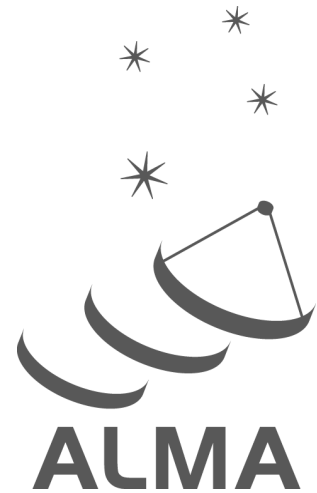


ALMA Snooping Project Interface (SnooPI) User Manual

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www.almascience.org

User Support:

For further information or to comment on this document, please contact your regional Helpdesk through the ALMA User Portal at www.almascience.org. Helpdesk tickets will be directed to the appropriate ALMA Regional Centre at ESO,

NAOJ or NRAO.

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1. The ALMA Snooping Project Interface (SnooPI)

The ALMA Snooping Project Interface (SnooPI) is a read-only web application that allows Principal Investigators (PIs) and Co-Is to follow their ALMA projects from the moment of proposal submission all the way to data delivery. It also allows Contact Scientists to track all the ALMA projects supported by their node, by accessing exactly the same information that is made available to the PIs. SnooPI runs on Mozilla Firefox, Google Chrome and Safari.

2. The interface

A user needs to log in to the ALMA Science Portal (SP) to access SnooPI, from the SP left-hand menu, under 'Observing'. The landing page of the application is a Dashboard-like page with direct access to the user's projects and Scheduling Blocks (SBs) as PI (including Co-PI), Co-I and Delegee when available (showing the currently active and total number of projects).

At the very top of the Dashboard, the 'Help' button provides a description of all the symbols used to describe the states of Projects, SBs, Member Obs Unit Sets (MOUSs) and Execution Blocks (EBs). The details of the various views and functionalities will be described in the following sections. Behind the avatar, there is a direct link to the User Profile in the SP, where the data, Phase 2 submission and Target of Opportunity delegations can be handled, as well as the option to log out. An expandable newsfeed informs the users about the latest news for their projects. At the very











The screenshot shows the SnooPI dashboard interface. On the left is a dark blue navigation sidebar with the following items: SnooPI (with a home icon), NAVIGATION (Home, My Projects, My SBs), QUICK LINKS (User Manual, Science Portal, Archive Query, Helpdesk). The main content area has a header with the ALMA logo, 'SnooPI', user information 'John Smith Executive: EU; ARC: EU', version 'v2020.10.01', and 'Help' and user profile buttons. The dashboard features six summary cards in a 3x2 grid: 2/21 PI Projects, 21/56 PI Scheduling Blocks, 16/177 Co-I Projects, 96/390 Co-I Scheduling Blocks, 1/5 Delegee Projects, and 6/40 Delegee Scheduling Blocks. Below these is a newsfeed section with a 'More news...' button and three news items: '2020-03-11 Project 2019.1.01234.S is now Completed, all data delivered', '2020-03-06 All data taken for Scheduling Block PJ167-13_a_03_TM1 of project 2019.1.01234.S', and '2020-03-03 Scheduling Block PJ167-13_a_03_TM1 of project 2019.1.01234.S was successfully executed once'. At the bottom is a search bar labeled 'QSearch Projects or Scheduling Blocks' with a search input field, a search icon, and a 'Projects' dropdown menu. The footer contains the logos for ESO, NRAO, and NAOJ.

bottom of the home page, a Search feature permits to look for a specific project or SB, by selecting from the pull-down menu.

The left-hand side menu is retractable and provides direct links to the Home page (dashboard view), Projects and SBs, the User Manual, the SP, the Archive Query Interface and the Helpdesk. At the very bottom, direct links to the pages of the three ALMA Executives (ESO, NRAO and NAOJ) are also available.

