The ALMA Proposal Submission Process

How to get started, and what to expect

Presenter: Erica Keller

Authors: Harvey Liszt, Tony Remijan, Andrew McNichols

Atacama Large Millimeter/submillimeter Array
Expanded Very Large Array
Robert C. Byrd Green Bank Telescope
Very Long Baseline Array

This talk is for you if…

- You are new to ALMA and have not yet had experience with the relevant documentation…
- You have not downloaded the ALMA Observing Tool (OT) or even know where to get it.
- You have a fabulous science case that will be essential to follow-up with ALMA facilities…
- You would like examples of science use cases for ALMA
- You were familiar with past Cycles and wonder what Cycle 4 capabilities are now available and what changes will be made before the Call for Proposals.

This talk will be available online for reference after this workshop.

Proposal Checklist

- Read relevant documentation (CfP Guide, Primer, etc.)
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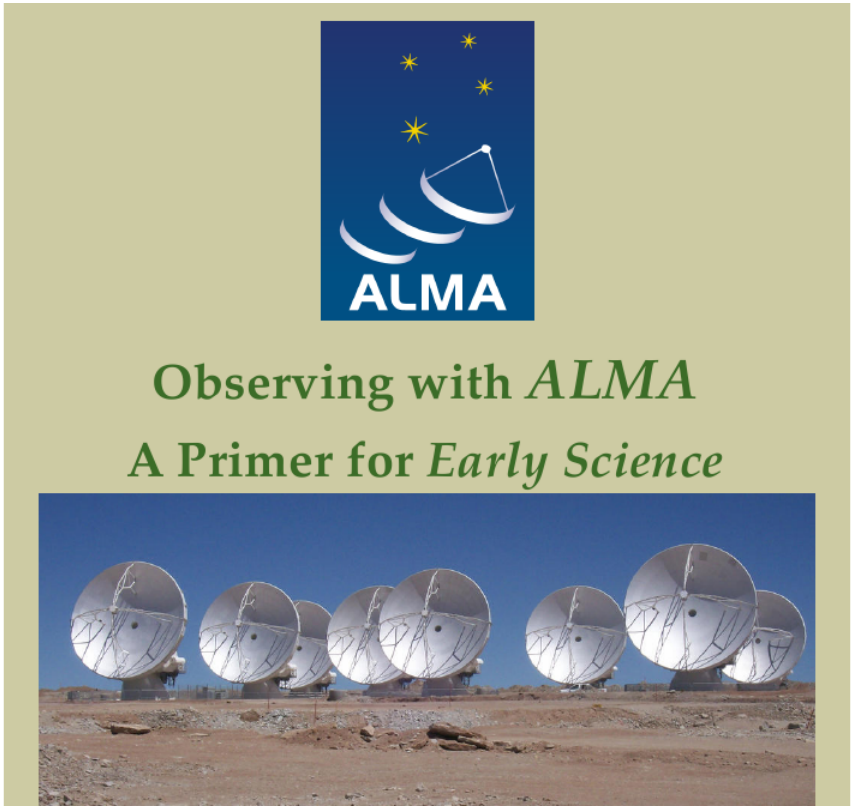
- Download the Observing Tool (OT) & related guides
- Prepare the Science Case
  - New capabilities for Cycle 4!
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
- Make use of the Helpdesk & the Knowledgebase

Cycle 4 Documentation & Timeline

- Call for Proposals
- ALMA Primer
- OT Guide
- ALMA Tech Handbook
- Helpdesk Knowledgebase

- Timeline for Cycle 4
  - Mar. 22 – Call for Proposals
  - Apr. 21 – Proposal Deadline
  - Aug. 31 – Review Complete
  - Oct. 1 – Start of Cycle 4
  - Duration – 11 months/year



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Atacama Large Millimeter/submillimeter Array

In search of our Cosmic Origins

ESO NRAO NAOJ

Search Site

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User Services at ARCs

- Helpdesk
- ALMA Calendars
- EU ARC
- NA ARC
- EA ARC

You are here: Home

Welcome to the Science Portal at NRAO

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

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

General News

ALMA Cycle 4 Information for Large Programs
Feb 01, 2016

Participation of ALMA in GMVA observations in ALMA Cycle 4
Jan 13, 2016

Release of a new installment of Science Verification data
Dec 21, 2015

ALMA Cycle 4 Pre-announcement
Dec 14, 2015

Announcement of intent to release a new installment of Science Verification data
Dec 07, 2015

