

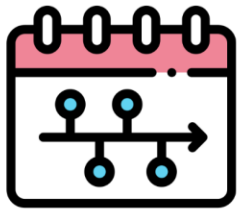
Cycle 12 Proposal Review Process

한국천문연구원
이민영

Goal of presentation



Basics of distributed peer review



Timeline and logistics



Guidelines for reviewers and best practices

Basics of distributed peer review



One member of each proposer team* commits to participate in the review process



Each reviewer reviews 10 proposals (Proposal Set) for each submitted proposal, with a maximum of **THREE** Proposal Sets



The process

- Stage 1
 - Reviewers identify conflicts of interest
 - Reviewers rank the proposals from 1 to 10 (best to weakest) and provide a comment
- Stage 2
 - Access to anonymized reviews
 - Ranks and comments can be modified

* Excluding Large Programs

Reviewer timeline for Cycle 12



April 24

Proposal deadline

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



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

Reviewer timeline for Cycle 12



April 24

Proposal deadline

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

April 29

Expertise & conflicts

- 1) Reviewer specify scientific expertise in Preferences
- 2) Reviewer provide list of conflicts of interest in Preferences
- 3) Deadline to provide alternative reviewer, if necessary

The screenshot shows the 'Conflicts of interest' tab in the ALMA Science Portal. At the top, there are tabs for 'Account info', 'Project delegation', 'Demographics', 'Expertise', 'Conflicts of interest', and 'Confirm'. Below the tabs, there are 'Previous' and 'Next' buttons. The main content area contains instructions: '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.' Below the text is a checkbox labeled 'I have no conflicts of interest to declare'. Underneath the checkbox is a large empty text area for listing conflicts. At the bottom, there are three buttons: 'Add collaborator', 'Remove collaborators', and 'Clear selection'.

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

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May 7 - June 4

Stage 1

- 1) Plenary sessions May 8-13 (highly recommended)
- 2) Declare any conflicts of interest in assigned proposals by May 14
- 3) Complete reviews by June 4 @ 15 UT **(MANDATORY!)**

The PHT will host three Webinars (ALMA Science Portal/Proposing/ALMA Proposal Review)

Session 1: Friday May 9, 2025 02:00 (KST)

Session 2: Friday May 9, 2025 22:00 (KST)

Session 3: Tuesday May 13, 2025 11:00 (KST)

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June 5 - June 19

Stage 2

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

Stage 1: Review assigned proposals



May 7 - June 4
Stage 1

- 1) Declare any conflicts of interest in assigned proposals by May 15
- 2) Complete reviews by June 4 @ 15 UT **(MANDATORY!)**
June 5 midnight (KST)



Proposal set

- Group of 10 proposals to review
- Assigned to the reviewer based on the reviewer selected expertise or the keywords of the reviewer's submitted proposal
- One Proposal Set is assigned for each submitted proposal on which someone was selected as the reviewer
- When the Proposal Sets are available to start the review process, all reviewers will be informed by email.

Stage 1: Review assigned proposals



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Declare any additional conflicts

- *For example:* The reviewer is the PI on a proposal that is observing the same object(s) with the same goals as one of your assigned proposals

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.

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Potential conflicts that are not identified automatically by the PHT:

- The reviewer is proposing to observe the same object with similar science objective.
- The reviewer had provided significant advice to the proposal team on the proposal even though they are not listed as an investigator
- Other reasons the reviewer believes there is a strong conflict of interest

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Lack of perceived expertise is not a reason to declare a conflict of interest.

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

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

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- **Proposal associated with the Designated Reviewer will be canceled if the reviews are not submitted on time!**
- Extensions will not be granted since Stage 2 starts on June 5.

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The reviewer can be changed after the proposal deadline in exceptional circumstances by having the proposal PI contact the PHT via Helpdesk. The Stage 1 deadline remains the same.

Stage 2: Finalize the ranks and reviews



June 5 - June 19
Stage 2

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



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

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June 5 - June 19
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Update ranks and comments as needed.

Stage 2: Finalize the ranks and reviews



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Update ranks and comments as needed.



Take advantage of Stage 2, and learn from other reviewers!
If a reviewer does not complete Stage 2, the Stage 1 ranks/comments are considered final.

Guidelines for reviewers and best practices



ALMA strives to conduct a fair, competitive, and transparent review process.

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ALMA strives to conduct a fair, competitive, and transparent review process.



Reviewers play a crucial role to reach this goal.