3. “My Projects” view

The Projects view for PIs (including Co-PIs), Co-Is and Delegees when applicable (shown in different tabs) lists in a table the code, name, status and priority grade of all active projects and is sortable by any of these columns. Active projects are all approved projects of the current cycle with a priority grade A, B (i.e. high priority projects) or C (i.e. filler projects), A-ranked carry-over projects from the previous cycle, as well as projects from the previous cycle that have not yet been fully delivered. Before the result of the proposal review is made public¹, projects submitted to the next cycle are also listed by default among the active projects. By selecting “All projects”, including inactive projects (e.g. fully or partially completed projects from previous cycles, rejected projects etc) are also included in the list, in reverse Project Code order. The status of a project is indicated by one of the following icons:

-  a white “thumbs up” symbols marks a project that has been submitted (Phase 1);
-  a red cross marks a project rejected at the proposal review stage (after the results of the proposal review become public). Such projects only appear in the list if “All projects” is selected;
-  an asterisk indicates an approved project (priority grades A, B or C) for which the Phase 2 material has not yet been submitted;
-  A light blue “thumbs up” symbol indicated that the Phase 2 material has been submitted, but the SBs have not been generated yet;
-  a blue “thumbs up” symbol indicates that the Phase 2 material has been submitted, the SBs have been generated, but the project is not yet set to “Ready”, in other words it has not yet been placed in the observing queue;
-  a red circle indicates that the project has been set to “Ready” but no data have been taken yet;
-  an orange triangle indicates that some data have been taken;
-  a green check-mark indicates that all the data have been taken;
-  a check-mark inside a square indicates that the project has been completed and all data have been delivered; such projects only appear in the list if “All projects” is selected;
-  similarly, a check-mark inside a blue square indicates a project that has been partially completed and all data taken have been delivered;

¹The proposal review either reported as a consensus report of the ALMA Proposal Review Committee (APRC), or as the reviewers feedback, if the proposal was evaluated through a Distributed Peer Review (DPR) process.

- ⊘ a stop sign indicates that the project has timed out; this can happen for time-critical projects or projects that require configurations that are no longer coming back in the current cycle;
- ✕ projects that have been cancelled and have not been observed are marked by a blue cross;
- ↶ project that are not to be observed are indicated by an “undo” symbol;
- ❓ finally, a question mark indicates an unknown project status, i.e. not properly set in the data base.

Figure 2. “My Projects” list with the SB list of the last project deployed, after clicking on the cube next to the project code.

By hovering over a symbol, a text box explaining the meaning of the symbol will appear. To the left of the project name, a cube indicates that SBs have been generated for this project. Clicking on the cube will open a list with all the available SBs for a given project listed by their names, with an associated status next to them. The symbols used for the SBs have the same meaning as for the projects, namely: a blue “thumbs up” indicates that the SBs have been generated but not yet set to “Ready”; the red circle, orange triangle and green check-mark have mean no/some/all data taken and successfully passed a level 0 quality assurance, QA0, checked against the required number of executions; a blue cross marks SBs that have been cancelled, a stop sign is used to point out SBs that have timed out, and a question mark indicates an unknown state. Hovering over a symbol will again trigger some explanatory text (see Figure 2).




The Search function at the top of the list allows the user to look for specific projects by project code.

