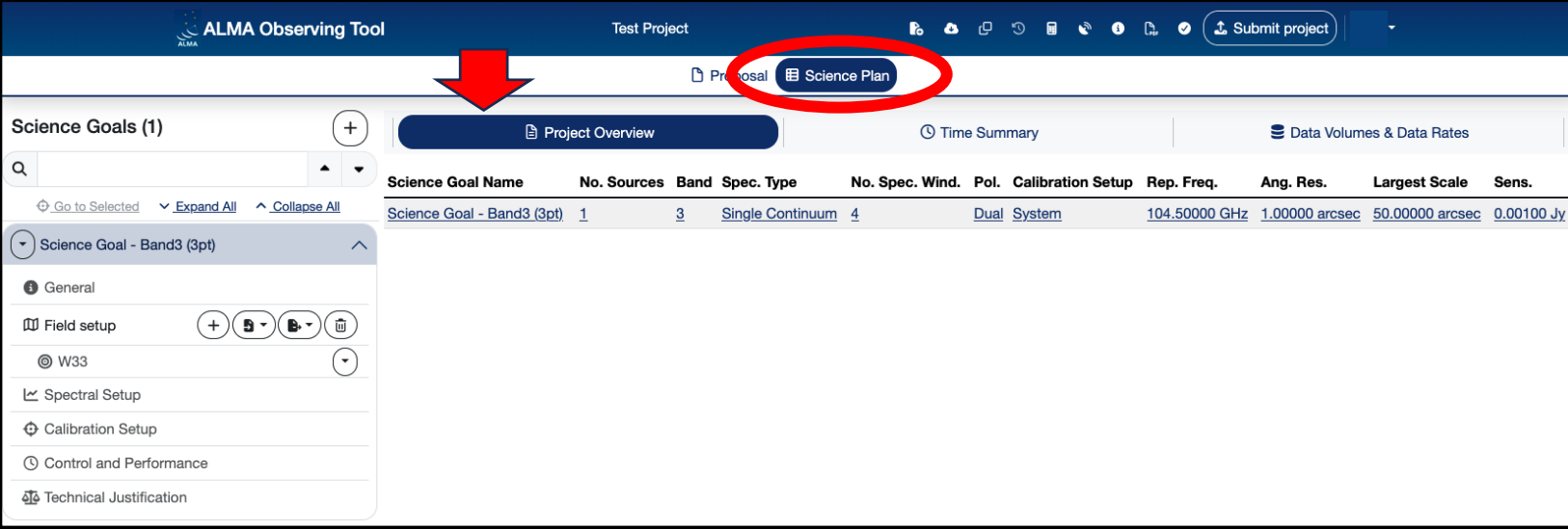
Technical Justification cannot be blank.

### Correlator configuration

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

Technical Justification cannot be blank.

# Science Plan: Project Overview / Time Summary / Data Volumes & Data Rates



The screenshot displays the ALMA Observing Tool interface for a 'Test Project'. The top navigation bar includes a 'Submit project' button. Below the navigation bar, the 'Science Plan' tab is selected and highlighted with a red circle. A red arrow points to the 'Science Plan' button in the top navigation bar. The main content area shows a table of Science Goals and a sidebar for the selected goal.

Science Goal Name	No. Sources	Band	Spec. Type	No. Spec. Wind.	Pol.	Calibration Setup	Rep. Freq.	Ang. Res.	Largest Scale	Sens.
Science Goal - Band3 (3pt)	1	3	Single Continuum	4	Dual	System	104.50000 GHz	1.00000 arcsec	50.00000 arcsec	0.00100 Jy

The sidebar on the left shows the following sections:

- General
- Field setup
- W33
- Spectral Setup
- Calibration Setup
- Control and Performance
- Technical Justification

# Science Plan: Project Overview / Time Summary / Data Volumes & Data Rates

ALMA Observing Tool Test Project

Proposal Science Plan

Science Goals (1)

Project Overview Time Summary Data Volumes & Data Rates

Science Goal Name	No. Sources	Band	Spec. Type	No. Spec.	Wind. Pol.	Calibration Setup	Rep. Freq.	Ang. Res.	Largest Scale	Sens.
Science Goal - Band3 (3pt)	1	3	Single Continuum	4	Dual System		104.50000 GHz	1.00000 arcsec	50.00000 arcsec	0.00100 Jy

Proposal Science Plan

Science Goals (1)

Project Overview Time Summary Data Volumes & Data Rates

Expand all science goals Collapse all science goals

Science Goal Name	12-m(1)		12-m(2)		12-m(1+2)		ACA 7-m		ACA TP		Overall	
	Tot.	Cal.	Tot.	Cal.	Tot.	Cal.	Tot.	Cal.	Tot.	Cal.	Tot.	Cal.
Science Goal - Band3 (3pt)	20.37 min	13.17 min	-	-	20.37 min	13.17 min	35.78 min	19.83 min	-	-	56.15 min	33.00 min
Cluster 1	20.37 min	13.17 min	-	-	20.37 min	13.17 min	35.78 min	19.83 min	-	-	56.15 min	33.00 min
Overall	20.37 min	13.17 min	-	-	20.37 min	13.17 min	35.78 min	19.83 min	-	-	56.15 min	33.00 min

# Science Plan: Project Overview / Time Summary / Data Volumes & Data Rates

ALMA Observing Tool Test Project

Project Overview Time Summary Data Volumes & Data Rates

Science Goal Name	No. Sources	Band	Spec. Type	No. Spec.	Wind. Pol.	Calibration Setup	Rep. Freq.	Ang. Res.	Largest Scale	Sens.
Science Goal - Band3 (3pt)	1	3	Single Continuum	4	Dual System		104.50000 GHz	1.00000 arcsec	50.00000 arcsec	0.00100 Jy