More…

NRAO Events

AAAS 2016: Planet Formation With Radio Eyes
Feb 13 , 2016
Washington, DC

www.almascience.org
ALMA Science Portal @ NRAO

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Downloading the ALMA OT

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Road Map
Sensitivity Calculator
DDT proposals
Observing Tool
Web Start Download Page
Tarball Download Page
OT Video Tutorials
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User Services at ARCs
- Helpdesk
- EU ARC

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Observing Tool

The ALMA Observing Tool (OT) is a Java application used for the preparation and submission of ALMA Phase I (observing proposal) and Phase II (telescope runfiles for accepted proposals) materials. It is also used for preparing and submitting Director's Discretionary Time (DDT) proposals. The current *Cycle 1* release of the OT is configured for the Early Science Capabilities of ALMA as described in the Cycle 1 Call For Proposals. Note that in order to submit proposals you will have to register with the ALMA Science Portal beforehand.

Download & Installation

The OT will run on most common operating systems, as long as you have Java 6 installed (see the troubleshooting page if you are experiencing Java problems). The ALMA OT is available in two flavours: Web Start and tarball.

The **Web Start** application is the recommended way of using the OT. It has the advantage that the OT is automatically downloaded and installed on your computer and it will also automatically detect and install updates. There are some issues with Web Start, particularly that it does not work with the Open JDK versions of Java such as the "Iced Tea" flavour common on many modern Linux installations. The Sun/Oracle variant of Java should therefore be installed instead. If this is not possible, then the tarball installation of the OT is available.

The **tarball** version must be installed manually and will not automatically update itself, however there should be no installation issues. For Linux users, we also provide a download complete with a recommended version of the Java run time environment. Please use this if you have any problems running the OT tarball install with your default Java.

WebStart Tarball

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.
- Audio-visual illustrations of different aspects of the OT can be found in the OT video tutorials. These are recommended for novices and advanced users alike.
- More in-depth information on the OT can be found in the User Manual, while concise explanations of all fields and menu items in the OT are given in the Reference Manual. These two documents are also available within the OT under the Help menu.

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Science
Proposing
Call for Proposals
Learn More
Sensitivity Calculator
DDT proposals
Observing Tool
Troubleshooting
OT Video Tutorials
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Data
Documents & Tools
Knowledgebase/FAQ

User Services at ARCs

- Helpdesk
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- NA ARC
- EA ARC

OT Video Tutorials

The OT video tutorials provide an audio-visual demonstration of different aspects of proposal preparation in the OT. Novice users should start with the first video and work their way down, while more experienced users may want to jump straight to one of the specialised videos. Video tutorial 4 is of particular interest even for expert OT users, since the Technical Justification has changed significantly compared to Cycle 2.

OT Video Tutorial 1: Useful to Know

This video will give you a general overview of how the OT works, including the layout, various tools, and some useful tips and tricks. It will also introduce the concept of Science Goals, which contain all the technical details of the observations proposed.

OT Video Tutorial 2: The Spectral Setup

Here, we demonstrate how to set up continuum, spectral line and spectral scan observations and introduce the spectral visualisation tool as well as the

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Science Case

- Free-form PDF document
  - 12+ font, English only
  - 20 MB file size
  - 4 pages maximum
- Must include:
  - Estimated intensity, S/N
- May include:
  - Figures
  - Tables
  - References

Start date	Configuration	Longest baseline	LST for best observing conditions	Days available
2016 October 14	C40-7	2.7 km	~ 22h - 11h	13
2016 November 4	C40-6	2 km	~ 23h - 12h	11
2016 November 25	C40-5	1 km	~ 1h - 13h	7
2016 December 9	C40-4	0.75 km	~ 2h - 14h	7
2016 December 23	C40-3	0.5 km	~ 3h - 15h	11
2017 January 13	C40-2	0.25 km	~ 4h - 17h	9
2017 February 1-28	*February shutdown*			
2017 March 16	C40-1	0.15 km	~ 8h - 22h	17
2017 April 6	C40-3	0.5 km	~ 9h - 23h	11
2017 April 27	C40-5	1 km	~ 10h - 1h	7
2017 May 11	*Move to configuration C40-9*			
2017 June 8	C40-9	12.6 km	~ 12h - 3h	16
2017 July 6	C40-8	5.4 km	~ 14h - 5h	22
2017 August 17	C40-7	2.7 km	~ 17h - 8h	23