3.1. The project tree view

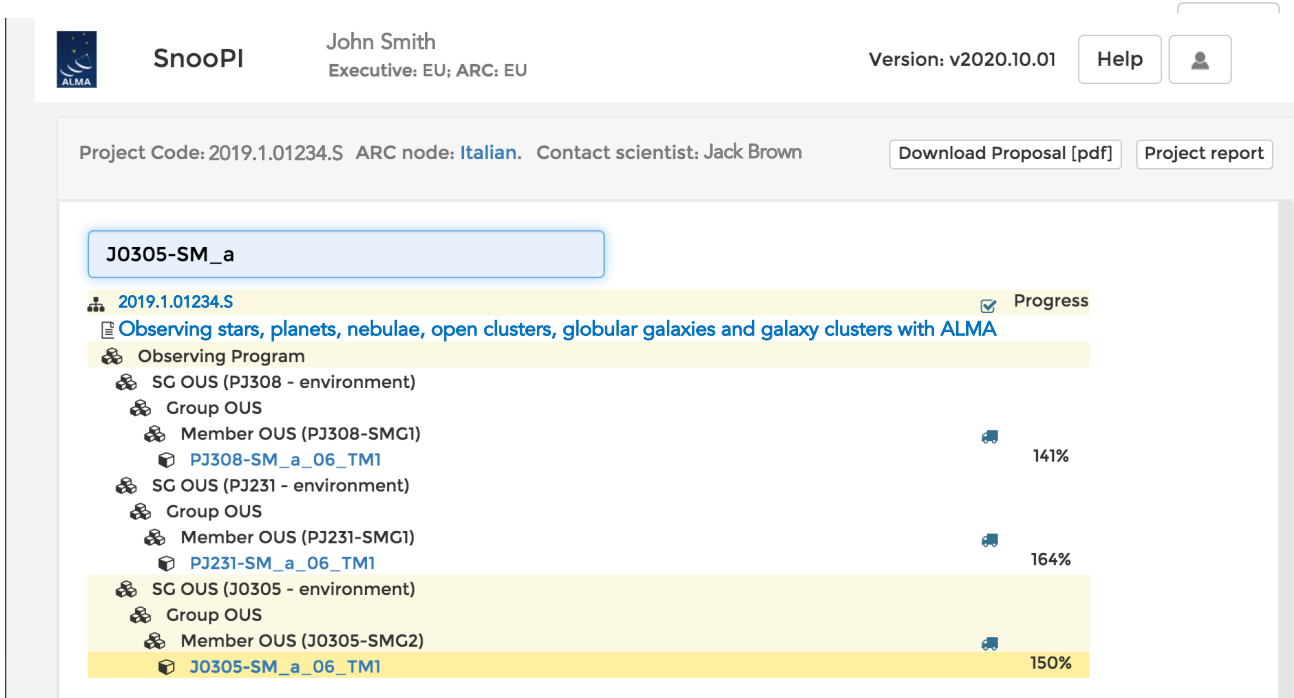
Clicking on the project title will reveal the list of Co-PIs/Co-Is/Delegees when applicable, the proposal priority grade, the abstract of the proposal and the APRC consensus report, or the

reviewer feedback if the proposal was evaluated through a DPR process. Each SB links to its individual detailed view panel, described in Section 4. At the top of the project panel there are links to the web page of the corresponding ARC node, the project report and the pdf file of the proposal. The name of the Contact Scientist is also shown, when available.

Clicking on the project code will open the project tree. The project tree structure is similar to that in the ALMA Observing Tool. The Execution Percentage (EP, i.e., the execution count divided by the expected number of executions, expressed in %) is shown next to each SB under the Progress column. The EP can exceed 100% and one SB can be considered completed if the EP is larger than 90%: the calculation of the EP is in fact based not exclusively on the time, but also on the atmospheric conditions and the number of usable antennas, taking into account phase rms and shadowing. Once the SB is successfully completed and the SB moves to the processing stage, the status is no longer shown next to the SB but next to the corresponding Member Observing Unit Set (OUS), with one of the following symbols:

-  a set of gears indicate that the OUS is being processed;
-  a truck indicates that the OUS has been delivered (see Figure 3);
-  an ambulance indicates an OUS for which QA3 is in progress.

The Search function at the top of the project tree allows the user to look for specific SBs by typing the SB's name (one string can be typed at any given time). All SBs matching the string are highlighted in yellow in the project tree while the parent SGs and OUSs are highlighted in shaded yellow (see Fig. 3).