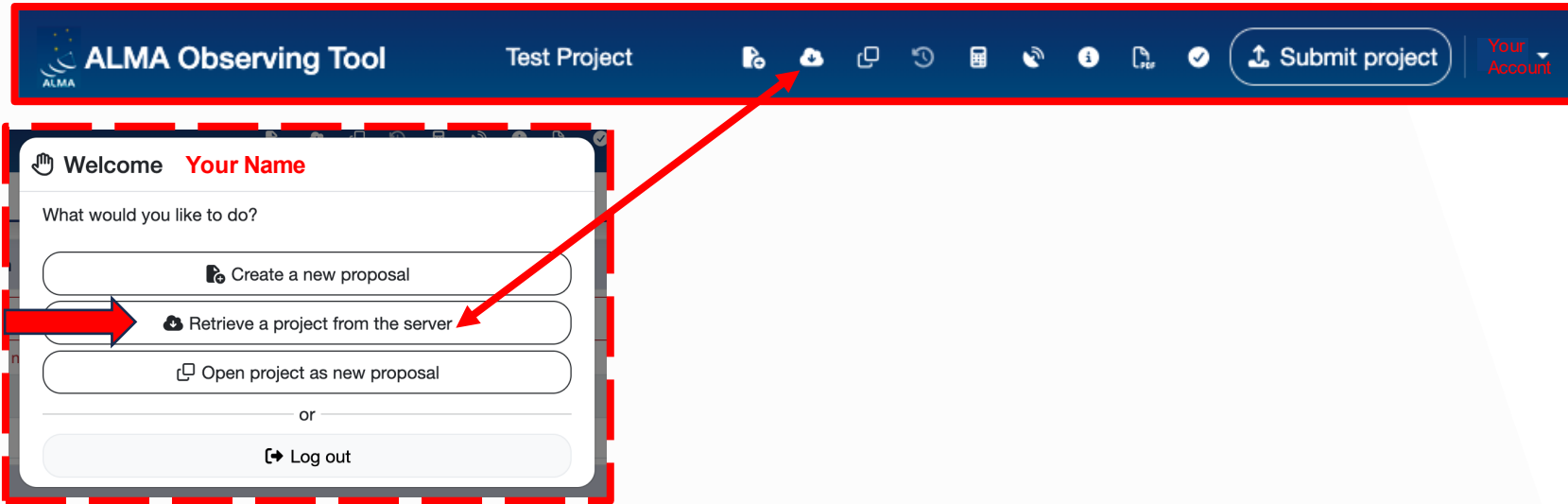
Project Overview Time Summary Data Volumes & Data Rates

Science Goal Name	12-m(1)		12-m(2)		12-m(1+2)		ACA 7-m		ACA TP		Overall	
	Tot.	Cal.	Tot.	Cal.	Tot.	Cal.	Tot.	Cal.	Tot.	Cal.	Tot.	Cal.
Science Goal - Band3 (3pt)	20.37 min	13.17 min	-	-	20.37 min	13.17 min	35.78 min	19.83 min	-	-	56.15 min	33.00 min
<b>Cluster 1</b>	20.37 min	13.17 min	-	-	20.37 min	13.17 min	35.78 min	19.83 min	-	-	56.15 min	33.00 min
<b>Overall</b>	20.37 min	13.17 min	-	-	20.37 min	13.17 min	35.78 min	19.83 min	-	-	56.15 min	33.00 min

Project Overview Time Summary Data Volumes & Data Rates

Science Goal Name	Data Volume			Avg. Data Rate		
	12-m (1+2)	ACA 7-m	ACA TP	12-m (1+2)	ACA 7-m	ACA TP
Science Goal - Band3 (3pt)	1.88 GB	393.61 MB	-	-	-	-
<b>Cluster 1</b>	1.88 GB	393.61 MB	-	1.93 MB	0.21 MB	-
<b>Overall</b>	1.88 GB	393.61 MB	-			

# Retrieve a project from the server



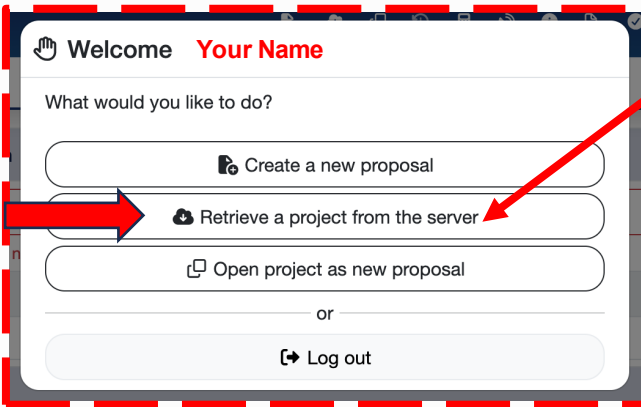
**‘Retrieve a project from the server’**  
gives access to staging area.  
Here, all proposals to which a user has  
access to are listed.

