

# What to expect after you submit?



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Slides by: Sarah Wood, Devaky Kunneriath, Sabrina Stierwalt, Erica Keller

Atacama Large Millimeter/submillimeter Array  
Expanded Very Large Array



# Proposal Review

- Can resubmit as often as needed, keep in mind server is busy right before the deadline.
- Proposals are reviewed by the ALMA Proposal Review Committee (APRC) and the ALMA Review Panels (ARP).
- All proposals subject to Technical Assessment by JAO and ARC experts.
- Proposals assessed overall scientific merit of proposed investigation and potential contribution to the advancement of scientific knowledge.
- Outcome of the Proposal Review Process communicated to PIs end of July 2018.

# Proposal Grades

- **A:** Proposal was assigned the highest priority and will be carried over into Cycle 7 if it is not completed in Cycle 6.
- **B:** was assigned a high priority but will not be carried over into Cycle 7.
- **C:** Scientifically fruitful proposals, will be observed if a higher-grade proposal is not available for current conditions.

# After submission

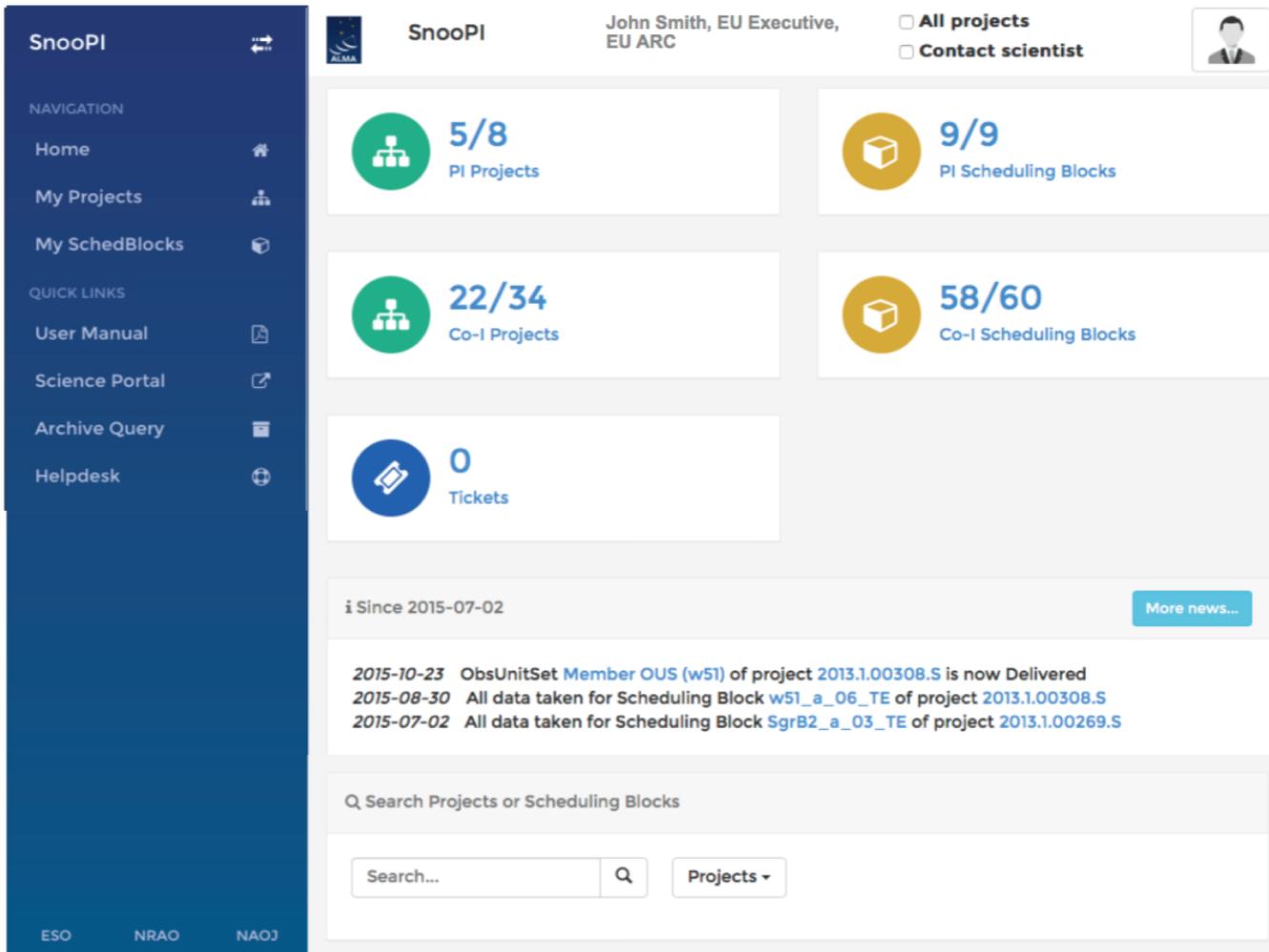
## Phase II

- PIs review their scheduling blocks (check carefully!)
- Change requests go to the Helpdesk, and possibly a formal change request
- Be prompt to 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>

# Monitor Project Status: SnooPI



The screenshot shows the SnooPI web interface. On the left is a dark blue sidebar with navigation and quick links. The main content area is white and displays project statistics in a grid format. At the top right, there is a user profile for John Smith, EU Executive, EU ARC, and two checkboxes: 'All projects' and 'Contact scientist'. Below the statistics grid is a news section with a 'More news...' button and a search bar at the bottom.

