

The ALMA Proposal Review Process

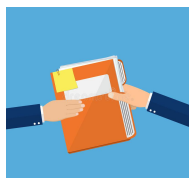


Wren Suess

ALMA uses distributed peer review



Every* proposal team nominates one person to be a reviewer



Proposal Handling Team (PHT) assigns 10 proposals to the reviewer



Reviewer ranks and write comments for each proposal

Reviewer timeline for Cycle 9



April 21
Proposal
deadline

- 1) Proposal PI designates the reviewer in Observing Tool (OT)

April 26
Expertise &
conflicts

- 1) Reviewer specifies scientific expertise in User Profile
- 2) Reviewer provides list of conflicts of interest in User Profile

May 4 - June 1
Stage 1

- 1) Declare any conflicts of interest in assigned proposals by May 11
- 2) Complete reviews by June 1 @ 15 UT **(MANDATORY!)**

June 2 - 16
Stage 2

- 1) Read reviews from other reviewers (optional)
- 2) Modify your ranks and comments as needed (optional)

April 21
Proposal
deadline

1) Proposal PI designates the reviewer in Observing Tool (OT)

Reviewer Information

Please designate a reviewer who will participate in the distributed review process. The reviewer may be the PI of the proposal or one of the other investigators. A student (without a PhD) may serve as the reviewer only if they are the PI of the proposal and a mentor (with a PhD) is identified. The mentor does not need to be an investigator on the proposal.

Reviewers are requested to update their user profiles with combinations of scientific categories and keywords which describe their area(s) of expertise using the new 'Expertise' tab in <https://asa.alma.cl/UserRegistration/secure/updateAccount.jsp>. Available expertise information will be used in the distribution of proposal assignments.

Reviewer has a PhD? No Yes

Select Mentor

Mentor name

Mentor has a PhD? No Yes



Student PIs can be reviewers, but need to specify a mentor who will assist in the review.

April 26

Expertise & conflicts

- 1) Reviewer specifies scientific expertise in User Profile
- 2) Reviewer provides list of conflicts of interest in User Profile

Account info | Project delegation | Demographics | **Expertise** | Confirm

Expertise

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Please select at least 3 category/keyword pairs that best match your scientific expertise. You may select keywords in more than one category. If you are a reviewer for Distributed Peer Review (DPR) you will preferentially be assigned proposals that match your selected keywords.

- > Cosmology and the High Redshift Universe
- > Galaxies and Galactic Nuclei
- > ISM, star formation and astrochemistry
 - Outflows, jets and ionized winds
 - High-mass star formation
 - Intermediate-mass star formation
 - Low-mass star formation
 - Pre-stellar cores, Infra-Red Dark Clouds (IRDC)
 - Astrochemistry
 - Inter-Stellar Medium (ISM)/Molecular clouds
 - Photon-Dominated Regions (PDR)/X-Ray Dominated Regions (XDR)
 - HII regions
 - Magellanic Clouds
- > Circumstellar disks, exoplanets and the solar system
- > Stellar Evolution and the Sun

- 1) Log in to the ALMA Science Portal
- 2) Edit your User Profile
- 3) Go to the **Expertise** tab
- 4) Select keywords that match your scientific expertise
- 5) Go to the **Confirm** tab to save



If a reviewer does not specify their expertise, the keywords of their proposal will be used.

April 26

Expertise & conflicts

- 1) Reviewer specifies scientific expertise in User Profile
- 2) Reviewer provides list of conflicts of interest in User Profile

Account info | Project delegation | Demographics | Expertise | **Conflicts of interest** | Confirm

Conflicts of interest

← Previous Next →

If you are a reviewer for Distributed Peer Review or the Panel Review, please provide a list of your conflicts of interest. Consult the [conflicts of interest criteria](#) for guidance on what is considered a conflict. You will not be assigned to review a proposal in which the PI, a coPI, or a col is in your list of conflicts of interest. Reviewers only need to identify conflicts of interest that are registered ALMA users since all reviewers must be registered. If a close collaborator is not in the ALMA user registry below, they do not need to be listed. Providing this information is optional. If you do not provide a list of conflicts and do not check the box below, the JAO will identify potential conflicts based on your past ALMA collaborations.