# Retrieve a project from the server: All projects

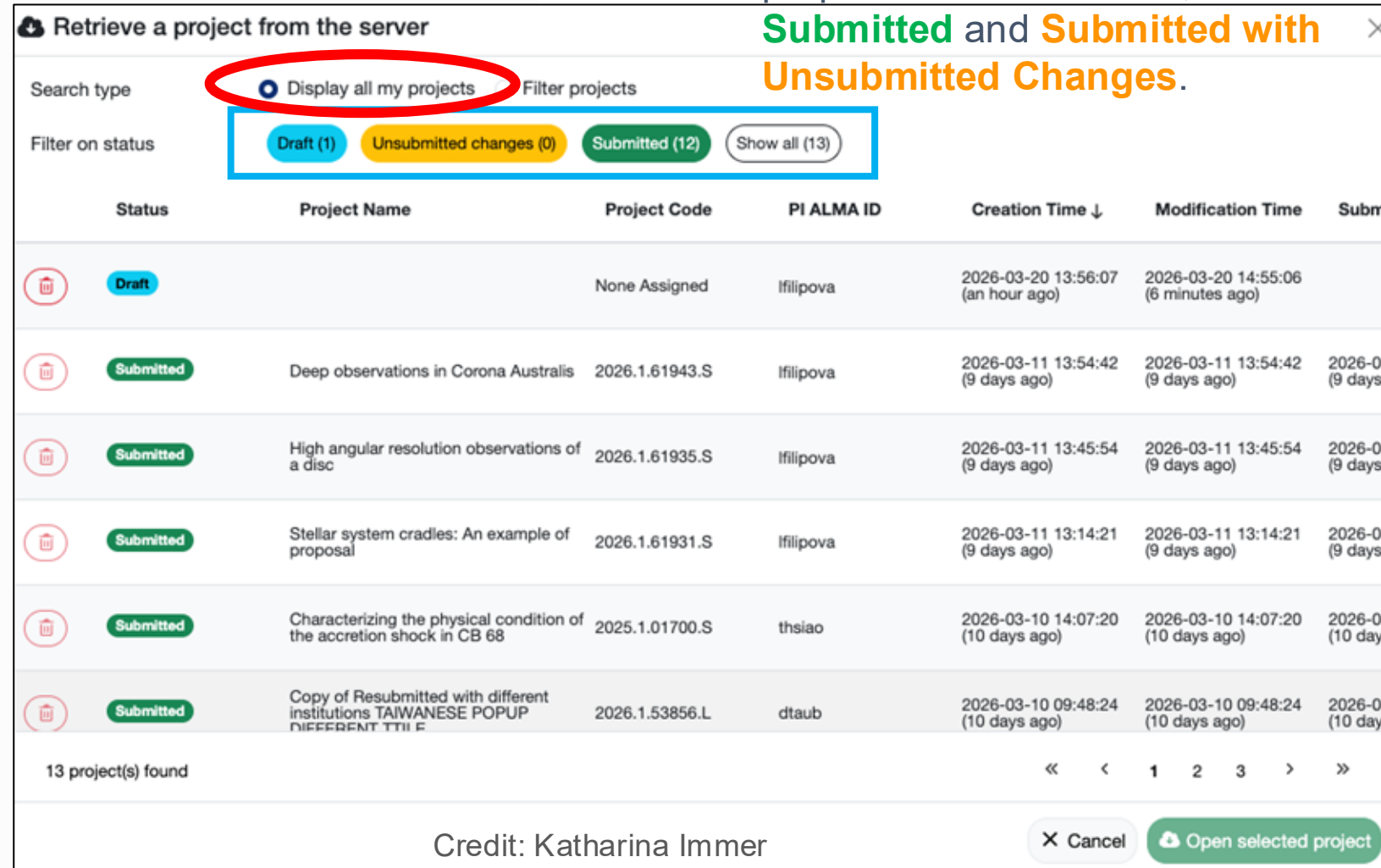


There are three different proposal statuses: **Draft**,

**Submitted** and **Submitted with Unsubmitted Changes**.



'Retrieve a project from the server' gives access to **staging area**. Here, all proposals to which a user has access to are listed.

The screenshot shows the "Retrieve a project from the server" interface. At the top, there is a "Search type" section with a radio button selected for "Display all my projects". Below this is a "Filter on status" section with buttons for "Draft (1)", "Unsubmitted changes (0)", "Submitted (12)", and "Show all (13)". The main content is a table with columns: Status, Project Name, Project Code, PI ALMA ID, Creation Time, Modification Time, and Submitted. The table lists several projects, including "None Assigned", "Deep observations in Corona Australis", "High angular resolution observations of a disc", "Stellar system cradles: An example of proposal", "Characterizing the physical condition of the accretion shock in CB 68", and "Copy of Resubmitted with different institutions TAIWANESE POPUP DIFFERENT TITLE". At the bottom, there is a "13 project(s) found" message, a pagination control showing "1 2 3", and buttons for "Cancel" and "Open selected project".

Status	Project Name	Project Code	PI ALMA ID	Creation Time ↓	Modification Time	Submitted
Draft		None Assigned	Ifilipova	2026-03-20 13:56:07 (an hour ago)	2026-03-20 14:55:06 (6 minutes ago)	
Submitted	Deep observations in Corona Australis	2026.1.61943.S	Ifilipova	2026-03-11 13:54:42 (9 days ago)	2026-03-11 13:54:42 (9 days ago)	2026-03-11 13:54:42 (9 days ago)
Submitted	High angular resolution observations of a disc	2026.1.61935.S	Ifilipova	2026-03-11 13:45:54 (9 days ago)	2026-03-11 13:45:54 (9 days ago)	2026-03-11 13:45:54 (9 days ago)
Submitted	Stellar system cradles: An example of proposal	2026.1.61931.S	Ifilipova	2026-03-11 13:14:21 (9 days ago)	2026-03-11 13:14:21 (9 days ago)	2026-03-11 13:14:21 (9 days ago)
Submitted	Characterizing the physical condition of the accretion shock in CB 68	2025.1.01700.S	thsiao	2026-03-10 14:07:20 (10 days ago)	2026-03-10 14:07:20 (10 days ago)	2026-03-10 14:07:20 (10 days ago)
Submitted	Copy of Resubmitted with different institutions TAIWANESE POPUP DIFFERENT TITLE	2026.1.53856.L	dtaub	2026-03-10 09:48:24 (10 days ago)	2026-03-10 09:48:24 (10 days ago)	2026-03-10 09:48:24 (10 days ago)

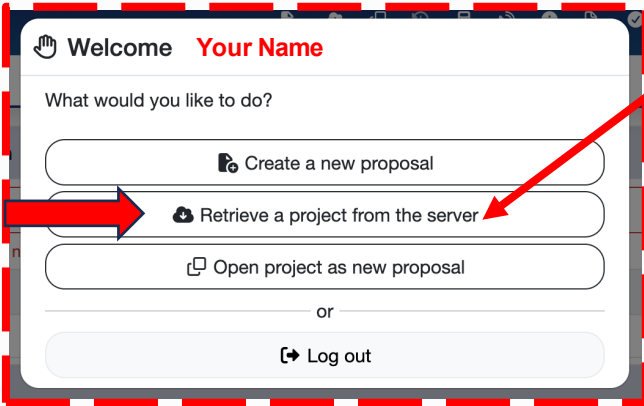
Staging Area →

Credit: Katharina Immer

# Retrieve a project from the server: All projects



There are three different proposal statuses: **Draft**, **Submitted** and **Submitted with Unsubmitted Changes**.