**SnooPI** John Smith, EU Executive, EU ARC  All projects  Contact scientist

**5/8** PI Projects **9/9** PI Scheduling Blocks

**22/34** Co-I Projects **58/60** Co-I Scheduling Blocks

**0** Tickets

Since 2015-07-02 [More news...](#)

2015-10-23 ObsUnitSet [Member OUS \(w51\)](#) of project [2013.1.00308.S](#) is now Delivered  
 2015-08-30 All data taken for Scheduling Block [w51\\_a\\_06\\_TE](#) of project [2013.1.00308.S](#)  
 2015-07-02 All data taken for Scheduling Block [SgrB2\\_a\\_03\\_TE](#) of project [2013.1.00269.S](#)

Q Search Projects or Scheduling Blocks

Search... Q Projects ▾

ESO NRAO NAOJ

# Monitor Project Status: SnooPI

## Listing of PI'ed projects



SnooPI

John Smith, EU Executive,  
EU ARC

All projects  
 Contact scientist



PI
Co-I

Projects

Project code ▲	Project Title ▲	Status ▲	Grade ▲
<a href="#">2015.1.09876.S</a>	A most inspired project title	*	A
<a href="#">2013.1.04567.S</a>	 Observing stars, planets, nebulae, open clusters, globular galaxies and galaxy clusters with ALMA	-	C
<a href="#">2013.1.06789.S</a>	 Observing the centre of the galaxy with ALMA <a href="#">SgrB2_a_03_TE</a>  <a href="#">SgrB2_a_03_TC</a>  <a href="#">SgrB2_a_03_7M</a>  <a href="#">SgrB2_a_03_TP</a>  <a href="#">3c454.3_SgrB2_a_03_TP</a> 	✓	B

All data taken

Check observing status for all of your projects at a glance

# Monitor Project Status: SnooPI

## Listing of PI'ed projects

- \* Approved but SBs not yet prepared
- 👍 SBs prepared but are not yet in the observing queue
- 🔴 SBs are in the observing queue but not yet taken
- 🟡 Some data has been taken
- ✅ All the data has been taken
- ☑ Completed and delivered
- 🚫 Project is timed out
- ✗ Rejected at proposal review stage
- ❓ Unknown status

# Monitor Project Status:

## Optional emails

- Subscribe to email notification for updates on changes to project status through your Science Portal user profile
  - ...
  - Phase2Submitted
  - Running
  - Partially Observed
  - Fully Observed
  - Pipeline Processing
  - ...