New Capabilities (40/12/3)

- Phased ALMA
- Full Polarization
- Solar Observing
- Standalone ACA
- No 10° source restriction

Large Projects

- Any project >50 hours
- Standard observing only
- Automatic 'A' grade
- +2 pages for Science Case
  - Data/Project Mgmt. Plans
  - Enhanced Data Products

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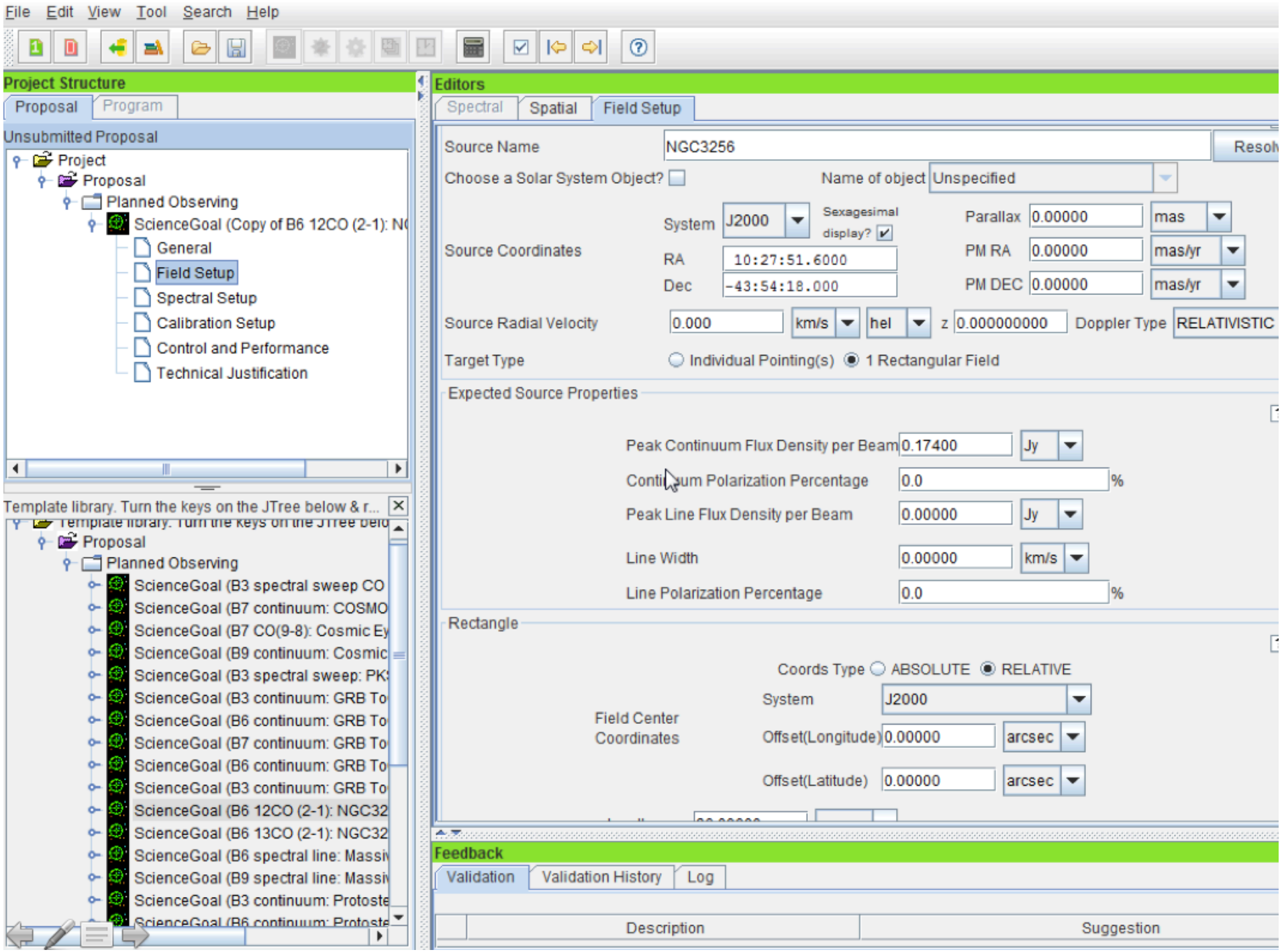
File Edit View Tool Search Help
Project Structure
Proposal Program
Unsubmitted Proposal
Project
Proposal
Planned Observing
ScienceGoal (Copy of B6 12CO (2-1): N
General
Field Setup
Spectral Setup
Calibration Setup
Control and Performance
Technical Justification
Template library. Turn the keys on the JTree below & r...
Proposal
Planned Observing
ScienceGoal (B3 spectral sweep CO
ScienceGoal (B7 continuum: COSMO
ScienceGoal (B7 CO(9-8): Cosmic Ey
ScienceGoal (B9 continuum: Cosmic
ScienceGoal (B3 spectral sweep: PK
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ScienceGoal (B7 continuum: GRB To
ScienceGoal (B6 continuum: GRB To
ScienceGoal (B3 continuum: GRB To
ScienceGoal (B6 12CO (2-1): NGC32
ScienceGoal (B6 13CO (2-1): NGC32
ScienceGoal (B6 spectral line: Massi
ScienceGoal (B9 spectral line: Massi
ScienceGoal (B3 continuum: Protoste
Editors
Spectral Spatial Field Setup
Source Name NGC3256
Resol
Choose a Solar System Object?
Name of object Unspecified
System J2000
Sexagesimal display?
Source Coordinates
RA 10:27:51.6000
Dec -43:54:18.000
Parallax 0.00000 mas
PM RA 0.00000 mas/yr
PM DEC 0.00000 mas/yr
Source Radial Velocity 0.000 km/s hel z 0.000000000 Doppler Type RELATIVISTIC
Target Type Individual Pointing(s) 1 Rectangular Field
Expected Source Properties
Peak Continuum Flux Density per Beam 0.17400 Jy
Continuum Polarization Percentage 0.0 %
Peak Line Flux Density per Beam 0.00000 Jy
Line Width 0.00000 km/s
Line Polarization Percentage 0.0 %
Rectangle
Coords Type ABSOLUTE RELATIVE
Field Center Coordinates
System J2000
Offset(Longitude) 0.00000 arcsec
Offset(Latitude) 0.00000 arcsec
Feedback
Validation Validation History Log
Description
Suggestion

