

The ALMA Proposal Preparation Process

How to get started and what to expect



Chelsea Sharon

Atacama Large Millimeter/submillimeter Array
Expanded Very Large 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 5 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.

Timeline for 2017:

March 21 – Call for Proposals

April 20 – Proposal Deadline

August – Results to PIs

September – PIs submit SBs

October – Start of Cycle 5

Duration – 11-12 months

Proposal Checklist

- Read relevant documentation (CfP Guide, Primer, etc.)
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 - New capabilities for Cycle 5!
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Observatory News

ALMA Cycle 5 Call for Proposals is Now OPEN!

Mar 21, 2017

Additional Information for Cycle 5 Proposals

Feb 01, 2017

Release of a New Installment of Science Verification Data

Jan 18, 2017

More...

NRAO News

2017 NRAO Postdoctoral Fellows Symposium

Mar 27, 2017

NRAO/LBO Community Day @ University of Michigan

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More...

Status

ALMA Cycle 5 Call for Proposals

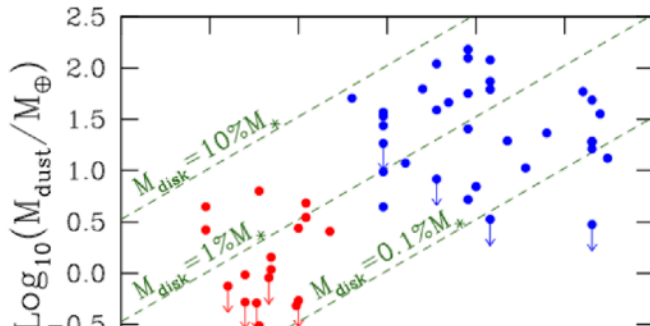
Refereed publications: 621

Last observed source: HD131835

Current configuration: C40-1

More...

Science Highlights - Possible Disk Truncation in Ophiuchus Brown Dwarfs



The sensitivity, resolution and the wavelength coverage of ALMA makes it an ideal tool for studying the properties of the cold outer disks of young stars and low mass objects. Such observations can aid us in understanding the formation of their central objects and their likelihood of ultimately hosting planets. In a recent Astronomy & Astrophysics [paper](#), Dr. Testi and his collaborators made use of ALMA Band 7 to observe an unbiased sample of spectroscopically confirmed Ophiuchus brown dwarfs with infrared excesses.





Documentation

Call for Proposals

Documentation supporting the current ALMA Call for Proposals – **Cycle 5**. Documents from previous Cycles are provided [here](#).

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	LaTeX format. Recommended but not mandatory
ALMA Proposal Review Process	An updated ALMA Principles of the ALMA Proposal Review Process

Contents

- [1. Call for Proposals](#)
- [2. Phase 1 & 2](#)
- [3. Guides to the ALMA Regional Centers](#)
- [4. ALMA Science Data Tracking, Data Processing and Pipeline, Archive and QA2 Data Products](#)
- [5. ALMA Reports, Memos and Newsletters](#)

Scroll down on the documentation page...

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 guide intended to walk the PI of an approved ALMA observing proposal through the Phase 2 process of Scheduling Block (SB) generation and submission using the ALMA Observing Tool
A User's Guide to ALMA Scheduling Blocks	A guide to understanding the structure and content of ALMA Scheduling Blocks (SBs) using the Observing Tool (OT)

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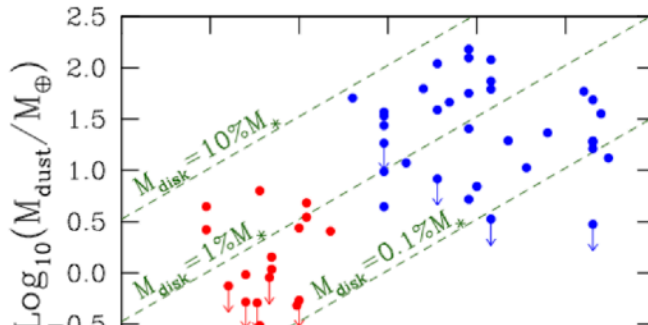
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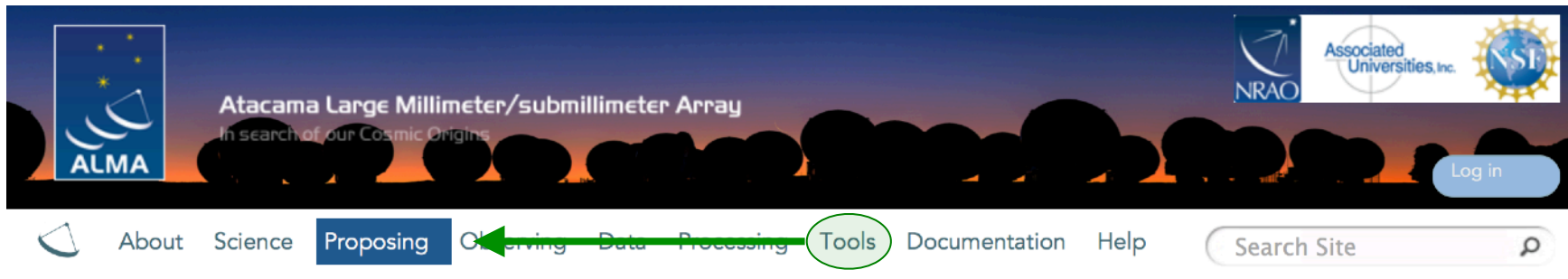
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Downloading the ALMA OT



