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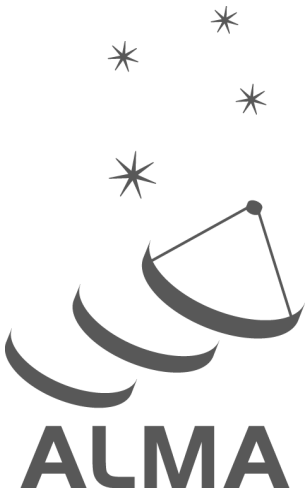
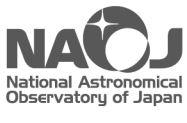
Phase 2 Quickstart Guide





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 Center at ESO, NAOJ or NRAO.

Revision History:

Version	Date	Editors
1 (Cycle 4)	August 2016	Suzanna Randall
1 (Cycle 5)	July 2017	Suzanna Randall, Evanthia Hatziminaoglou
1 (Cycle 6)	July 2018	Evanthia Hatziminaoglou
1 (Cycle 7)	July 2019	Evanthia Hatziminaoglou
1 (Cycle 8 2021)	July 2021	Anna Miotello
1 (Cycle 9)	August 2022	Anna Miotello

Contributors

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In publications, please refer to this document as:
Phase 2 Quickstart Guide, ALMA Doc. 9.20

1 Scope

This document is intended to describe to you - as the PI of an approved ALMA observing proposal - the process of Phase 2. From Cycle 8 2021 onwards, unlike in previous cycles, PIs are not required to submit Phase 2 Science Goals (see ALMA Users' Policies for further details). Approved projects are assigned an ALMA Contact Scientist (CS) at the associated ARC or ARC node and a project Helpdesk ticket is opened on behalf of the PI for communication with the CS and others. Necessary minor changes may be requested through this Helpdesk ticket and will be implemented as long as they do not impact the science scope or increase the total execution time. Any significant change may only be made after the approval of a PI-initiated change request through the Helpdesk. The CS can assist the PI with any questions during Phase 2.

ALMA staff will generate the Scheduling Blocks (SBs) and, in case of problems, will contact the CS and the PI. If no problems are found, the project will be submitted to the ALMA observing queue to await execution at the telescope. PIs may track the status of their SBs through the Snooping Project Interface (SnooPI), accessible from the ALMA Science Portal.

Specific instruction on projects with observing modes that require special consideration are reported below.

2 Observing modes that require special consideration

- Projects containing **Total Power (TP, single dish)** observations: all Total Power single dish observations require an OFF position that should correspond to a region in the sky where no emission is expected at the frequency of observation down to the sensitivity requested. In Cycle 9, ALMA staff will select TP OFF positions, and take into account any OFF positions possibly suggested by the PIs in Phase 1 (in the submitted proposal). PIs may be contacted and asked for suggestions, if the OFF position selected by ALMA staff is found to be contaminated.

- Projects containing **time constraints**: please check the time constraints specified at Phase 1 very carefully, and if applicable contact your Contact Scientist to add further possible time slots or supplementary information. Only time constraints specified in the relevant fields in the OT will be considered by default; any additional scheduling information (including anything mentioned in the scientific or technical justification of your proposal) needs to be brought to the attention of your Contact Scientist during the Phase 2 process.

- Science Goals that use the narrowest spectral windows offered, and/or have **expected lines very close to the spectral window edge**. Due to technical restrictions on the exact placement of the spectral windows, the desired (i.e. that specified in the Science Goal) and the actual spectral window frequency observed may differ by up to $\sim$ 20 MHz. If you are hoping to observe spectral lines within a few tens of MHz of the spectral window edge, please contact your Contact Scientist for help.

- **VLBI** projects: these projects follow the normal workflow. They will be assigned to a VLBI expert, and you will be contacted if any further action is required from your side after SB submission. For any scheduling constraint or request, please contact first the GMVA or EHT schedulers.

- Projects that contain **Solar observations**: these projects follow the normal workflow, however the SBs are submitted with the understanding that the ephemeris provided is preliminary and will be updated shortly before the Solar campaign. If you are the PI of an accepted project containing Solar observations you will be contacted at least 24 hours in advance of the proposed observation with instructions on how to provide the final ephemeris files. PIs of observations with ephemeris targets other than the Sun are responsible for providing a valid target ephemeris file during the Phase 2 process contacting their Contact Scientists and any updates during the Cycle if necessary.

- **ToO** (target of opportunity) projects: ToO projects follow the normal workflow. The triggering of observations will be done via the Helpdesk by the PI or a selected delegee (feel free to ask your Contact Scientist for help).

- **Re-submissions**: ALMA will check all approved Cycle 9 projects against approved (ABC rank) Cycle 8 2021 projects (as well as carry-overs from previous cycles) and identify any SBs that are re-submissions. If the Cycle 8 2021 SB has already been started (if at least one Execution Block has passed QA0), the observations from the previous cycle will normally be carried over to Cycle 9 and the corresponding re-submitted Cycle 9 SB will be cancelled. If the Cycle 8 2021 SB observations have not yet been started the Cycle 9 observations will proceed as normal. As a PI you should normally not need to worry about this in Phase 2. Your CS will contact you after the Phase 2 deadline if any clarifications are needed.
- Projects with **astrometric requirements** beyond those advertised in the Call for Proposals: make sure to contact your CS to discuss the possibility of implementing calibration strategies beyond the standard calibration offered by ALMA.

3 Change requests

PIs of proposals assigned a grade of A, B, or C may request changes to their projects subject to the ALMA Change Request policies described in the Users Policies. Minor changes can usually be made during the Phase 2 process. Major changes are allowed only if additional information that may seriously affect the scientific case of the project has become available since the time of submission, when there is a demonstrable mistake, or when there is the potential for interesting scientific optimisation. If you require any edits to the Science Goals, you should first get in touch with your Contact Scientist via the project Helpdesk ticket. Your Contact Scientist will advise you on whether or not to submit an official CR ticket to the Helpdesk. If a CR is submitted and, subsequently, approved by the ALMA Director, an ALMA staff member will make the necessary edits and update the Phase 2 Science Goals for you. You will be informed by your Contact Scientist once the new Science Goals are ready to be reviewed. You will need to approve such projects via the Helpdesk before they can be added to the observing queue.

The Atacama Large Millimeter/submillimeter Array (ALMA), an international astronomy facility, is a partnership of the European Organization 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 National Science Council of Taiwan (NSC) 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.