Retrieve a project from the server

Search type:  Display all my projects Filter projects

Filter on status:  Draft (1)  Unsubmitted changes (0)  Submitted (12)  Show all (13)

Status	Project Name	Project Code	PI ALMA ID	Creation Time ↓	Modification Time	Subm
<b>Draft</b>		None Assigned	Ifilipova	2026-03-20 13:56:07 (an hour ago)	2026-03-20 14:55:06 (6 minutes ago)	
<b>Submitted</b>	Deep observations in Corona Australis	2026.1.61943.S	Ifilipova	2026-03-11 13:54:42 (9 days ago)	2026-03-11 13:54:42 (9 days ago)	2026-03-11 13:54:42 (9 days ago)
<b>Submitted</b>	High angular resolution observations of a disc	2026.1.61935.S	Ifilipova			
<b>Submitted</b>	Stellar system cradles: An example of proposal	2026.1.61931.S	Ifilipova			
<b>Submitted</b>	Characterizing the physical condition of the accretion shock in CB 68	2025.1.01700.S	thsiao			
<b>Submitted</b>	Copy of Resubmitted with different institutions TAIWANESE POPUP DIFFERENT TITLE	2026.1.53856.L	dtaub			

13 project(s) found

Credit: Katharina Immer

'Retrieve a project from the server' gives access to **staging area**. Here, all proposals to which a user has access to are listed.

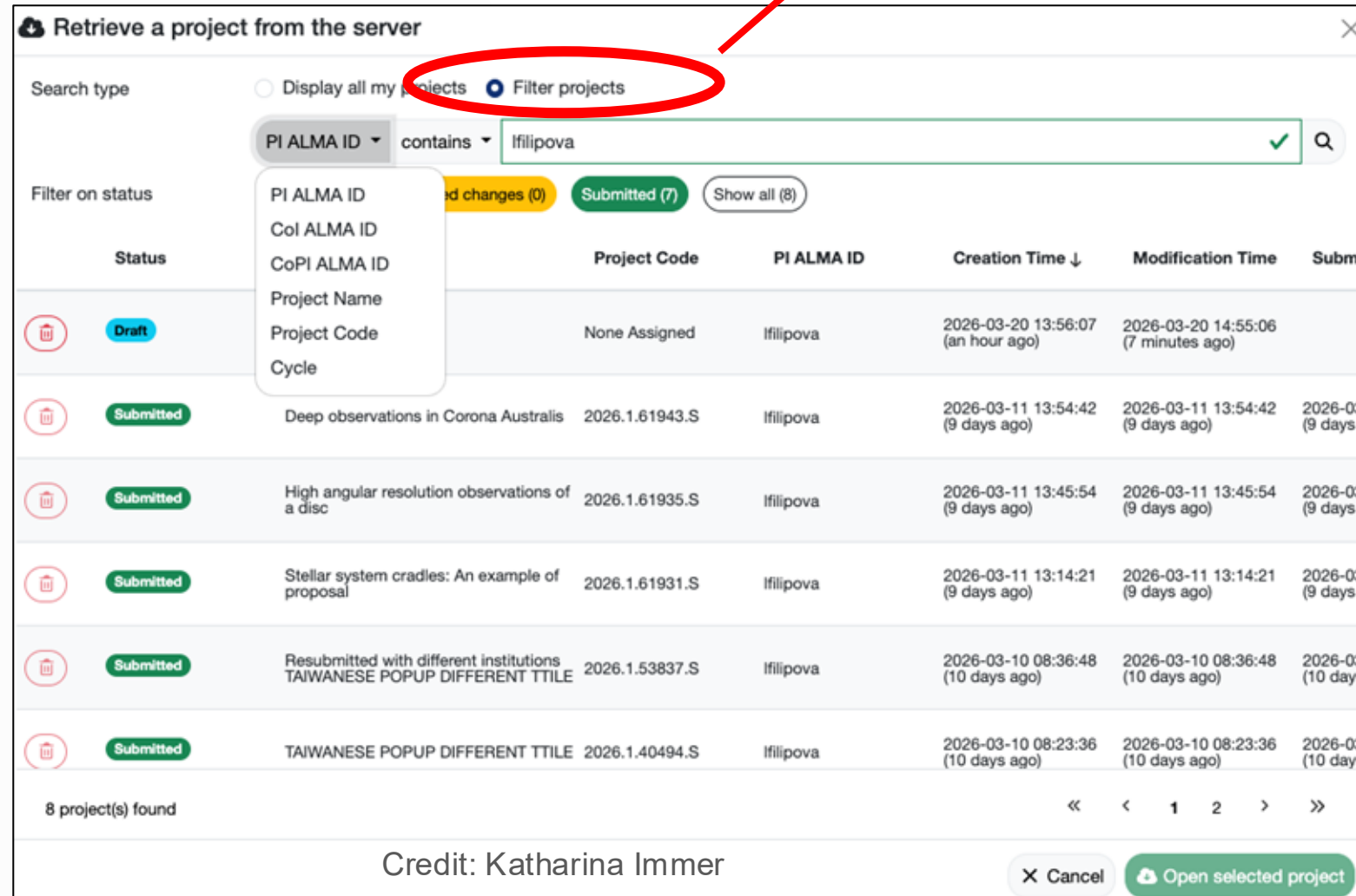
Users have access to all proposals (draft, submitted, submitted with unsubmitted changes) on which they are PI, Co-PI or Co-I.