- every rank is important to select the best proposals
- The reviews provide invaluable feedback to proposers and other reviewers

Recommended steps for an effective review



Preparation

1. Allocate sufficient time
2. Mitigate unconscious bias
3. Understand the review criteria

Review proposals

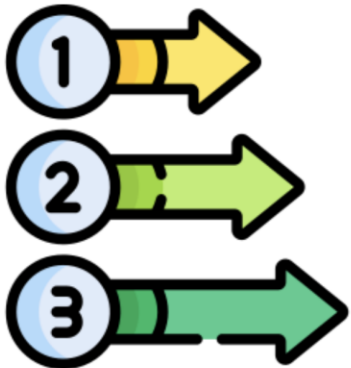
4. Read the proposal thoroughly
5. Write constructive and clear reviews

Rank proposals

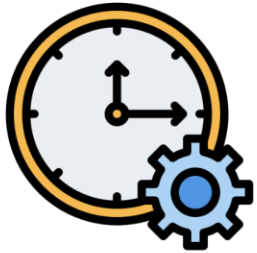
6. Rank proposals against the criteria

Learn from other reviewers

7. Use Stage 2 to refine your review/ranks



Step 1: Allocate sufficient time



Allocate enough time to read the proposals and write the reviews

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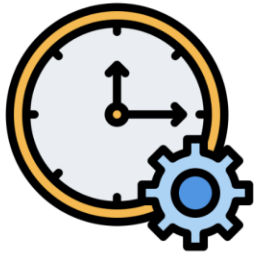


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Reflect on your initial judgements before finalizing ranking

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Allocate enough time to read the proposals and write the reviews



Reflect on your initial judgements before finalizing ranking



Re-read draft reviews to ensure clarity and accuracy

Expect to need 2-3 days to thoroughly review a Proposal Set

Step 2: Mitigating bias



Unconscious bias

- favoring or disavowing a proposal for reasons unrelated to its scientific merit, often without awareness

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Common types of bias

- cultural or language bias
 - judging based on the proposer's writing style or language proficiency
- institutional bias
 - favoring proposals from prestigious institutions
- confirmation bias
 - giving undue weight to information that aligns with preconceived notions
- anchor bias
 - rely heavily on initial impression and neglect subsequent information



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Why it matters

- bias undermines the fairness and integrity of the review process

Tips to mitigate bias



- Be aware that such biases exist
 - but this alone is not sufficient
- Reviewers should take time with their reviews
- Consider alternative viewpoints
- Play devil's advocate
- Dual anonymous
 - ALMA started dual anonymous in 2021 (Cycle 8)
 - do not try to guess the proposal team
 - If a proposal does not follow the dual-anonymous guidelines:
 - review it solely by its scientific merit
 - inform the PHT using the box "Comment to JAO" via the Reviewer Tool



Step 3: Review Criteria



Familiarize yourself with ALMA's review criteria

- overall scientific merit
- suitability of observations to achieve the goal

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Apply criteria consistently across all proposals

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- Familiarize yourself with ALMA's review criteria
- overall scientific merit
 - suitability of observations to achieve the goal



Apply criteria consistently across all proposals



- Focus on scientific impact and the justification for the observations requested
- do not introduce additional criteria

Review criteria



Overall scientific merit




- 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?

Review criteria



Overall scientific merit

- 
- 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?
- For Joint Proposals: Does the proposal clearly describe why observations from multiple observatories are needed?

Step 4: Read the proposal thoroughly



Carefully read all sections of the proposal

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Highlight key points and take notes for easy reference during review writing

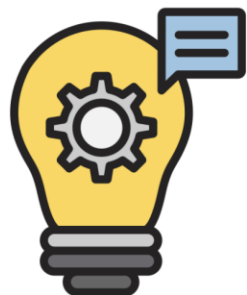
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Ensure you understand the proposal's science goals and methodology

Step 5: Write constructive and clear reviews



Cornerstone of transparency

- reviews are vital for ensuring a fair and transparent evaluation process.

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Constructive feedback to proposers

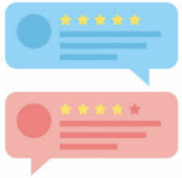
- they help proposers refine future submissions and improve scientific outcomes

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Share your insights with reviewers

- provides reviewers with alternative viewpoints in the Stage 2 process

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Constructive feedback to proposers

- they help proposers refine future submissions and improve scientific outcomes



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- provides reviewers with alternative viewpoints in the Stage 2 process



Impact on proposal selection

- every rank and review contributes to identifying the most compelling science

Keys to writing quality reviews



Be objective

- the evaluation should be based solely on the scientific and technical merit of the proposal, avoiding biases or external influences

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Be constructive

- provide actionable feedback to help proposers improve future submissions

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Be constructive

- provide actionable feedback to help proposers improve future submissions



Be specific

- offer detailed comments supported by examples from the proposal

Structuring a 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.

Strengths

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.

Weaknesses

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.