# Optional emails



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



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Search Site



## Observatory News

[Additional Information for Cycle 6 Proposals](#)  
Feb 01, 2018

[New Science Verification data are now available for download](#)  
Jan 22, 2018

[Announcement of intent to release a new installment of Science Verification data](#)  
Feb 03, 2018  
[More...](#)

## EU ARC News

[Researcher position available at the Nordic ARC node](#)  
Jan 10, 2018

[Post-doc position available at the Italian ARC-node](#)  
Dec 20, 2017

[2017 European Radio Interferometry School](#)  
May 11, 2017

[More...](#)

## Status

[ALMA Cycle 5 Config Schedule](#)

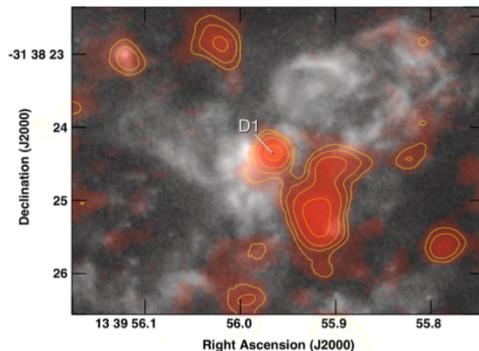
Refereed publications: 916

Last observed source: W43-MM1

Current configuration: C43-5

[More...](#)

## Science Highlights - Molecular Gas Within the Supernebula of the Dwarf Galaxy NGC 5253



One of the areas of extragalactic research which makes great use of ALMA's resolution and sensitivity is the study of the molecular gas properties of dwarf galaxies. In a [recent study](#) by Dr. Jean Turner and her collaborators, they make use of Band 7 ALMA observations to detect warm  $^{12}\text{CO}(3-2)$  and  $^{13}\text{CO}(3-2)$  emission (Cloud D1) from the core of a giant star-forming region, in the dwarf galaxy NGC 5253. This "supernebula" is the source of one-third of the galaxy's infrared luminosity and is in proximity to optical clusters with measured stellar ages of  $\sim 1$  Myr. From radio recombination line analysis, the region is estimated to have 1400-1800 O stars..

[Full Summary...](#)



# Optional emails

Click Name



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

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Erica Keller  
[Profile](#)  
[Log out](#)

Click Profile

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More...

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More...

## Status

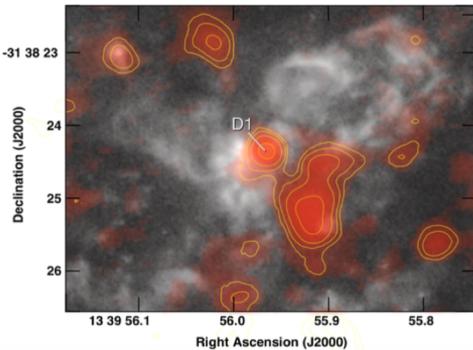
[ALMA Cycle 5 Config Schedule](#)

Refereed publications: 916  
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More...

## Science Highlights - Molecular Gas Within the Supernebula of the Dwarf Galaxy NGC 5253

by [Portal Admin](#) — last modified Nov 30, 2017 09:38 PM



One of the areas of extragalactic research which makes great use of ALMA's resolution and sensitivity is the study of the molecular gas properties of dwarf galaxies. In a [recent study](#) by Dr. Jean Turner and her collaborators, they make use of Band 7 ALMA observations to detect warm  $^{12}\text{CO}(3-2)$  and  $^{13}\text{CO}(3-2)$  emission (Cloud D1) from the core of a giant star-forming region, in the dwarf galaxy NGC 5253. This "supernebula" is the source of one-third of the galaxy's infrared luminosity and is in proximity to optical clusters with measured stellar ages of  $\sim 1$  Myr. From radio recombination line analysis, the region is estimated to have 1400-1800 O stars..

