

# The ALMA Proposal Submission Process

How to get started, and what to expect



**Laura Pérez, Mark Rawlings, Harvey Liszt, Tony Remijan**



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 Cycle 2 and wonder what Cycle 3 capabilities are

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

## Proposal Checklist

- Read relevant documentation (CfP, Primer, etc...)
- Create an ALMA account by registering at the Science Portal ([almascience.org](http://almascience.org))
- Download the Observing Tool (OT) & related guides
- Prepare the Science Case (PDF file)
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
- Prepare the Technical Justification
  - New Technical Justification inside each SG
- Make use of the Helpdesk & the Knowledgebase

## Cycle 3 Documentation & Timeline

- Call for Proposals
- ALMA Primer
- OT Guide
- ALMA Tech Handbook
  
- Timeline for Cycle 3
  - ✓ Mar 24 – Call for Proposals
  - Proposal Deadline:  
**15:00 UT on April 23, 2015**
  
  - Oct 1 – Start of Cycle 3
  - Duration – 12 months



Observing with *ALMA*  
*A Primer for Early Science*



[https://almascience.nrao.edu/  
documents-and-tools/cycle3/alma-early-  
science-primer](https://almascience.nrao.edu/documents-and-tools/cycle3/alma-early-science-primer)

## Proposal Checklist

- Read relevant documentation (CfP Guide, Primer, etc...)
- Create an ALMA account by registering at the Science Portal ([almascience.org](http://almascience.org))
- Download the Observing Tool (OT) & related guides
- Prepare the Science Case (PDF file)
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
  - New Technical Justification inside each SG
- Make use of the Helpdesk & the Knowledgebase



- About
- Science
- Proposing
- Observing
- Data
- Documents & Tools
- Knowledgebase/FAQ

### 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

- Release of Science Verification data from the ALMA Long Baseline Campaign  
Feb 16, 2015
- Announcement of intent to release a new installment of Science Verification data  
Feb 02, 2015
- ALMA Cycle 3 Pre-announcement  
Dec 08, 2014
- ALMA Status Report: November 2014  
Nov 12, 2014
- Additional Scope for Long Baseline Science Verification Targets  
Oct 30, 2014
- More...

### NRAO Events

NRAO Community Day at

NRAO User Support

Helpdesk

Call for Proposal

Login



# ALMA Science Portal @ NRAO

## Proposal Checklist

- Read relevant documentation (CfP Guide, Primer, etc...)
- Create an ALMA account by registering at the Science Portal ([almascience.org](http://almascience.org))
- **Download the Observing Tool (OT) & related guides**
- Prepare the Science Case (PDF file)
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
  - **New Technical Justification inside each SG**
- Make use of the Helpdesk & the Knowledgebase

# Downloading the ALMA OT



About

Proposing

Call for Proposals

Road Map

Sensitivity Calculator

DDT proposals

Observing Tool

Web Start Download

Page

Tarball Download Page

OT Video Tutorials

Troubleshooting

Observing

Data

Documents & Tools

Knowledgebase/FAQ

User Services at  
ARCs

- Helpdesk
- EU ARC

You are here: [Home](#) > [Proposing](#) > [Observing Tool](#)

## 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.





## Proposal Checklist

- Read relevant documentation (CfP Guide, Primer, etc...)
- Create an ALMA account by registering at the Science Portal ([almascience.org](http://almascience.org))
- Download the Observing Tool (OT) & related guides
- **Prepare the Science Case (free-form PDF file, 4 pages)**
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
  - **New Technical Justification inside each SG**
- Make use of the Helpdesk & the Knowledgebase

## When preparing Science Case...

ALMA provides two tools for users to produce simulated images:

- **ALMA Observation Support Tool (OST)**: a simple web interface to help users generate ALMA simulations. Users submit jobs to the OST and are notified by email when the simulations are completed.
  - <http://almaost.jb.man.ac.uk>
- **CASA** tasks “**simobserve**” and “**simanalyze**”, generate simulated ALMA observations. See also “**simalma**” to simplify the process of combining data from multiple arrays
  - **CASA**: “Common Astronomy Software Applications”, which is the offline data reduction and analysis tool for ALMA data
  - <http://casaguides.nrao.edu>

## Proposal Checklist

- Read relevant documentation (CfP Guide, Primer, etc...)
- Create an ALMA account by registering at the Science Portal ([almascience.org](http://almascience.org))
- Download the Observing Tool (OT) & related guides
- Prepare the Science Case (PDF file)
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
  - New Technical Justification inside each SG
- Make use of the Helpdesk & the Knowledgebase

---

## Proposal Checklist

- Read relevant documentation (CfP Guide, Primer, etc...)
- Create an ALMA account by registering at the Science Portal ([almascience.org](http://almascience.org))
- Download the Observing Tool (OT) & related guides
- Prepare the Science Case (PDF file)
- Prepare Science Goals (sources, frequency & correlator setup, integration times) within the OT
  - New Technical Justification inside each SG
- **Make use of the Helpdesk & the Knowledgebase**



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



ESO

NRAO

NAOJ

[Log in](#) | [Register](#) | [Reset Password](#) | [Forgot Account](#)

[About](#)

[Science](#)

[Proposing](#)

[Observing](#)

[Data](#)