I have no conflicts of interest to declare

- 1) Log in to the ALMA Science Portal
- 2) Edit your User Profile
- 3) Go to the **Conflicts of Interest** tab
- 4) Identify ALMA users for which you have a conflict
- 5) Go to the **Confirm** tab to save

What is considered a conflict of interest?



- In general, a reviewer has a major conflict of interest when their personal or work interests would benefit if the proposal under review is accepted or rejected.



- Close collaborators, which are defined as a substantial collaboration on three or more papers within the past three years or an active, substantial collaboration on a current project. Co-membership in a large team on its own does not constitute a conflict of interest.
- Students and postdocs under supervision of the reviewer within the past three years
- A reviewer's supervisor (for student and postdoc reviewers)
- Close personal ties (e.g., family member, partner) that are ALMA users
- Any other reason in which a reviewer believes a major conflict of interest exists



If a reviewer does not provide their conflicts, the PHT will determine conflicts based on the reviewer's proposal history for the past three cycles.

May 4 - June

1

Stage 1

- 1) Declare any conflicts of interest in assigned proposals by May 11
- 2) Complete reviews by June 1 @ 15 UT **(MANDATORY!)**



Declare any additional conflicts in your assigned proposals

- for example: observing the same object(s) with the same goals



If you identify a conflict after you submitted your conflicts, contact the PHT to be assigned another proposal.

May 4 - June

1

Stage 1

- 1) Declare any conflicts of interest in assigned proposals by May 11
- 2) Complete reviews by June 1 @ 15 UT **(MANDATORY!)**



- Rank the proposals from 1 (strongest) to 10 (weakest) based on scientific merit.



- Write comments that summarize the strengths and weaknesses of the proposal
- Comments will be sent to the PI verbatim.



- **Reviewer's proposal will be canceled if the reviews are not submitted on time!**
- Extensions will not be granted since Stage 2 starts on June 2.

**June 2 -
16**
Stage 2

- 1) Read reviews from other reviewers (optional)
- 2) Modify your ranks and comments as needed (optional)



Read comments from the other reviewers to see if you overlooked any critical strengths or weaknesses.



Update your ranks and comments as needed.




Stage 2 is optional. If a reviewer does not complete Stage 2, the Stage 1 ranks/comments are considered final.

Review criteria



Overall scientific merit

- 
- A yellow icon of a clipboard with a checklist, containing four horizontal lines representing list items.
- Does the proposal clearly indicate which important, outstanding questions will be addressed?
 - Will the proposed observations have a high scientific impact on this particular field and address the specific science goals of the proposal?
 - Does the proposal clearly describe how the data will be analyzed in order to achieve the science goals?

Suitability of the observations to achieve the scientific goals

- Is the choice of target (or targets) clearly described and well justified?
- Are the requested signal-to-noise ratio, angular resolution, largest angular scale, and spectral setup sufficient to achieve the science goals?
- Does the proposal justify why new observations are needed to achieve the goals?

Technical Justification



ALMA Observing
Tool



Observing Tool performs (most) technical validations

- reviewers can assume requested sensitivity, angular resolution, largest angular scale, and correlator setup are valid and can be achieved technically.

Reviewers should evaluate if setup is sufficient to achieve science goals.



Sensitivity

Correlator
setup

Largest
angular scale

Angular
resolution



The proposal is responsible for clearly justifying the setup with references as appropriate.

Best practices for writing reviews



- Summarize both strengths and weaknesses
- Take care to ensure strengths and weaknesses do not contradict each other
- Avoid giving the impression a minor weakness was the cause of a poor ranking



- A proposal review is NOT just a summary of the proposal
- While the reviewer may include a BRIEF (~ 1 sentence) summary, the bulk of the contents need to discuss the strengths and weaknesses of the proposal

Best practices for writing reviews

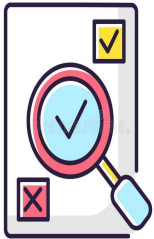


- Be specific as possible when writing reviews
- Avoid generic statements that could apply to most proposals



- Do not ask questions in your review
- Questions usually indicate a proposal weakness - state the weakness directly

Best practices for writing reviews



- Be professional and constructive
- Do not use sarcasm or any insulting language
- Critique the proposal and not the PI or the proposal team



- Be aware of unconscious bias
- Keep your review factual and objective as possible

Example review



Jets and outflows have been shown to be a common phenomenon during the protostellar phase, but details about the exact mechanism in the type of source proposed here are not fully known. The proposed target is very well justified and given its proximity, will provide excellent spatial resolution to study the structure of the outflow. The observations and analysis described will shed light on the physics of jet launching and accretion, leading to a better understanding of the evolution of this type of source.