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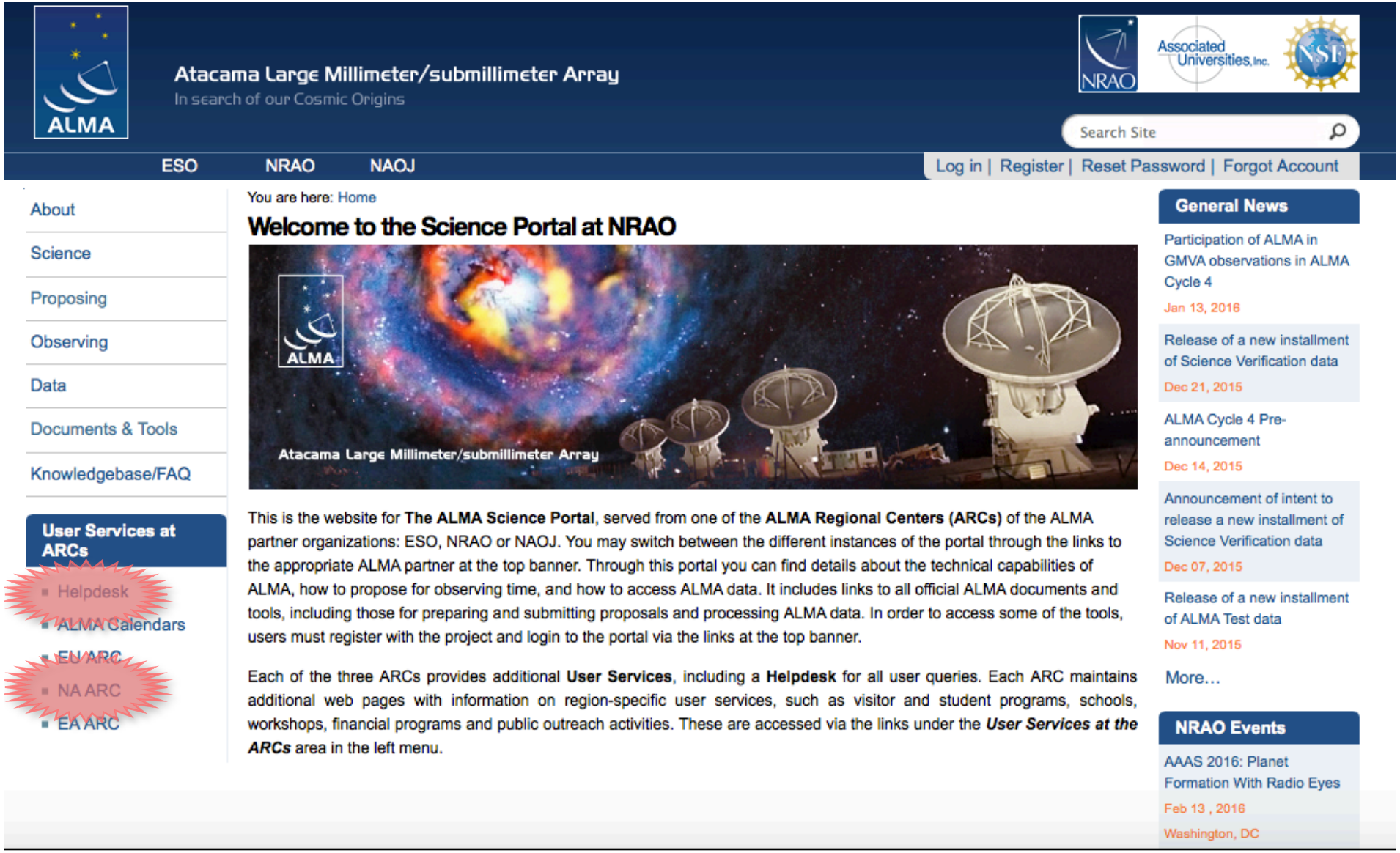