Observing Tool

The ALMA Observing Tool (OT) is a Java application used for the preparation and submission of ALMA Phase 1 (observing proposal) and Phase 2 (telescope runfiles for accepted proposals) materials. It is also used for preparing and submitting Director's Discretionary Time (DDT) proposals. The current *Cycle 5* release of the OT is configured for the present capabilities of ALMA as described in the [Cycle 5 Call For Proposals](#). Note that in order to submit proposals you will have to register with the ALMA Science Portal beforehand.

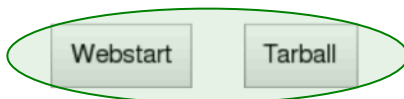
Note that preparation of Cycle 4 DDT proposals needs to be done using the Cycle 4 version of the Observing Tool. This version of the OT can be found in the [DDT page](#), or the Phase 2 menu.

Download & Installation

The OT will run on most common operating systems, as long as a **64-bit version of Java 8** is 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 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 Runtime Environment. Please use this if you have any problems running the OT tarball with your default Java.



OT Video Tutorials

Proposing > Observing Tool > OT Video Tutorials:

- Useful to Know
- What's new in Cycle 5?
- The Spectral Setup
- The Spatial Field Setup
- The Technical Justification

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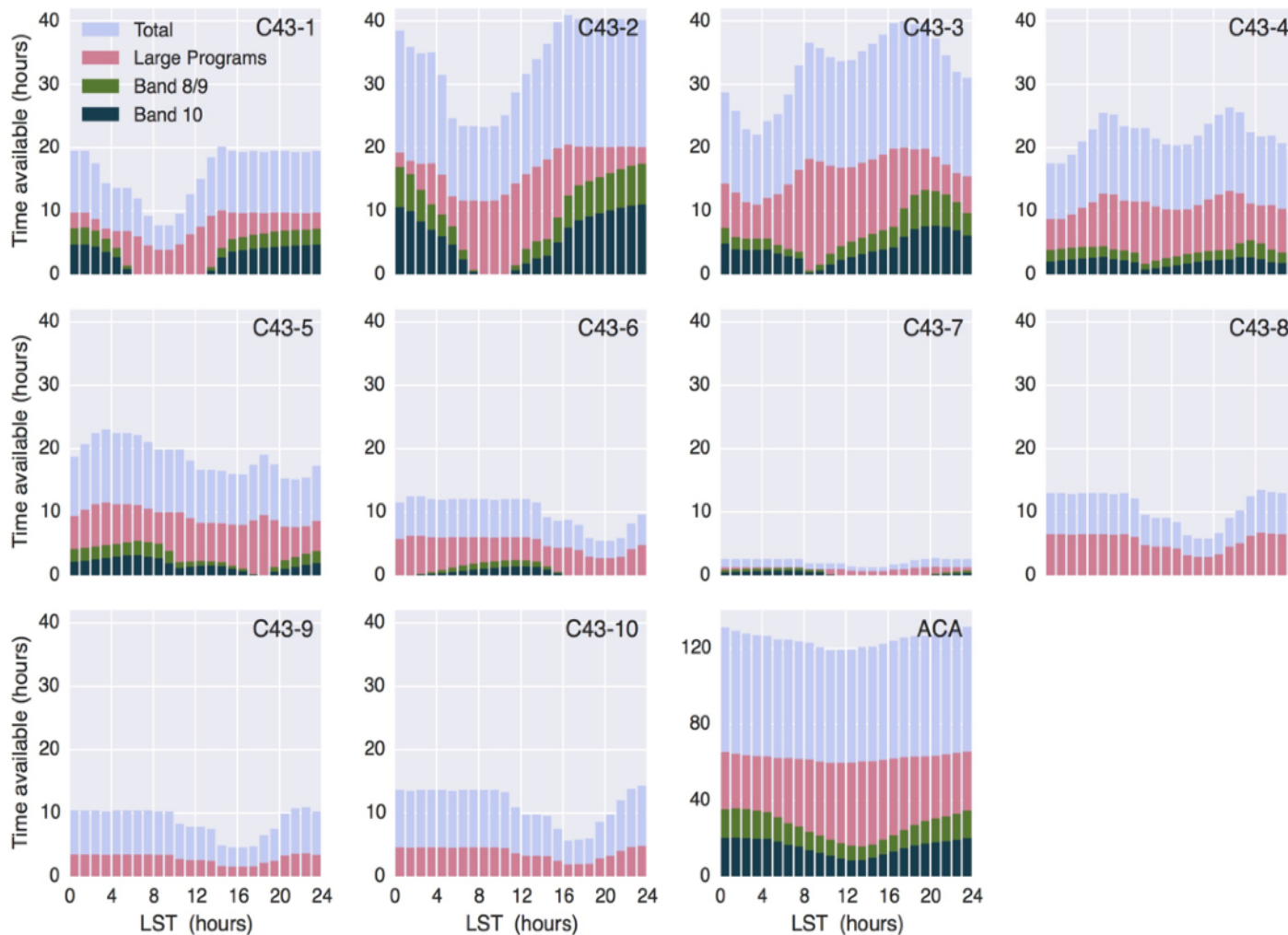
Science Case