However, the proposal did not adequately explain how the proposed observations will test whether the observed phenomenon is a result of the particular outflow launching mechanism or other scenarios discussed in the proposal. Also, the proposal did not adequately explain why the requested number of molecular transitions are needed for the proposed excitation analysis, compared with the pros and cons of instead observing fewer or different transitions.

Brief summary of proposal

Strengths specific to the proposal

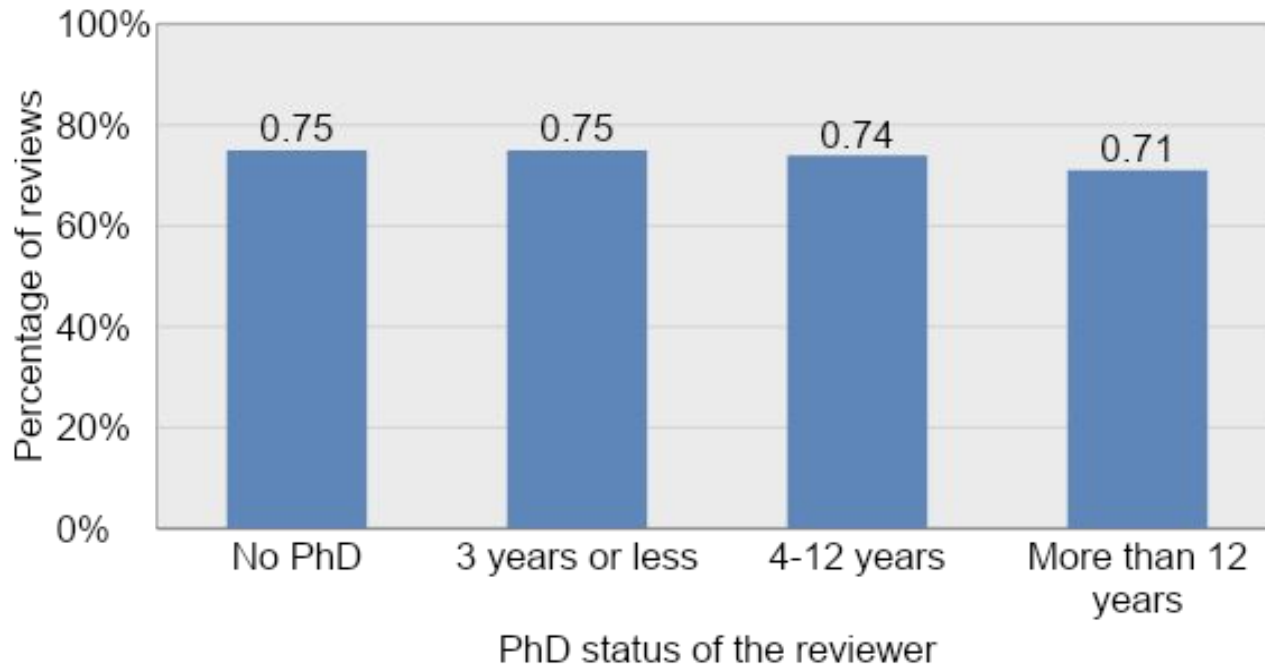
Weaknesses specific to the proposal

Comments should indicate the strengths/weaknesses of the proposal, not the PI or the proposal team.

Everyone can write helpful reviews!