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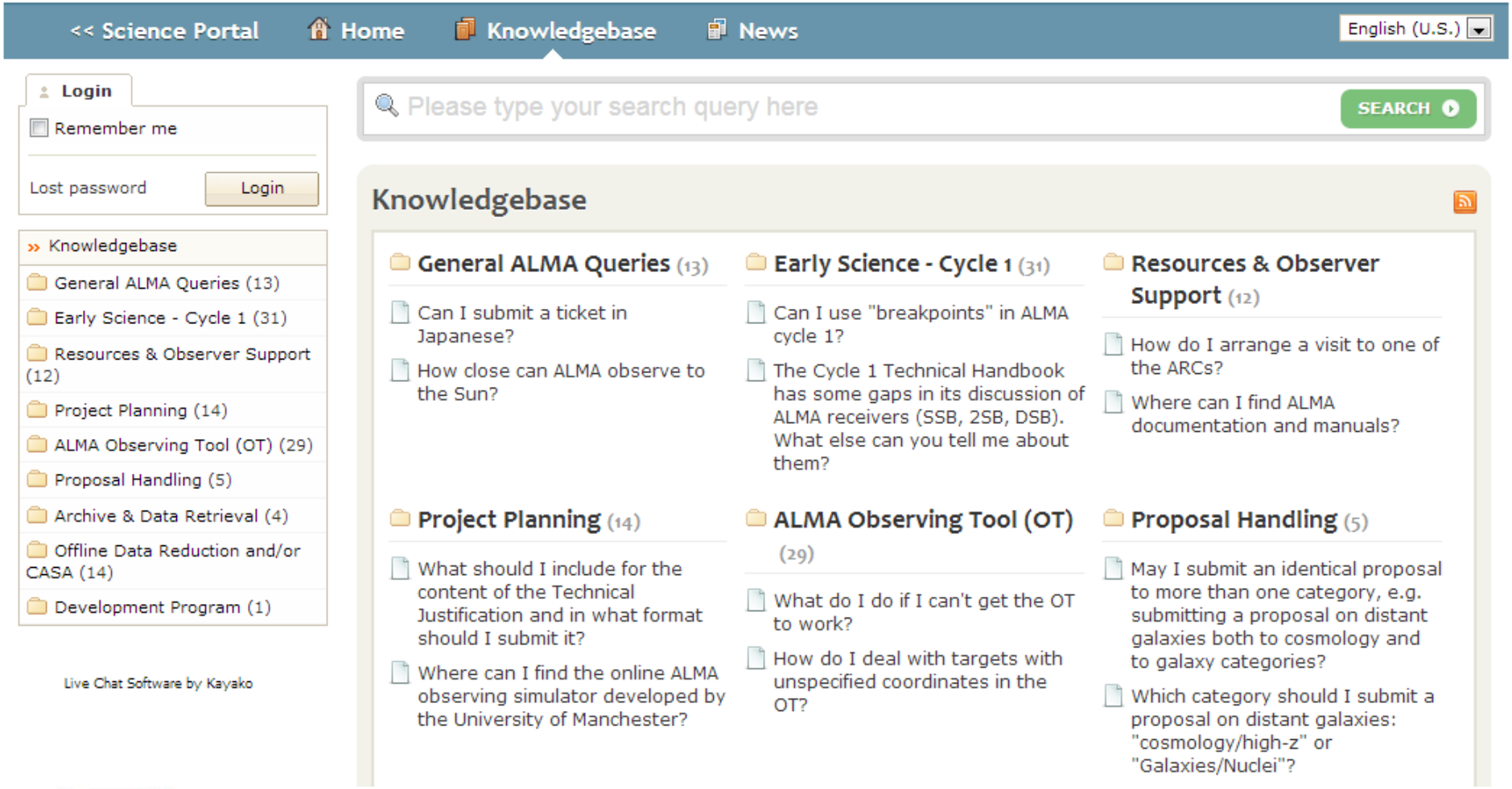
ALMA Science Portal @ NRAO