- Free-form PDF document
 - 12+ font, English only
 - 20 MB file size
 - 4 pages (6 for Large Projects)
- Must include:
 - Astronomical Importance
 - Estimated intensity, S/N
- May include:
 - Figures
 - Tables
 - References

Table 1: Cycle 5 Configuration Schedule

Start date	Configuration	Longest baseline	LST for best observing conditions
2017 October 1	C43-7	3.7 km	~ 21h - 10h
2017 October 5	C43-8	6.8 km	~ 22h - 11h
2017 October 25	C43-9	12.8 km	~ 23h - 12h
2017 November 10	C43-10	16.5 km	~ 1h - 13h
2017 December 1-18	No observations due to large antenna reconfiguration		
2017 December 19	C43-6	1.8 km	~ 4h - 15h
2018 January 10	C43-5	1.1 km	~ 5h - 17h
2018 February 1-28	No observations due to February shutdown		
2018 March 1	C43-4	0.7 km	~ 8h - 21h
2018 March 30	C43-3	0.46 km	~ 10h - 0h
2018 May 15	C43-2	0.27 km	~ 12h - 3h
2018 June 15	C43-1	0.15 km	~ 14h - 5h
2018 July 15	C43-2	0.27 km	~ 17h - 7h
2018 August 15	C43-3	0.46 km	~ 18h - 8h
2018 August 30	C43-4	0.7 km	~ 19h - 9h
2018 September 15	C43-5	1.1 km	~ 20h - 10h

Cycle 5 Observing Strategies



Histograms of the anticipated amount of observing time available versus LST for the antenna configurations in Cycle 5. Also shown are histograms of the time available for Large Programs, as well as high frequency observations (Bands 8, 9, and 10) based on historical PWV data

ALMA Science Archive Query

Query Form

Results Table

Search

Reset

[Query Help](#)

Position

Source name (Resolver)
Source name (ALMA)
RA Dec
Galactic
Target list
Angular resolution
Largest angular scale
Field of view

Energy

Frequency
Bandwidth
Spectral resolution
Band

Time

Observation date
Integration time

Polarisation

Polarisation type

NOTE: The OT does NOT do automatic archive checks—the onus is on you to check for duplication!

Observation

Line sensitivity (10 km/s)
Continuum sensitivity
Water vapour

Project

Project code
Project title
PI name
Proposal authors
Project abstract
Publication count
Science keyword

Publication

Bibcode
Title
First author
Authors
Abstract
Year

Options

View:
 observation
 project
 publication
 public data only
 science observations only



<http://almascience.nrao.edu/aq/>

Also, ALMA Science Portal: Data > Archive

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New Capabilities

- Band 5
- Improved spectral scan mode
- 90 Degree Walsh switching at Band 9 + 10
- Solar Observations (Bands 3 + 6)
- VLBI full polarization continuum (Bands 3, 6 , 7)

Large Projects (started in Cycle 4)