← A brief (~ 1 sentence) summary of the proposal is OK

- however, a proposal review is NOT a summary of the proposal
- focus on evaluation

← Highlight specific strengths that justify the proposal's merit

← Highlight weaknesses and offer suggestions for improvement

- ensure balance of strengths/weaknesses aligns with ranking

Common pitfalls to avoid: examples



"Nice proposal."	Use complete sentences and be specific as to what is "nice": "This proposal that will help understand ..."
"This proposal has little value."	Use constructive language. "The proposal could have better explained how observing..."
"Is the signal-to-noise sufficient for the science?"	State the weakness directly rather than ask vague questions. "The proposal should have demonstrated that a signal-to-noise of 5 is sufficient to discern between the two models."
"The observing strategy is poor."	Be specific on what is poor about the strategy. "Since this is a detection experiment, coarse angular resolution would be better to avoid resolving the source."
"The <u>PI</u> could have better justified ..."	Critique the proposal and not the PI. "The <u>proposal</u> could have better justified ..."

Other pitfalls to avoid

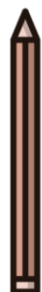


- Do not include statements about scheduling feasibility
 - ALMA will determine if the proposal can be scheduled
- Do not include explicit references to other proposals that you are reviewing, such as project codes



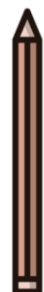
- The proposal will be difficult to schedule.
- The proposal is very similar to 2025.1.00020.S.

Step 6: Rank proposals against criteria



- Use ALMA's review criteria to rank proposals based on
 - scientific merit
 - feasibility and alignment with stated goals

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- Ensure strengths/weaknesses are consistent with the rankings
 - if you give a proposal a poor ranking but indicate no weaknesses, the PI will not understand the basis for the ranking

Review all proposals following the same criteria



Resubmissions

- if the proposal is accepted. any science goals which have already been observed will be descoped by the JAO



High-risk/high-impact

- reviewers are encouraged to give full consideration to well-designed high-risk/high-impact proposals even if there is no guarantee of a positive outcome or definite detection.
- for example, if it is uncertain if the source will be detected but the impact is high if it is, consider giving the proposal a good ranking



Proposal size

- a proposal should not be down/up graded solely based on the amount of requested observing time

Step 7: Learn from others in Stage 2!



Read the strengths and weaknesses identified by other reviewers

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Read the strengths and weaknesses identified by other reviewers



If other reviewers identified significant strengths or weaknesses that you missed, you can further modify your review and/or rank

Policy on the use of Generative Artificial Intelligence (GAI)

- PI may use GAI to assist proposal preparation tasks, e.g., refining and organizing texts.
 - Ensure that any contents produced with GAI are accurate, original, and free from plagiarism.
 - Properly cite all source materials.
- Reviewers must adhere to the following guidelines:
 - GAI must not be used to assess scientific strengths/weaknesses, recommend ranking, and perform any evaluative tasks.
 - Reviewers and mentors must not input any part of the assigned proposals into GAI or machine learning tools.
 - GAI may only be used to correct grammar or improve readability.

More information



<https://almascience.org/proposing/alma-proposal-review>

- Dual-anonymous guidelines
- Description of the distributed peer review
- Detailed guidelines for the reviewers
- FAQ

Thank you!

Questions?



Dual-anonymous Guidelines



Guideline	Non-anonymized text	Anonymized version
Self-referencing a paper	"In Smith et al. (2024), we demonstrated..."	"As demonstrated in Smith et al. (2024),...." or "As demonstrated in [1],..." (where [1] corresponds to the full citation in a reference list.)
Citing your previous work	"The data from our pilot program..."	"The data from program 2024.1.02045.S ..."
Citing your previous work	"Our previous disk survey..."	"The survey from Smith et al. (2018) ..."
Citing your ongoing program	"The proposed ALMA observations will be combined with our HST data..."	"The proposed ALMA observations will be combined with available HST data (private communication) ..."
Citing a program from another observatory	"We will combine these ALMA observations with the HST program led by Smith et al."	"We will combine these ALMA observations with ongoing HST observations (private communication)."
Citing published software	"We will use our software package XXXX (Smith et al. 2024)."	"We will use the software package XXXX (Smith et al. 2024)."
Citing unpublished software	"We will use our group's line identification package XXXX..."	"We will use a line identification package (obtained via private communication) ..."
Citing unpublished data	"Figure 1 shows the image from ALMA program 2024.1.02045.S (PI Smith)."	"Figure 1 shows the image from ALMA program 2024.1.02045.S."
Citing papers in preparation	"Figure 1 shows the CO image from Smith et al. (in preparation)."	"Figure 1 shows the CO image (private communication)."
Resubmissions	"This is a resubmission of our ongoing grade B program 2024.1.02045.S (PI: Smith). Half of our targets have been observed, and we are resubmitting the proposal to obtain the remaining half."	"This is a resubmission of our ongoing program. Half of the targets have been observed, and we are resubmitting the proposal to observe the remaining half."
Private communication with individuals or project teams	"The sources all have prior ALMA observations (Smith, private communication)." or "The sources all have prior ALMA observations (private communication from the XXXX Large Program)."	"The sources all have prior ALMA observations (private communication)."