The screenshot shows the SnooPI interface. At the top, the user is identified as John Smith, Executive: EU; ARC: EU. The version is v2020.10.01. The project code is 2019.1.01234.S, the ARC node is Italian, and the contact scientist is Jack Brown. There are buttons for 'Download Proposal [pdf]' and 'Project report'. The search bar contains 'J0305-SM_a'. The project tree is expanded to show the following structure:

Item	Progress
2019.1.01234.S	Progress
Observing stars, planets, nebulae, open clusters, globular galaxies and galaxy clusters with ALMA	
Observing Program	
SG OUS (PJ308 - environment)	
Group OUS	
Member OUS (PJ308-SMG1)	
PJ308-SM_a_06_TM1	141%
SG OUS (PJ231 - environment)	
Group OUS	
Member OUS (PJ231-SMG1)	
PJ231-SM_a_06_TM1	164%
SG OUS (J0305 - environment)	
Group OUS	
Member OUS (J0305-SMG2)	
J0305-SM_a_06_TM1	150%

Figure 3. The project tree view.

4. “My SBs” view

The Scheduling Block or SB view lists in a table the project code, the SB name, the SB unique identifier (UID) mentioned in the data delivery e-mail to the PI, the status of the SB and the EP, i.e. the progress of the observations (see Sec. 3.1 for more details). To facilitate users searching, the SB table can be sorted by project code, SB name, UID and status, and is also supported by the Search functionality. By selecting “All SBs”, SBs from non-active projects will also be listed, when available. The status of the SB is indicated by one of the icons used to show the status of the project (see Sec. 3). In addition to them the status of the SB can be indicated by:

- 🕒 a clock to signify that an action or an information is expected from the PI, including the triggering of the SB.

4.1. The Scheduling Blocks detailed view

Clicking on an SB name, a new panel will open with the project tree on the left-hand side and the details of the SB on the right side (see Figure 4), namely:

- the name of the SB, its status and a status history button (“History”);
- the name of the original Science Goal;
- the uid of the MOUS, a status history button and the possibility to launch an ALMA archive query (“Archive query” button) for this uid as soon as there is a QA0_PASS EB (see Figure 4 for an example). The results of the query will be displayed in a new tab;
- the Array (12-m, 7-m or TP), band, representative frequency, nominal array configuration with a link to the configuration schedule, minimum and maximum angular resolution requested by the PI, and the number of successful over the expected executions;
- the coordinates of the target and pointing information (i.e. single or multiple sources, custom mosaic or rectangular field). In case of mosaics, the coordinates are those the PI entered in the Field setup. The coordinates of Ephemeris objects are also shown;
- the time constrains and visit constrains for time-critical projects; hovering over the underlined text, the list of requested time-slots appears, and/or links to other SBs that need to be executed in sequence, when applicable;
- the QA2 status (when set in the database) and a link to the QA2 report QA2_PASS or QA2_SEMIPASS;
- a list of all the corresponding EB IDs, with their execution end times, execution duration, QA0 status and links to the corresponding QA0 reports. The QA0 and QA2 status is indicated by:
 - ✓ green check-mark to signify PASS;
 - 🚩 green check-mark with adjacent danger symbol to signify SEMIPASS;
 - 🔴 red circle to signify FAIL.

QA0 and QA2 reports are not generated by SnooPI, the application simply displays them, when available.

ALMA SnooPI John Smith Executive: EU; ARC: EU Version: v2020.10.01 Help

Project Code: 2019.1.01234.S ARC node: Italian. Contact scientist: Jack Brown [Download Proposal \[pdf\]](#) [Project report](#)

J0305-SM_a

2019.1.01234.S [Observing stars, planets, nebulae, open clusters, globular galaxies and galaxy clusters with ALMA](#)

Observing Program

- SG OUS (PJ308 - environment)
 - Group OUS
 - Member OUS (PJ308-SMG1)
 - PJ308-SM_a_06_TM1
 - SG OUS (PJ231 - environment)
 - Group OUS
 - Member OUS (PJ231-SMG1)
 - PJ231-SM_a_06_TM1
 - SG OUS (J0305 - environment)
 - Group OUS
 - Member OUS (J0305-SMG2)
 - J0305-SM_a_06_TM1

Scheduling Block Name: J0305-SM_a_06_TM1 [History](#)

Scientific Goal Name: SG OUS (J0305 - environment)