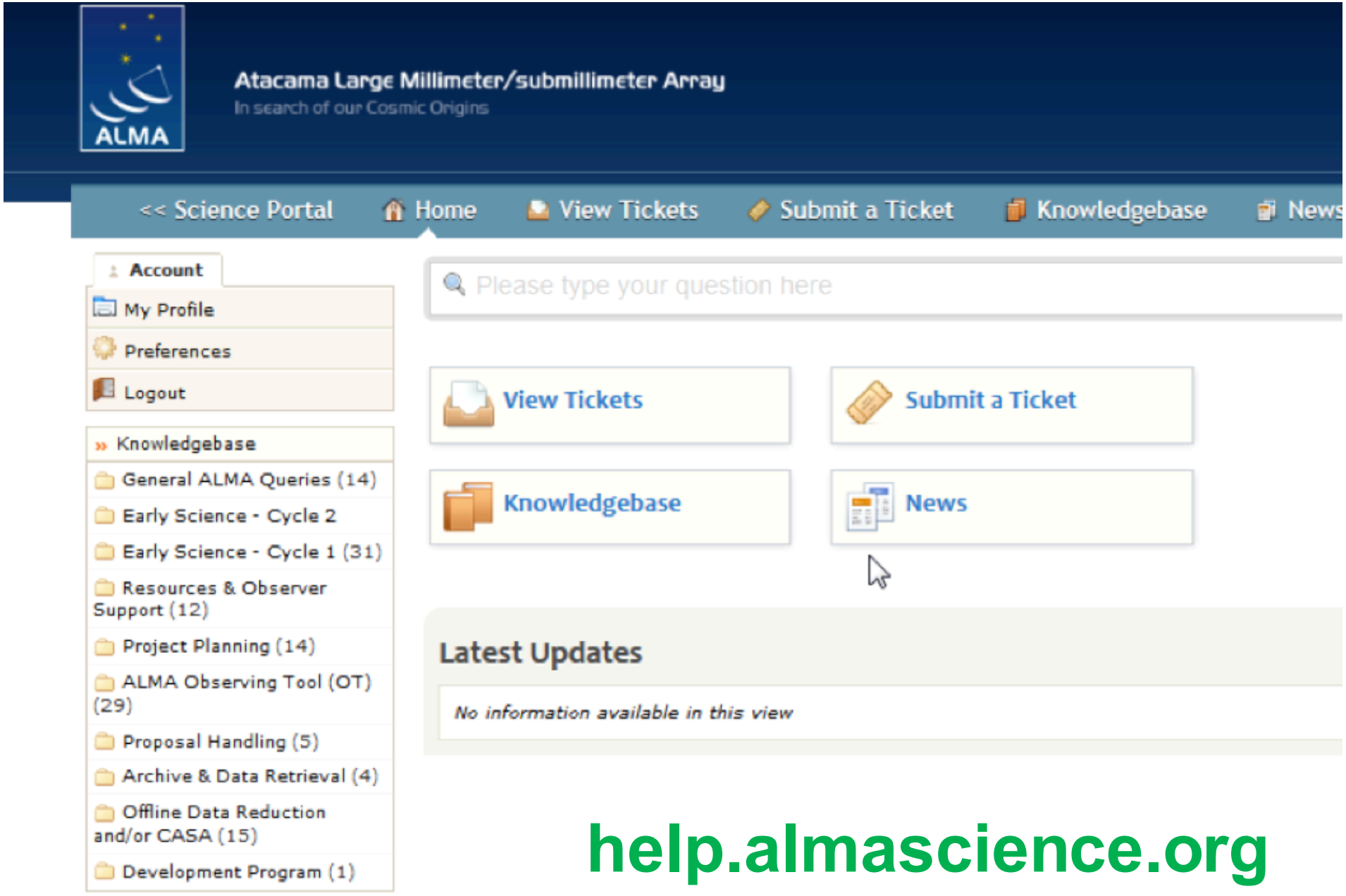
I could use a hand...

