

第3回 ALMA 科学諮問委員会 議事概要

Date and time: September 24, 2025, 12:40 - 15:05

Place: Kagoshima University (+ online)

- In-person participants: Aran Lyo, Jongsoo Kim, Cheng-Yu Kuo, Lihwai Lin, Shigehisa Takakuwa, Shinya Komugi, Takuya Hashimoto, Yoichi Tamura, Hideo Sagawa.
- Online participants: Fumi Egusa, Hanae Inami, Kazuhito Motogi, Patrick Koch, Yoshito Shimajiri, Yuri Aikawa
- Ex officio: Bunyo Hatsukade, Yuichi Matsuda

Agenda:

1. ASAC report
2. ALMA Distributed Peer Review
3. ALMA Large Program
4. ALMA2040

(1) ASAC meeting report

- The previous ASAC report was shared by the chair. ASAC was concerned about the delay in the WSU review process. At the next ASAC meeting, JAO will provide an update. ASAC emphasized the importance of closely monitoring the potential impact of WSU implementation (including any delays) on ALMA's regular science operations. EASAC (and ASAC) should be actively involved in discussions surrounding WSU implementation.
- Preparation for next ASAC meeting: EASAC report (including ALMA2040) will be shared with ASAC before the meeting.
- An East Asian ASAC member will serve as the next ASAC chair (2026-2027).

(2) ALMA Distributed Peer Review (DPR)

ASAC has already submitted a set of concerns and questions to JAO in preparation for a more in-depth discussion at the upcoming meeting. EASAC members also exchanged views on the DPR system. In addition to previously expressed concerns, the following comments and suggestions were made:

- ASAC should clearly identify the most critical issue so that JAO can focus its response and efforts accordingly.
- Even minor modifications to Stage-2 (for example, flagging proposals that have large deviations in ranking) could help improve the process.
- To assess the quality of individual reviews, it might be useful to allow reviewers to rate the reviews of others.
 - JAO conducts a feedback survey. There appears to be no correlation between reviewers' career stage and the quality of their reviews.
- A traditional review system involving face-to-face panel meetings may lead to more effective evaluation.
- There is ongoing discussion about whether “rank” or “score” is a more appropriate metric.
- How effective has DPR been? It may be useful to examine scientific output and proposal quality before and after DPR implementation. This question could be directed to JAO.
- Anonymous review processes may be influenced by the use of AI tools such as ChatGPT.
- How was the number of proposals per review set (currently 10) determined? It was originally based on simulations to minimize randomness. Should this be revisited?
- Can we introduce a category for “high-risk, high-return” proposals?

(3) ALMA Large Programs

EASAC discussed the status and future of Large Programs (LPs) led by the EA community. The following points and comments were raised:

- Participation by EA PIs and Co-PIs in LPs has been relatively low (16%) compared to other regions. Only three LPs have had EA PIs, and no EA-led LP has been approved since Cycle 8.

- How many LP proposals have actually been submitted from EA?
- What are the actual benefits and challenges associated with participating in an LP?
 - One EASAC member who has been involved in an LP shared their experience in LP project management with the committee. Managing an LP involves significant administrative and coordination tasks, which can be difficult for senior faculty members with often heavy responsibilities. LPs may instead provide valuable opportunities for younger researchers.
- For example, the PI of the recent high-redshift LP "Phoenix" is a PhD student from the Netherlands. This suggests that LPs are not only for senior or well-known researchers. A clear message to the EA community on this point may be helpful.
- What kind of support would encourage more active participation in LPs from the EA community?
 - For instance, if manpower is a key issue, could NAOJ provide funding to support the hiring of a postdoctoral researcher for LP activities?
 - Another EASAC member shared his/her recent experience submitting an LP proposal. One issue identified was that LP proposals are sometimes reviewed by non-experts. Therefore, writing technique and the ability to present a proposal in a broad scientific context are essential. Clearer proposal guidelines would be beneficial.
 - Synergies with other major facilities (e.g., JWST, Subaru, VLT) are important and could strengthen the scientific case for LPs.
- Does the EA community truly need LPs? Is there actual demand for LPs within the region?

Follow-up Discussion with the Community:

After the EASAC meeting, this topic was further discussed with the community during the East Asian ALMA Science Workshop. The consensus was that choosing between an LP and a regular proposal largely depends on individual preference. At present, the demand for LPs within the EA community does not appear to be particularly high. However, some participants also pointed out that all accepted LPs receive a Grade A,

while regular proposals can receive either Grade A or B. This difference in grading criteria may warrant consideration when evaluating the necessity and value of LPs.

(4) ALMA2040

EASAC discussed the way forward for the ALMA2040 initiative. The following opinions were raised:

- Future facility upgrades should be driven by scientific goals. Science ideas should be collected broadly from the community.
- NAOJ has held Development Workshops to engage the community, recognizing that their support is essential. Reviewing the outcomes of these Development Workshops provides a useful starting point for EASAC discussions.
- ALMA2040 should aim for more ambitious goals than WSU. ALMA needs to compete with next-generation facilities such as SKA or ngVLA. One idea is to increase the number of antennas or develop larger ones to improve sensitivity.
- The next EA ALMA Development Workshop is currently being planned for 2026. It is proposed that science speakers also be invited to the workshop to contribute ambitious scientific ideas.
- The next ALMA International conference will be hosted in Taiwan in early 2027.