Staging Area

# Retrieve a project from the server: Filter projects



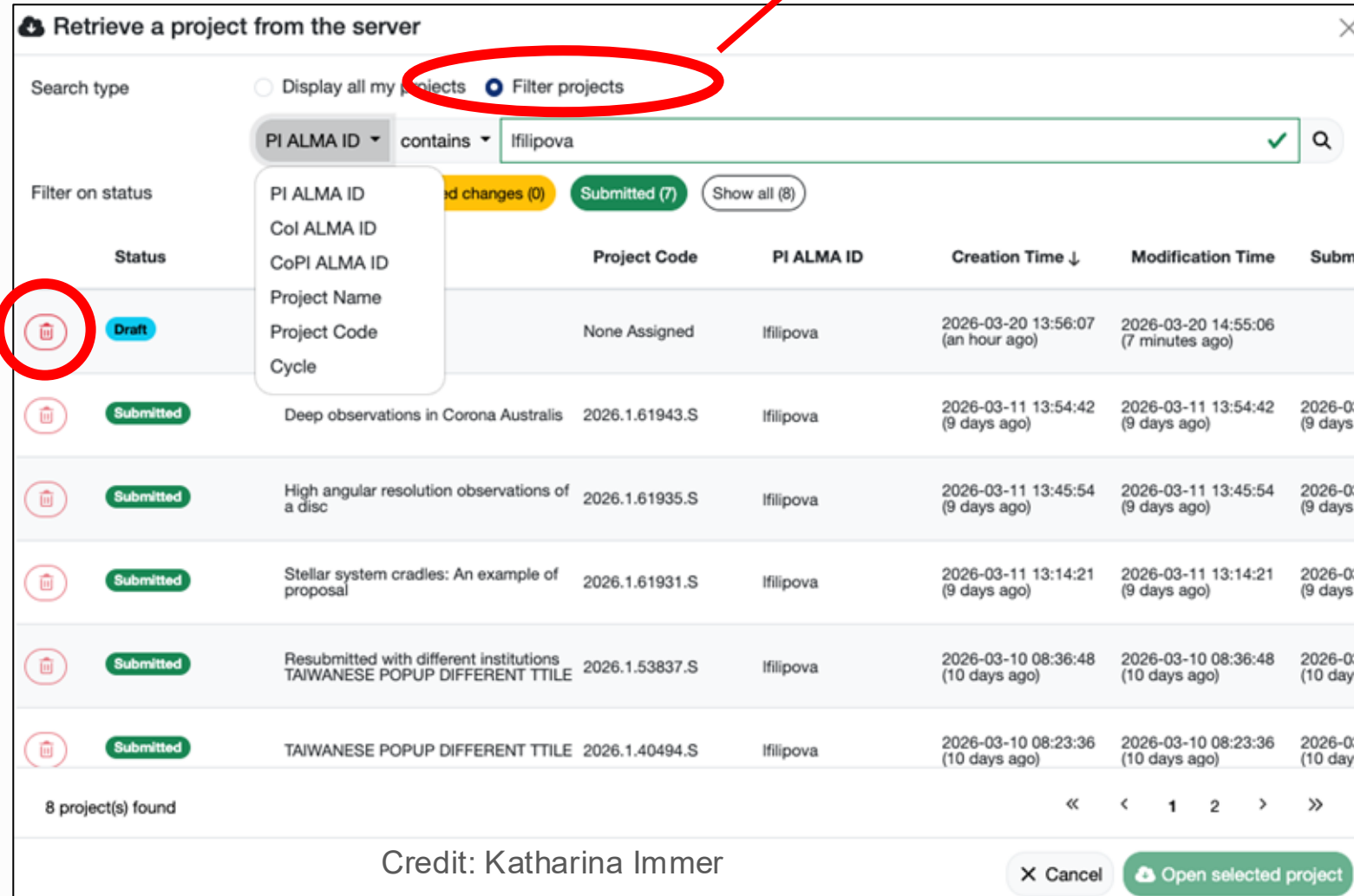
Proposals can be filtered with different filter options.

The screenshot shows the "Retrieve a project from the server" window. At the top, there are two radio buttons: "Display all my projects" and "Filter projects". The "Filter projects" option is selected and circled in red. Below this, a search bar is set to "PI ALMA ID" with the filter type "contains" and the search term "Ifilipova". A dropdown menu is open, listing filter options: "PI ALMA ID", "CoI ALMA ID", "CoPI ALMA ID", "Project Name", "Project Code", and "Cycle". The main area displays a table of project entries with columns for Status, Project Code, PI ALMA ID, Creation Time, and Modification Time. The table shows 8 projects, all with a "Submitted" status. At the bottom, it says "8 project(s) found" and includes navigation arrows. A "Credit: Katharina Immer" is noted at the bottom center, and "Cancel" and "Open selected project" buttons are at the bottom right.

# Retrieve a project from the server: Filter projects



Proposals can be filtered with different filter options.

The screenshot shows a web interface titled "Retrieve a project from the server". At the top, there are two radio buttons: "Display all my projects" and "Filter projects", with the latter selected and circled in red. Below this is a search bar with a dropdown menu set to "PI ALMA ID" and the search term "Iffilipova". A dropdown menu is open, showing various filter options like "PI ALMA ID", "Col ALMA ID", "CoPI ALMA ID", "Project Name", "Project Code", and "Cycle". Below the search bar, there are buttons for "Draft changes (0)", "Submitted (7)", and "Show all (8)". The main part of the interface is a table with columns for "Status", "Project Code", "PI ALMA ID", "Creation Time", and "Modification Time". The first row is a "Draft" proposal, and its delete icon (a trash can) is circled in red. Below it are several "Submitted" proposals. At the bottom, it says "8 project(s) found" and has navigation arrows. A "Credit: Katharina Immer" is at the bottom center, and there are "Cancel" and "Open selected project" buttons at the bottom right.

Draft proposals can be deleted from the staging area. We recommend to clean up proposal drafts that are not needed anymore.

Submitted proposals can only be retracted via a helpdesk ticket.

# Retrieve a project from the server: Filter projects



Proposals can be filtered with different filter options.

If a submitted project has unsubmitted changes, the user can revert it back to the archive version (the last submission) by clicking 'Revert project to last submitted version'. After this, the unsubmitted changes will be lost.

Draft proposals can be deleted from the staging area. We recommend to clean up proposal drafts that are not needed anymore.