[Documents & Tools](#)

[Knowledgebase/FAQ](#)

### 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

Release of Science Verification data from the ALMA Long Baseline Campaign

Feb 16, 2015

Announcement of intent to release a new installment of Science Verification data

Feb 02, 2015

ALMA Cycle 3 Pre-announcement

Dec 08, 2014

ALMA Status Report: November 2014

Nov 12, 2014

Additional Scope for Long Baseline Science Verification Targets

Oct 30, 2014

[More...](#)

### NRAO Events

[NRAO Community Day at](#)

NRAO User Support

Helpdesk



# ALMA Science Portal @ NRAO

# I could use a hand...

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

# ALMA



**Login**

Remember me

Lost password

- » Knowledgebase
  - General ALMA Queries (13)
  - Early Science - Cycle 1 (31)
  - Resources & Observer Support (12)
  - Project Planning (14)
  - ALMA Observing Tool (OT) (29)
  - Proposal Handling (5)
  - Archive & Data Retrieval (4)
  - Offline Data Reduction and/or CASA (14)
  - Development Program (1)

Live Chat Software by Kayako

## Knowledgebase

- General ALMA Queries (13)**
  - Can I submit a ticket in Japanese?
  - How close can ALMA observe to the Sun?
- Early Science - Cycle 1 (31)**
  - Can I use "breakpoints" in ALMA cycle 1?
  - The Cycle 1 Technical Handbook has some gaps in its discussion of ALMA receivers (SSB, 2SB, DSB). What else can you tell me about them?
- Resources & Observer Support (12)**
  - How do I arrange a visit to one of the ARCs?
  - Where can I find ALMA documentation and manuals?
- Project Planning (14)**
  - What should I include for the content of the Technical Justification and in what format should I submit it?
  - Where can I find the online ALMA observing simulator developed by the University of Manchester?
- ALMA Observing Tool (OT) (29)**
  - What do I do if I can't get the OT to work?
  - How do I deal with targets with unspecified coordinates in the OT?
- Proposal Handling (5)**
  - May I submit an identical proposal to more than one category, e.g. submitting a proposal on distant galaxies both to cosmology and to galaxy categories?
  - Which category should I submit a proposal on distant galaxies: "cosmology/high-z" or "Galaxies/Nudei"?





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

# help.almascience.org

<< Science Portal

Home

View Tickets

Submit a Ticket

Knowledgebase

News

English (U.S.)

Account

My Profile

Preferences

Logout

Knowledgebase

General ALMA Queries (14)

Early Science - Cycle 2

Early Science - Cycle 1 (31)

Resources & Observer Support (12)

Project Planning (14)

ALMA Observing Tool (OT) (29)

Proposal Handling (5)

Archive & Data Retrieval (4)

Offline Data Reduction and/or CASA (15)

Development Program (1)

Please type your question here

SEARCH

View Tickets

Submit a Ticket

Knowledgebase

News

### Latest Updates

No information available in this view

Help Desk Software by Kayako Resolve

## ALMA Helpdesk @ NRAO (logged in view)

# I could use a hand...



- <https://almascience.nrao.edu/proposing/learn-more>

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

ESO NRAO NAOJ

Log in | Register | Reset Password | Forgot Account

- About
- Science
- Proposing
  - Call for Proposals
  - Learn More**
  - Sensitivity Calculator
  - DDT proposals
  - Observing Tool
- Observing
- Data
- Documents & Tools
- Knowledgebase/FAQ
- User Services at ARCs**
  - Helpdesk
  - ALMA Calendars
  - EU ARC
  - NA ARC

You are here: Home > Proposing > Learn More

## Learn More

- What is ALMA? ↓
- ALMA Science Capability ↓
- Developing a Research Program with ALMA ↓
  - Estimating sensitivity and integration time ↑

The [ALMA Sensitivity Calculator \(ASC\)](#) will help you with this step.

In radio astronomy, source fluxes are generally expressed in terms of flux density using Jansky (Jy) units, or brightness temperature,  $T_b$ , in Kelvin.

Line fluxes are generally expressed in terms of velocity-integrated flux,  $S$ , in units of Jy km/s, or in intensity,  $I$ , in units of K km/s

**Learn more**

Chapter 9 of the [ALMA Technical Handbook](#) explains the operation of the ASC.

You may need to decide whether to setup your experiment in terms of  $T_b$  or [flux density](#). See also the knowledgebase article [How do I convert flux measurements given in Jy km/s or K km/s into the peak flux density required by the OT?](#)

Formulae for deriving expected line fluxes can be found in Solomon & Vanden Bout, 2005, Annual Review of Astronomy and Astrophysics (ARAA), 43, 677, section 2.

- Accessible spectral lines ↓
- Visualising your expected images ↓
- Configurations, resolution and Largest Angular Structure (LAS) ↓
- Do I need to use the Atacama Compact Array? ↓



# Actual moment of the proposal submission!

**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**

**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

## Then what happens?

- 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 on or around July 29, 2015.

## Then what happens?

- If successful, you will be contacted about Phase II SBs – depending on project, you may be able to create your own SBs by clicking appropriate button (instructions will be provided) or someone from an ALMA Phase II Group may create them for you and contact you for approval.
- 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 at:

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



**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.