[Full Summary...](#)



# Optional emails



Account info Project delegation Account linking Demographics

## Edit Profile

(Fields marked with a red dot are mandatory)

First name	<input type="text" value="Erica"/>
Middle initials	<input type="text" value="C"/>
Surname	<input type="text" value="Keller"/>
E-mail	<input type="text"/>
Receive optional emails	<input checked="" type="checkbox"/>
Account name	<input type="text"/>
Password	<input type="password"/> Last password update: 25-Feb-2016 15:26:38
Re-type password	<input type="password"/>
Institution	<input type="text" value="United States"/> <input type="text" value="VA"/> <input type="text" value="National Radio Astronomy Observatory; North American ALMA Scier"/>

Click Checkbox

In case of problems with the registration, please use [this Web form](#) to contact us  
You may find a solution to your problem in the [Support Center/Knowledgebase](#)

# Monitor Project Status:

## Optional emails

- Subscribe to email notification for updates on changes to project status through your Science Portal user profile
  - ...
  - Phase2 Submitted
  - Running
  - Partially Observed
  - Fully Observed
  - Pipeline Processing
  - ...

With or without optional emails, PIs always receive notification when new data are available

## Data Delivery

- **Data delivered after passing Quality Assurance (QA)**
- Download data from *Archive Query* and *Request Handler* tools on the ALMA Science Portal
- Delivered data include:
  - Calibration tables and diagnostics
  - Preliminary images (*better products may be possible with more careful continuum identification & interactive cleaning*)
- Sections 11, 12, 14, and Appendix C of ALMA Technical Handbook

# Goals of Quality Assurance (QA) Process

- Ensure reliable final data product
  - Desired sensitivity, resolution (as specified by PI)
- Ensure calibration and QA imaging free from major artifacts
- Warning: Errors in PI-supplied parameters are outside scope of QA process, including:
  - Incorrect source coordinates
  - Inadequate frequency specification
  - Inadequate sensitivity limits

See [ALMA Technical Handbook](#) for details.



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# Data Delivery Email

- Included Links:
  - Archive query for the data products package
  - Fully-calibrated MS (North America Only)
  - CASA download and mailing lists
- Only sent to PI, but the PI can delegate access to others



Account info   Project delegation   **Account linking**   Demographics

## Project Delegation

### Edit Profile

(Fields marked with a red dot are mandatory)

First name	<input type="text" value="Erica"/>
Middle initials	<input type="text" value="C"/>
Surname	<input type="text" value="Keller"/>
E-mail	<input type="text"/>
Receive optional emails	<input checked="" type="checkbox"/>
Account name	<input type="text"/>
Password	<input type="password"/> Last password update: 25-Feb-2016 15:26:38
Re-type password	<input type="password"/>
Institution	<input type="text" value="United States"/> <input type="text" value="VA"/> <input type="text" value="National Radio Astronomy Observatory; North American ALMA Scier"/>

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- **Triggers Start of Proprietary Period**
  - **Usually 12 months**

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- Only sent to PI, but the PI can delegate access to others
- Triggers Start of Proprietary Period
  - Usually 12 months
- **Publication Requirements:**
  - **ALMA acknowledgement**
  - **ARC specific acknowledgement**

# Data Delivery Email

- Included Links:

- Archive query for the data products package

After untarring the processed data, we have a directory tree:

```
2017.1.05267.S/ ← Project code  
|-- science_goal.uid__A001_X1299_X2z  
  |-- group.uid__A001_X1299_X25  
    |-- member.uid__A001_X1299_X39
```

```
|-- calibration  
|-- log  
|-- member.uid__A001_X1299_X39.README.txt  
|-- product  
|-- qa  
|-- script
```

**Data delivery products...**

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- Sections 11, 12, 14, and Appendix C of ALMA Technical Handbook

## After Delivery

- Additional QA stage possibly triggered by PI reporting any issues underlying:
  - Data, observing procedure, calibration
- Re-evaluation of calibrated data products
  - Only occurs if QA0 → QA2 miss something
- Likely results in fix being implemented and products re-ingested into ALMA archive

# After Delivery

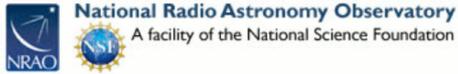
- Proprietary period extension (*within two months of delivery*)



- After two months, extension only until fix is delivered

# Resources After Delivery

## HelpDesk



- Home
- News
- Knowledgebase

What can we help you with?

What can we help you with?