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

Proposal Checklist

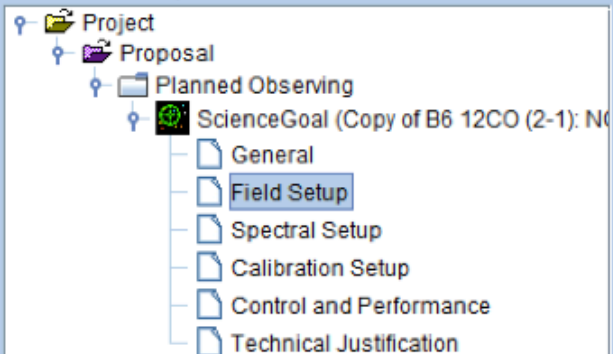
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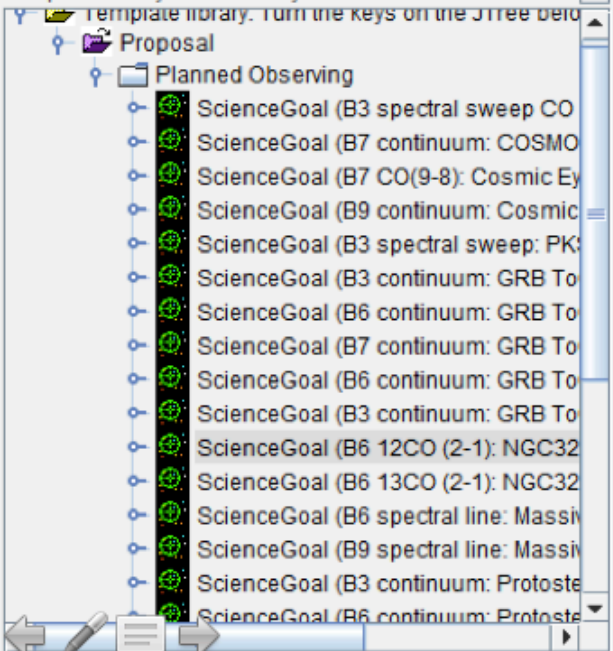
Project Structure

Proposal Program

Unsubmitted Proposal



Template library. Turn the keys on the JTree below & r...



Editors

Spectral Spatial **Field Setup**

Source Name	NGC3256			Resolve			
Choose a Solar System Object?	<input type="checkbox"/>	Name of object	Unspecified				
System	J2000	Sexagesimal display?	<input checked="" type="checkbox"/>	Parallax	0.00000	mas	
Source Coordinates	RA	10:27:51.6000	PM RA	0.00000	mas/yr		
	Dec	-43:54:18.000	PM DEC	0.00000	mas/yr		
Source Radial Velocity	0.000	km/s	hel	z	0.000000000	Doppler Type	RELATIVISTIC
Target Type	<input type="radio"/> Individual Pointing(s) <input checked="" type="radio"/> 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	<input type="radio"/> ABSOLUTE <input checked="" type="radio"/> RELATIVE					
	System	J2000					
Field Center Coordinates	Offset(Longitude)	0.00000	arcsec				
	Offset(Latitude)	0.00000	arcsec				

Feedback

Validation Validation History Log

Description	Suggestion
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I could use a hand...

ALMA



Have no fear, the ALMA Helpdesk is here!

[<< Science Portal](#)[Home](#)[Knowledgebase](#)[News](#)[English \(U.S.\)](#)

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» 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

Please type your search query here

SEARCH

Knowledgebase

General ALMA Queries (13)

- Can I submit a ticket in Japanese?
- How close can ALMA observe to the Sun?

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?

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?

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?

Resources & Observer Support (12)

- How do I arrange a visit to one of the ARCs?
- Where can I find ALMA documentation and manuals?

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/Nuclei"?





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

[View Tickets](#)

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[Knowledgebase](#)

[News](#)

Latest Updates

No information available in this view



help.almascience.org

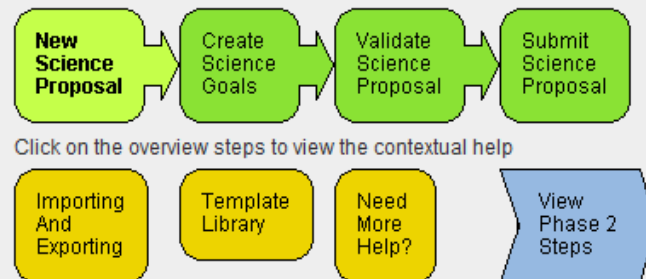
ALMA Helpdesk @ NRAO (logged in view)

Time to Submit!

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  icon in the toolbar
 - Or clicking on this [link](#)
 3. Click on the  [proposal](#) tree node and complete the relevant fields.



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 2017.

After submission

- Phase II (Creating and Queuing Scheduling Blocks)
 - PIs create their own scheduling blocks (with guidance from NAASC staff)
 - 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 SnooPI tool on the Science Portal:
<https://almascience.nrao.edu/observing/snoopi>



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.