Have no fear, the ALMA Helpdesk is here...

ALMA

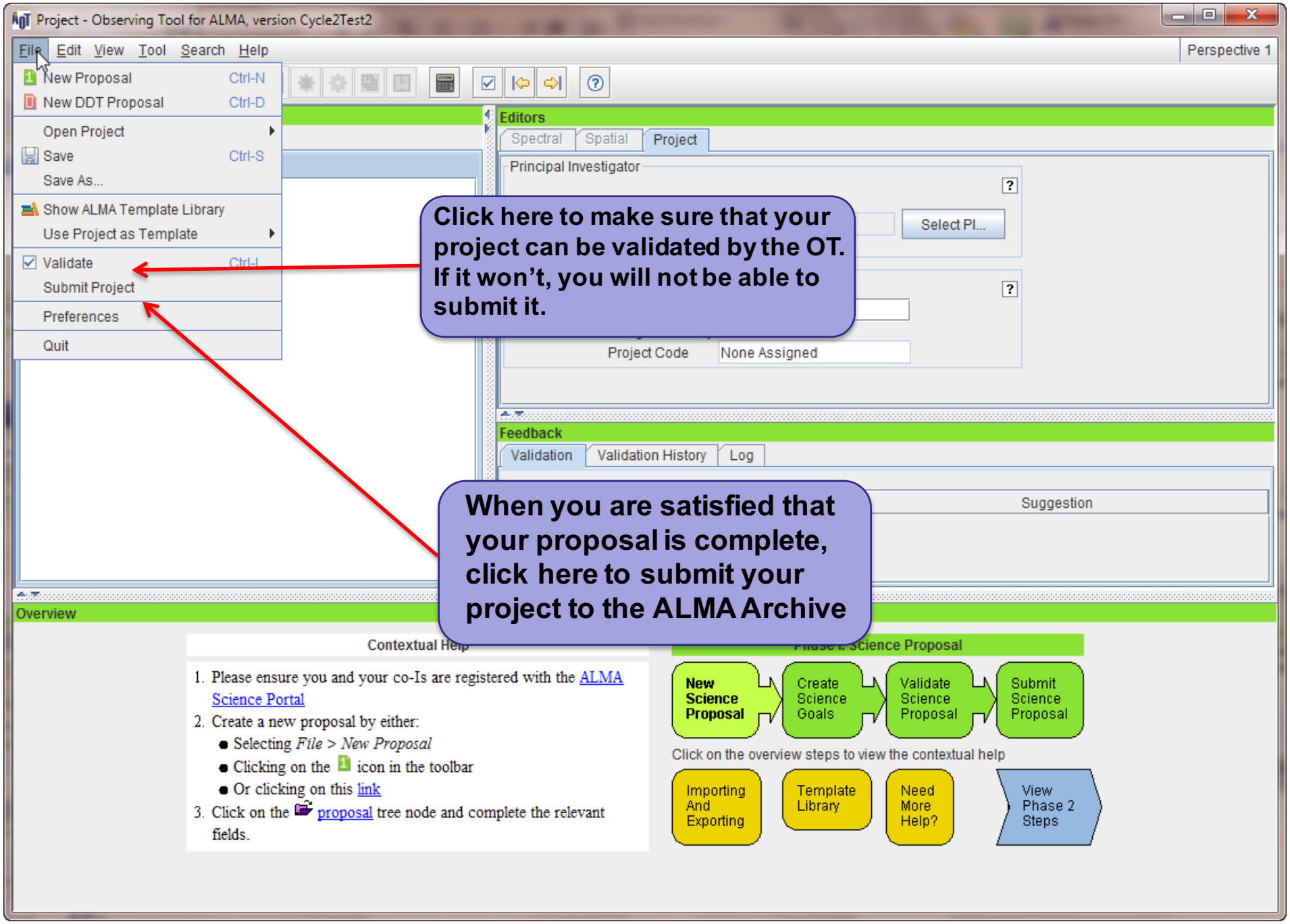


NRAO



help.almascience.org

ALMA Helpdesk @ NRAO (logged in view)


Project - Observing Tool for ALMA, version Cycle2Test2
File Edit View Tool Search Help
Perspective 1
New Proposal Ctrl-N
New DDT Proposal Ctrl-D
Open Project
Save Ctrl-S
Save As...
Show ALMA Template Library
Use Project as Template
Validate Ctrl-I
Submit Project
Preferences
Quit
Editors
Spectral Spatial Project
Principal Investigator
Select PI...
Project Code None Assigned
Feedback
Validation Validation History Log
Suggestion
Click here to make sure that your project can be validated by the OT. If it won't, you will not be able to submit it.
When you are satisfied that your proposal is complete, click here to submit your project to the ALMA Archive
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.
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

After submission

- Remember, you can resubmit as often as needed, but keep in mind that **the server is quite busy right before the deadline.**
- Standard and ToO proposals will be reviewed by the ALMA Proposal Review Committee (APRC) and the ALMA Review Panels (ARP).
- All proposals will be subject to Technical Assessment by a selected group of JAO and ARC experts.
- Proposals will be assessed on the basis of the overall scientific merit of the proposed investigation and its potential contribution to the advancement of scientific knowledge.
- Following approval by the Directors Council, the outcome of the Proposal Review Process will be communicated to the PIs of all valid submitted proposals, expected in August 2016.

After submission