Search in: KB articles  Science Portal

[Help](#)

  
News

  
Knowledgebase

# Resources After Delivery

## NRAO Data Reduction Visitors

<https://science.nrao.edu/facilities/alma/visitors-shortterm>

- Financial support for observers working on ALMA projects (either recently observed or archival)
- Visitors receive access to NAASC computing facilities and expert assistance in calibrating, reducing, and imaging their data.
- Advanced students are welcome and we request that students new to radio astronomy come with their advisor



The screenshot shows the National Radio Astronomy Observatory (NRAO) website. The header includes the NRAO logo, the text "National Radio Astronomy Observatory" and "Enabling forefront research into the Universe at radio wavelengths", and navigation links for "my.nrao.edu", "Public Site", "Contact Us", and "Staff Login". A search bar is present with the text "Search all of NRAO" and a "Go" button. The main navigation menu includes "Home", "About NRAO", "Science", "Facilities" (highlighted in orange), "Observing", "Opportunities", and "Futures". Below this, a secondary menu lists "ALMA/NAASC", "VLA", "GBT", "VLBA", and "CDL". The breadcrumb trail reads "Facilities > ALMA/NAASC > Data Reduction Visitors to the North American ALMA Science Center (NAASC)". The main content area features a blue box with the text "Data Reduction Visitors to the North American ALMA Science Center (NAASC)" and a partially visible "Proposing" button.

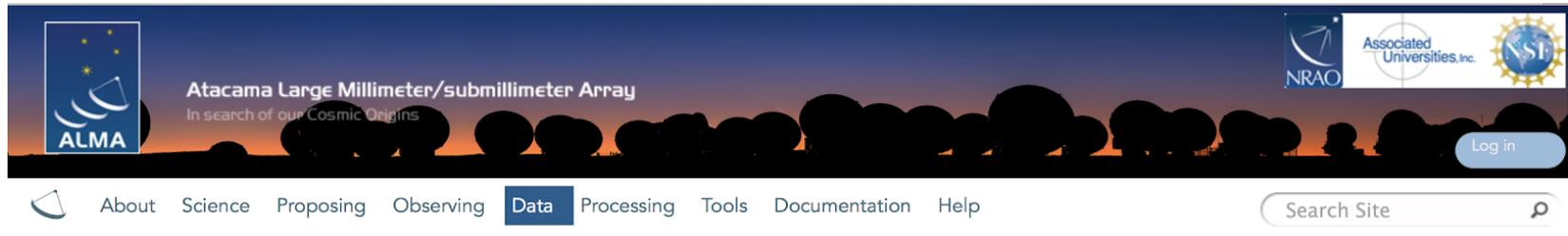
# The ALMA Archive



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

# How to find the archive

Go to the science portal: <https://almascience.nrao.edu>  
- Click on “Data” and select “Archive”



The screenshot shows the top navigation bar of the ALMA Science Portal. On the left is the ALMA logo with the text "Atacama Large Millimeter/submillimeter Array" and "In search of our Cosmic Origins". On the right are logos for NRAO, Associated Universities, Inc., and NSF. A "Log in" button is also present. Below the logos is a horizontal menu with the following items: About, Science, Proposing, Observing, Data (highlighted), Processing, Tools, Documentation, and Help. To the right of the menu is a search box labeled "Search Site" with a magnifying glass icon.

## Archive

[Archive Query](#)

## Documentation

We provide a comprehensive [ALMA Science Archive Manual](#).

## Data delegation

Pls can grant access to one of their projects to a registered ALMA user by logging into the Science Portal, going to the user profile page in the top right corner and then adding delegates in the "Project delegation" tab.

## Cycle 0 content

Please [go here](#) to see the content of the Cycle 0 deliveries.