Helpfulness of a review vs. career status of the reviewer in Cycle 8

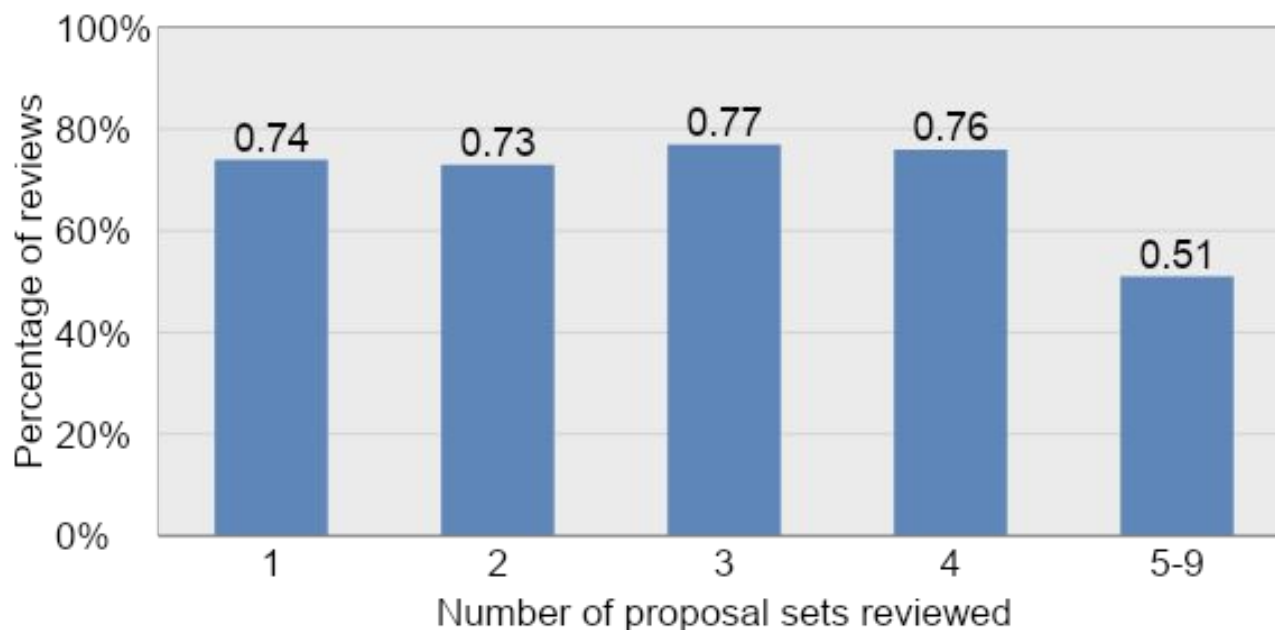


Students and young postdocs write just as helpful reviews as more experienced astronomers.

How many proposals set can I review?



Helpfulness of a review vs. number of proposal sets reviewed in Cycle 8

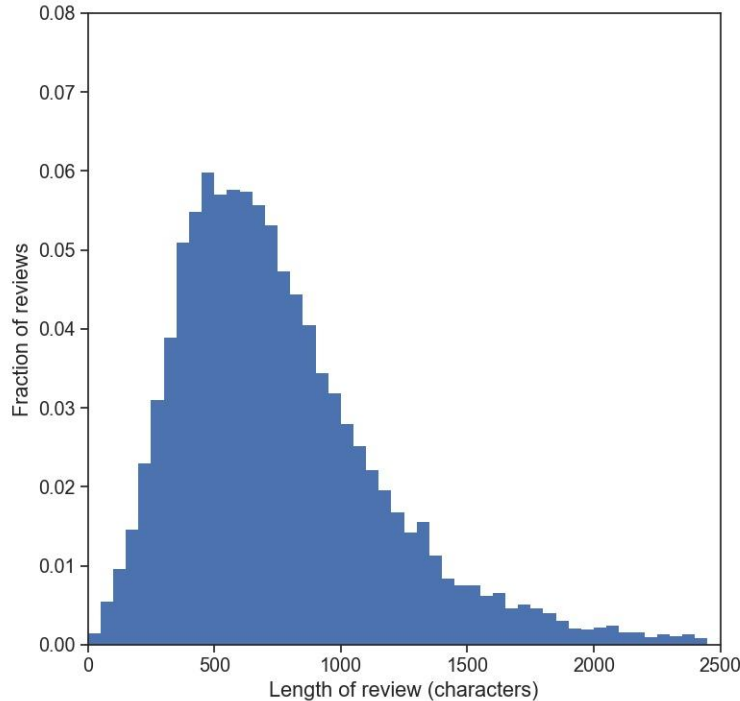


The PHT recommends to review 3 Proposal Sets or less to keep workload manageable. PIs can delegate their review assignments to a col in the Observing Tool.

Length of review



Length of reviews in Cycle 8



- Typical length of a review is ~700 characters, or about 6 sentences.



You should plan to spend about 1 working day to review one proposal set (= 10 proposals).



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.