Member ObsUnitSet: uid://A001/X1465/X1e7a [History](#) [Archive query](#)

Array: 12m

RA, Dec: 3^h 5^m 22.3^s, -31° 49' 47.8"


Pointing information: Multiple sources, individual pointings

Band: 6

Representative Frequency, GHz: 248.69

Nominal configuration: C43-1,C43-2 [Schedule](#)

Min/Max Angular Resolution [arcsec]: 0.700 / 1.435

Progress:  150%

QA2: [Report](#)

End time	Duration [min]	Execution Block UID	QA0
2019-11-08 03:35:30	58.44	uid://A002/Xe31981/Xd084	Report

Execution block uid://A002/Xe31981/Xd084 [Print](#)

Temperatures [°K]

Average T _{sys}	84.80
σ	9.09
T _{sys,min}	64.90
T _{sys,max}	129.41

Array

Number of antennas	45.0
Shortest baseline	15.059 m
Longest baseline	500.184 m
Angular resolution	0.62 arcsec
Maximum Recoverable Scale	7.370 arcsec

Sources

Intent	Object	RA	Dec	Time [min]
Science Target	J0305-SMG5	3 ^h 5 ^m 7.8 ^s	-31° 50' 51.8"	10.08
Science Target	J0305-SMG4	3 ^h 5 ^m 26.0 ^s	-31° 49' 59.8"	10.08
Science Target	J0305-SMG3	3 ^h 5 ^m 12.5 ^s	-31° 51' 23.8"	10.08
Science Target	J0305-SMG2	3 ^h 5 ^m 22.3 ^s	-31° 49' 47.8"	10.08
Atmospheric Calibrator	J0334-4008	3 ^h 34 ^m 13.7 ^s	-40° 8' 25.4"	0.20
Atmospheric Calibrator	J0305-SMG2	3 ^h 5 ^m 22.3 ^s	-31° 49' 47.8"	1.01
Bandpass Calibrator	J0334-4008	3 ^h 34 ^m 13.7 ^s	-40° 8' 25.4"	5.04
Flux Calibrator	J0334-4008	3 ^h 34 ^m 13.7 ^s	-40° 8' 25.4"	5.04
Phase Calibrator	J0326-3243	3 ^h 26 ^m 15.0 ^s	-32° 43' 25.0"	3.53
Pointing Calibrator	J0334-4008	3 ^h 34 ^m 13.7 ^s	-40° 8' 25.4"	1.68
WVR Calibrator	J0326-3243	3 ^h 26 ^m 15.0 ^s	-32° 43' 25.0"	3.53

Figure 4. Detailed SB/EB view next to the project tree view.

4.2. The Execution Blocks detailed view

Clicking on an EB will expand the bottom of the SB panel to list EB details on the T_{sys} and the Array (number of antennas, shortest and longest baselines, angular resolution and maximum recoverable scale), as well as the science target(s) and calibrators used in this particular EB with their respective coordinates and on-source times (see Figure 4). The EB detailed view can be also viewed in a printable version by clicking on the “Print” button.



The Atacama Large Millimeter/submillimeter Array (ALMA), an international astronomy facility, is a partnership of the European Organisation for Astronomical Research in the Southern Hemisphere (ESO), the U.S. National Science Foundation (NSF) and the National Institutes of Natural Sciences (NINS) of Japan in cooperation with the Republic of Chile. ALMA is funded by ESO on behalf of its Member States, by NSF in cooperation with the National Research Council of Canada (NRC) and the Ministry of Science and Technology (MOST) in Taiwan and by NINS in cooperation with the Academia Sinica (AS) in Taiwan and the Korea Astronomy and Space Science Institute (KASI).

ALMA construction and operations are led by ESO on behalf of its Member States; by the National Radio Astronomy Observatory (NRAO), managed by Associated Universities, Inc. (AUI), on behalf of North America; and by the National Astronomical Observatory of Japan (NAOJ) on behalf of East Asia. The Joint ALMA Observatory (JAO) provides the unified leadership and management of the construction, commissioning and operation of ALMA.