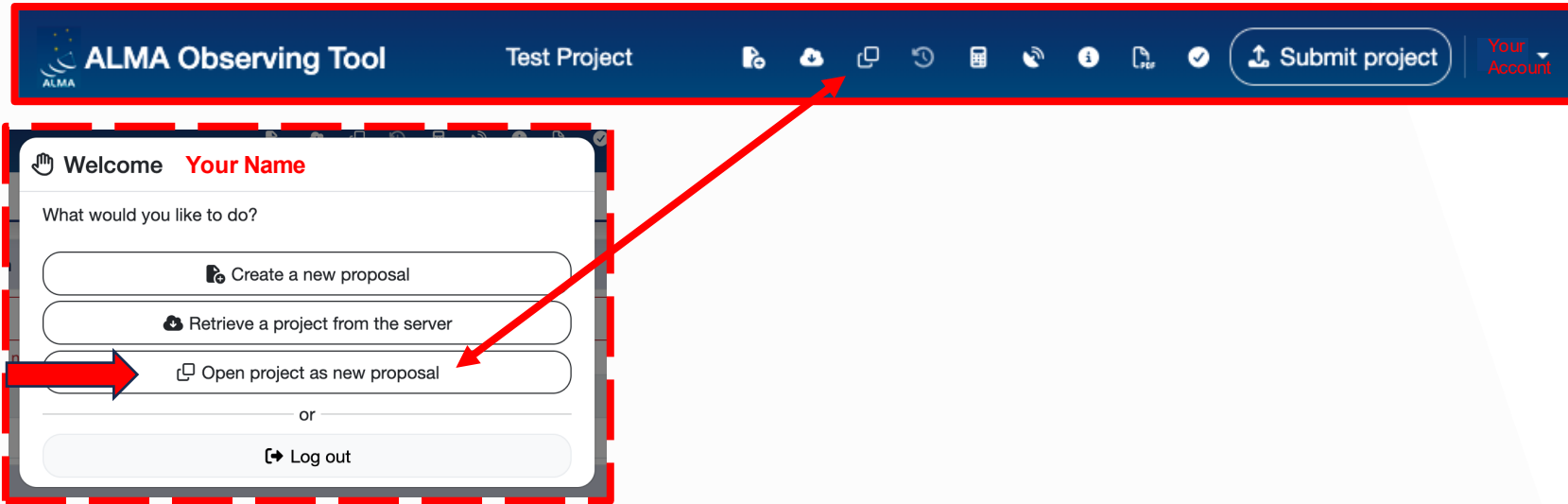
Submitted proposals can only be retracted via a helpdesk ticket.

Status	Project Code	PI ALMA ID	Creation Time ↓	Modification Time	Submitted	
Draft	None Assigned	Ifilipova	2026-03-20 13:56:07 (an hour ago)	2026-03-20 14:55:06 (7 minutes ago)		
Submitted	Deep observations in Corona Australis	2026.1.61943.S	Ifilipova	2026-03-11 13:54:42 (9 days ago)	2026-03-11 13:54:42 (9 days ago)	2026-03-11 13:54:42 (9 days ago)
Submitted	High angular resolution observations of a disc	2026.1.61935.S	Ifilipova	2026-03-11 13:45:54 (9 days ago)	2026-03-11 13:45:54 (9 days ago)	2026-03-11 13:45:54 (9 days ago)
Submitted	Stellar system cradles: An example of proposal	2026.1.61931.S	Ifilipova	2026-03-11 13:14:21 (9 days ago)	2026-03-11 13:14:21 (9 days ago)	2026-03-11 13:14:21 (9 days ago)
Submitted	Resubmitted with different institutions TAIWANESE POPUP DIFFERENT TTILE	2026.1.53837.S	Ifilipova	2026-03-10 08:36:48 (10 days ago)	2026-03-10 08:36:48 (10 days ago)	2026-03-10 08:36:48 (10 days ago)
Submitted	TAIWANESE POPUP DIFFERENT TTILE	2026.1.40494.S	Ifilipova	2026-03-10 08:23:36 (10 days ago)	2026-03-10 08:23:36 (10 days ago)	2026-03-10 08:23:36 (10 days ago)

Credit: Katharina Immer

X Cancel Open selected project

# Open project as new proposal



**‘Open project as new proposal’** also gives access to staging area, allowing to **make a copy of a proposal**. This function allows for testing different observing strategies.

# Open project as new proposal

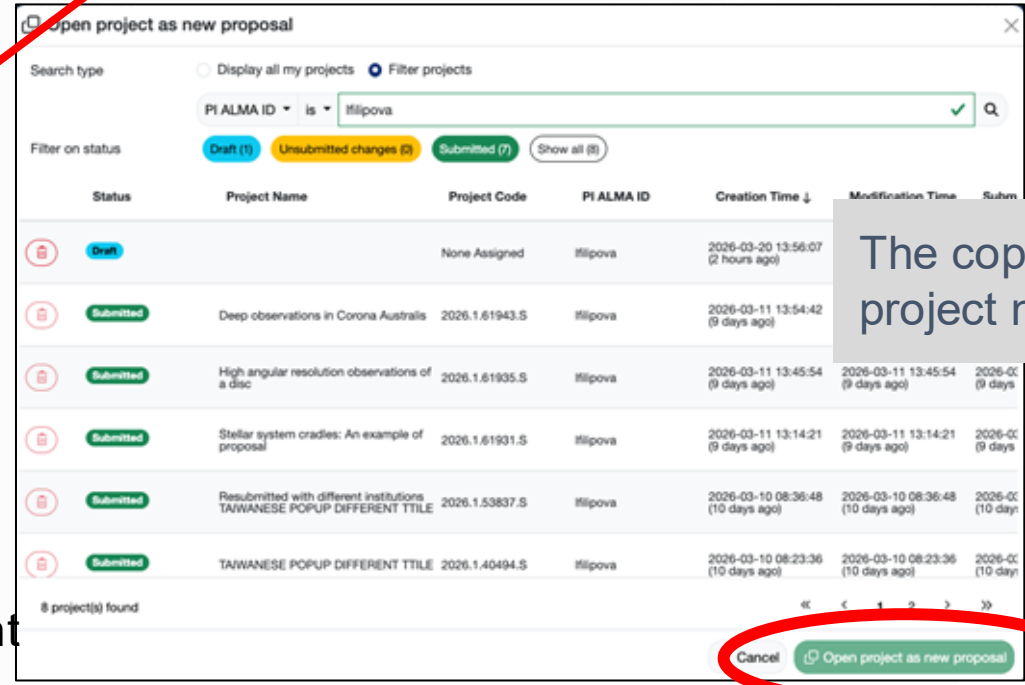
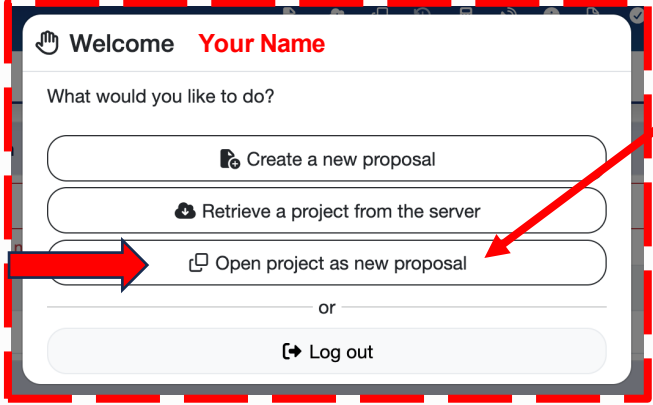
The screenshot shows the ALMA Observing Tool interface. At the top, there is a navigation bar with the ALMA logo, the text 'ALMA Observing Tool', 'Test Project', and a 'Submit project' button. Below this, a sidebar menu is visible with options: 'Welcome Your Name', 'What would you like to do?', 'Create a new proposal', 'Retrieve a project from the server', 'Open project as new proposal', 'or', and 'Log out'. A red arrow points from the 'Open project as new proposal' option in the sidebar to a modal window titled 'Open project as new proposal'. This modal window contains a search bar with 'PI ALMA ID is ilipova', a filter section with 'Draft (1)', 'Unsubmitted changes (2)', and 'Submitted (7)', and a table of projects. The table has columns for Status, Project Name, Project Code, PI ALMA ID, Creation Time, and Modification Time. The first row is a 'Draft' project with the name 'None Assigned'. Below the table, there are 'Cancel' and 'Open project as new proposal' buttons, with the latter circled in red.