# Find data in archive: Archive Query

ALMA Science Archive Query

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

Query Form

Results Table

Search Reset

[Query Help](#)

## Position

Source name (Sesame)  
Source name (ALMA)  
RA Dec

## Energy

Frequency  
Bandwidth  
Spectral resolution  
Band

## Time

Observation date  
Integration time

## Polarisation

Polarisation type

## Observation

Water vapour

## Project

Project code  
  
Project title  
PI name

**Project code**  
Project code.

**Description**  
Project code, in the form  
YYYY.NNNNN.C.AAA, where:

**Example**  
2010.2.00010.N  
2010.\*  
2010.?\*.CSV  
\*.CSV  
!(\*.CSV | \*.SIM)

## Options

View:  raw data  project  
 public data only  
 science observations only

# Archive Query

Query Form **Results Table**

**Submit download request**

[Results Bookmark](#) [Export Table](#) [Results Help](#)

Showing 30 rows (30 before filtering).

[More columns](#)

<input type="checkbox"/>	Project code	Source name	RA	Dec	Band	Integration	Release date ▲	Velocity resolution	Frequency support
Filter:	<input type="text"/>	<input type="text" value="m/s"/> <input type="button" value="↓"/>	<input type="text"/>						
<input checked="" type="checkbox"/>	2012.1.00090.S	S2CLS_UDS110	02:18:48.44	-05:18:05.0	7	9.326	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input checked="" type="checkbox"/>	2012.1.00090.S	S2CLS_UDS156	02:18:24.23	-05:22:53.4	7	8.836	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input checked="" type="checkbox"/>	2012.1.00090.S	S2CLS_UDS160	02:18:23.86	-05:11:36.2	7	8.842	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS168	02:18:20.34	-05:31:41.6	7	8.843	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input checked="" type="checkbox"/>	2012.1.00090.S	S2CLS_UDS199	02:18:07.38	-04:44:11.7	7	8.812	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS204	02:18:03.01	-05:28:39.8	7	8.873	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS216	02:17:56.80	-04:52:39.6	7	8.82	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS252	02:17:37.79	-05:20:10.2	7	8.827	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS286	02:17:25.76	-05:25:36.5	7	9.657	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS292	02:17:21.85	-05:19:03.3	7	8.815	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS298	02:17:19.90	-05:09:36.4	7	9.55	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS334	02:17:02.81	-04:57:24.9	7	8.856	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS408	02:16:22.59	-05:11:06.0	7	8.819	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS421	02:16:17.62	-05:09:02.0	7	8.803	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>
<input type="checkbox"/>	2012.1.00090.S	S2CLS_UDS47	02:19:24.97	-05:09:19.9	7	8.785	2014-11-07T09:35:00.000	27236.96	<a href="#">336.00..351.99GHz</a>

# Downloading the data: Request Handler

## ALMA Request Handler

[Login](#)

Anonymous User: Request #436233140 ✓

Request Title: [Click to edit](#)



[Download Selected](#)

Include Raw

Project / OUSet / Executionblock	File	Size	Accessible
Request 436233140			
Project 2012.1.00090.S			
Science Goal OUS uid://A002/X5eed86/X25			
Group OUS uid://A002/X5eed86/X26			
Member OUS uid://A002/X5eed86/X27			
<input checked="" type="checkbox"/> product	<a href="#">2012.1.00090.S uid_A002_X5eed86_X27_001_of_001.tar</a>	374.9MB	✓
<input type="checkbox"/> raw	<a href="#">2012.1.00090.S uid_A002_X7143f6_Xca4.asdm.sdm.tar</a>	4.0GB	✓
Science Goal OUS uid://A002/X5eed86/X29			
Group OUS uid://A002/X5eed86/X2a			
Member OUS uid://A002/X5eed86/X2b			
<input checked="" type="checkbox"/> product	<a href="#">2012.1.00090.S uid_A002_X5eed86_X2b_001_of_001.tar</a>	377.8MB	✓
<input type="checkbox"/> raw	<a href="#">2012.1.00090.S uid_A002_X7143f6_Xf9b.asdm.sdm.tar</a>	4.0GB	✓
		Total: 8.7GB	

# Downloading the data:

## *Request Handler*

- All data downloaded as tar files
- Large data sets may be broken into several pieces
- For Cycle 0–5 projects, cannot directly download individual data products but potentially coming in Cycle 6...
  - FITS images
  - Diagnostic plots, etc.



## 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.