- Phase II (!!!)
  - Scheduling Blocks are generated in batches
  - These roughly coincide with configuration schedule
  - Depending on project, you may be able to create your own SBs
  - Otherwise, P2G will create them for your review
  - Review and respond these SBs!
    - Being prompt helps ensure your project can be observed!

- Then wait – dynamic scheduling means your Contact Scientist doesn't know when your project will run. As observations are made, updates are shown in the Project Tracker on the Science Portal:

  https://almascience.nrao.edu/observing/project-tracker

ALMA

For more info:

https://almascience.nrao.edu/

The Atacama Large Millimeter/submillimeter Array (ALMA), an international astronomy facility, is a partnership of Europe, North America and East Asia in cooperation with the Republic of Chile. ALMA is funded in Europe by the European Organization for Astronomical Research in the Southern Hemisphere (ESO), in North America by the U.S. National Science Foundation (NSF) in cooperation with the National Research Council of Canada (NRC) and the National Science Council of Taiwan (NSC), and in East Asia by the National Institutes of Natural Sciences (NINS) of Japan in cooperation with the Academia Sinica (AS) in Taiwan. ALMA construction and operations are led on behalf of Europe by ESO, on behalf of North America by the National Radio Astronomy Observatory (NRAO), which is managed by Associated Universities, Inc. (AUI), and on behalf of East Asia by the National Astronomical Observatory of Japan (NAOJ). The Joint ALMA Observatory (JAO) provides the unified leadership and management of the construction and operation of ALMA.

NRAO