Status	Project Name	Project Code	PI ALMA ID	Creation Time ↓	Modification Time	Subm
Draft	None Assigned		ilipova	2026-03-20 13:56:07 (2 hours ago)	2026-03-20 14:55:06 (9 minutes ago)	
Submitted	Deep observations in Corona Australis	2026.1.61943.S	ilipova	2026-03-11 13:54:42 (9 days ago)	2026-03-11 13:54:42 (9 days ago)	2026-03-11 13:54:42 (9 days ago)
Submitted	High angular resolution observations of a disc	2026.1.61935.S	ilipova	2026-03-11 13:45:54 (9 days ago)	2026-03-11 13:45:54 (9 days ago)	2026-03-11 13:45:54 (9 days ago)
Submitted	Stellar system cradles: An example of proposal	2026.1.61931.S	ilipova	2026-03-11 13:14:21 (9 days ago)	2026-03-11 13:14:21 (9 days ago)	2026-03-11 13:14:21 (9 days ago)
Submitted	Resubmitted with different institutions TAIWANESE POPUP DIFFERENT TTILE	2026.1.53837.S	ilipova	2026-03-10 08:36:48 (10 days ago)	2026-03-10 08:36:48 (10 days ago)	2026-03-10 08:36:48 (10 days ago)
Submitted	TAIWANESE POPUP DIFFERENT TTILE	2026.1.40494.S	ilipova	2026-03-10 08:23:36 (10 days ago)	2026-03-10 08:23:36 (10 days ago)	2026-03-10 08:23:36 (10 days ago)

‘Open project as new proposal’ also gives access to staging area, allowing to **make a copy of a proposal**. This function allows for testing different observing strategies.

**If you are a co-I and make a copy, your role will switch to PI in the new copy. The original PI and other co-Is will be included as co-Is on that copy.**

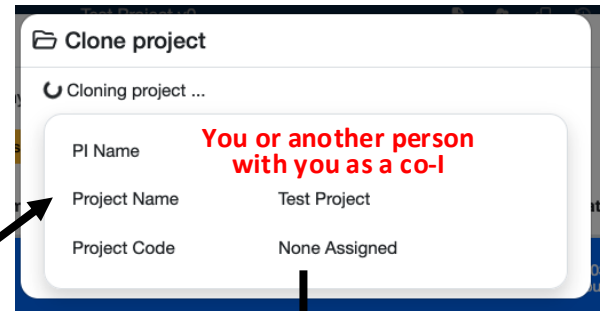
# Open project as new proposal



The copy will be in **draft status**. The new project name starts with 'Copy of ...'

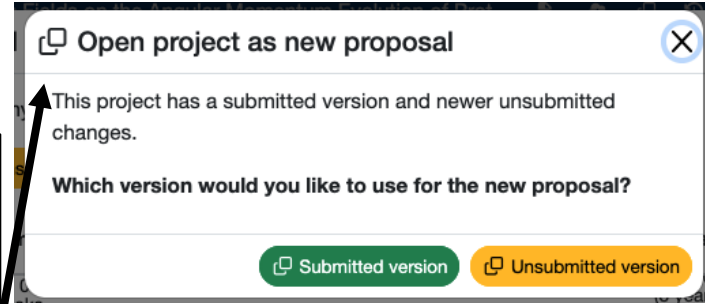
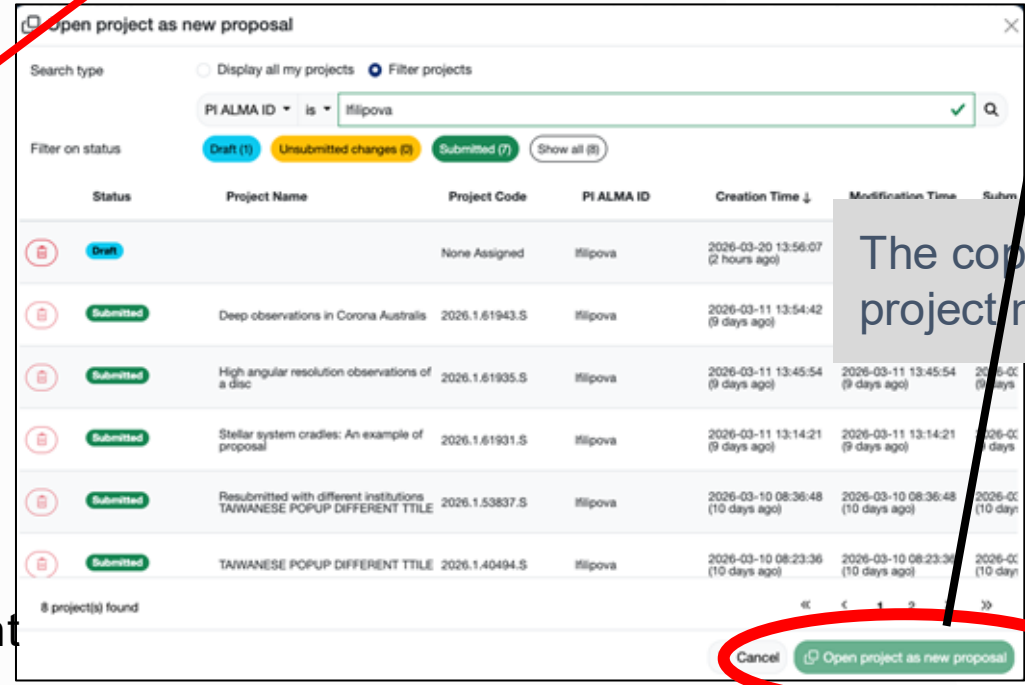
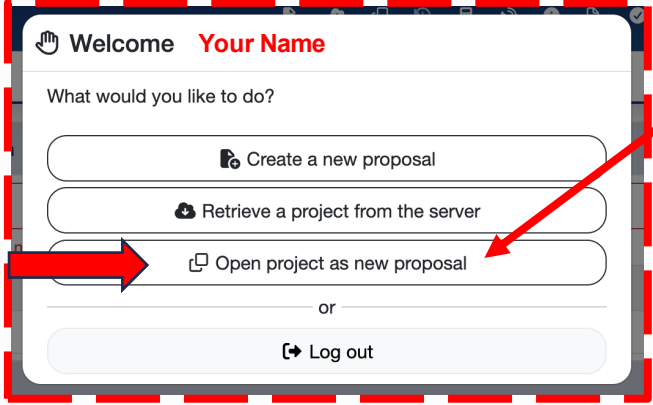
'Open project as new proposal' also gives access to staging area, allowing to **make a copy of a proposal**. This function allows for testing different observing strategies.

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# Open project as new proposal

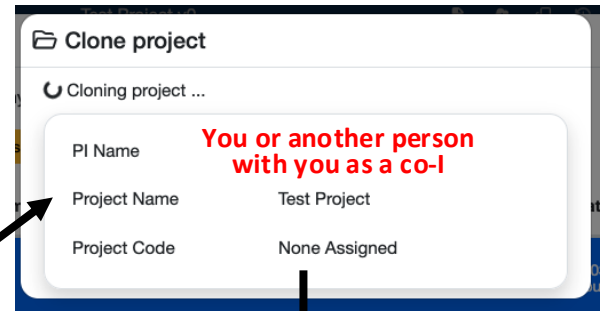
If a submitted project has unsubmitted changes, the user gets the choice which version to copy.



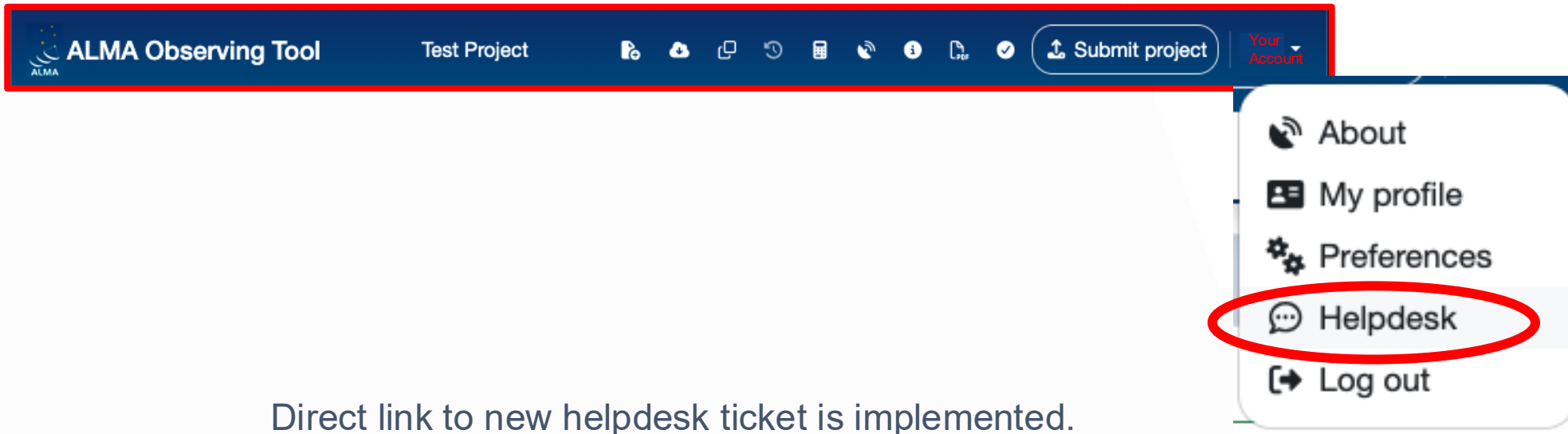
The copy will be in draft status. The new project name starts with 'Copy of ...'

'Open project as new proposal' also gives access to staging area, allowing to make a copy of a proposal. This function allows for testing different observing strategies.

If you are a co-I and make a copy, your role will switch to PI in the new copy. The original PI and other co-Is will be included as co-Is on that copy.



# To report a bug



Direct link to new helpdesk ticket is implemented.

Check FAQ and Known issue page on OT Science Portal pages.

# Recommendations

- For testing, users should make a copy of the SG to be tested or a copy of the whole proposal.
- No concurrent editing. Simultaneous live editing is not supported. If the staging area detects a newer version saved by a collaborator, it will force frequent page reloads, disrupting your workflow. Communicate clearly with your team before editing.
- Log out after editing. Do not leave the browser tab open.

# Observing Tool (OT)

- Web-based OT  
<https://cycle-13.sps.alma.cl>
- OT video tutorials  
<https://almascience.org/proposing/observing-tool/video-tutorials>
- User manual  
<https://almascience.org/documents-and-tools/cycle13/alma-ot-usermanual>
- Reference manual  
<https://almascience.org/documents-and-tools/cycle13/alma-ot-refmanual>
- FAQ and known issues  
<https://almascience.org/proposing/observing-tool/faq-and-known-issues>
- Knowledgebase  
<https://help.almascience.org/kb/alma-observing-tool-ot>
- Helpdesk  
<https://help.almascience.org/>