



ALMA BOARD

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Subject: ALMA Board Response and Charges to the ASAC
for 2018Q1 ASAC Meeting

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Purpose of Document: To provide the ASAC with its Charges for its 2018Q1 face-to-face meeting

Status: Approved by written procedure pursuant Article 11 of the Board's Rules of Procedure on February 8th 2018

I. Science Committee response to the ASAC Report

The Science Committee addressed the ASAC Report and decided to focus on certain questions presented, for which the proposed responses are:

1. Configuration schedule

- In Cycle 6 ALMA will visit all configurations.
- Scientific trade-offs of between a 2-year vs. 3-year long-term configuration schedule were discussed.
- The Committee is concerned that it takes too long to move through the configurations in the 3-year plan.
- The 2-year plan does not move to the intermediate configurations during the best observing months, due to the limit of having two transporters.

The JAO noted that if the proposal pressure is high for a certain configuration, it will try to increase the amount of time scheduled for that configuration when making the queue.

ASAC recommends a 2-year configuration schedule to cycle more rapidly through the configurations. Nevertheless, the Board requested that the JAO conduct a thorough cost analysis between the 2 vs. 3-year configuration schedule.

The Board also noted the recommendation from the Science Committee to charge the ASAC with conducting a close assessment of the scientific trade-offs between 2 and 3-year configuration schedule. The JAO will draft a plan for both options. This plan should be evaluated in the February ASAC meeting, so it may be decided in the April Board meeting.

2. Proposal length

Limiting the proposals to three pages in total will reduce the workload of the reviewers, but the concern is that the reduced proposal length will adversely impact medium size proposals.

The Board noted that the JAO will make a decision taking the ASAC feedback into account.

3. Systematics in the proposal ranking

The systematics in the proposal rankings are introduced primarily in Stage 1 of the review process. There is a tendency for the EA proposals to be improve their rankings in the Stage 2 process.

PIs that submit in each cycle have better proposal ranks than first-time PIs, which suggests that experience in submitting ALMA proposal is important.

Systematic by region: PIs from Chile and EA tend to have lower ranked proposals. It is not clear if this is caused by language, experience in submillimeter astronomy, or proposal style.

Any systematics in the proposal ranks that correlate with gender are reduced compared to Cycle 3.

The SC made suggestions for further analysis, which was noted by the Board.

4. Queue building

In building the observing queue, the first 2500 h of time are assigned by scientific rank; thereafter, proposals from under-represented regions are preferentially scheduled to make sure they get their designated share of time. $T=2500$ h was chosen since that is the maximum amount of time that could be allocated and achieve executive balance. In this manner, we preferentially schedule the highest ranked proposals.

The ASAC is concerned that regions with systematically lower rankings or with lower oversubscription rates will tend to have a lower fraction of Grade A proposals compared to their share of time. This means any regions with low ranks are less likely to benefit from the carry forward status of Grade A proposals, and they are also will have a lower probability of getting time in the high-pressure configurations and LST ranges. Currently the regions that are most impacted are Chile and East Asia.

The possible “solutions” are:

- Leave it as is and reward the highest ranked proposals. There is no requirement that Grade A proposals be in executive balance. The Principles say “therefore proposal prioritization will be according to scientific merit, while assuring each region receives its share of observing time.”
- The ASAC recommends to award grade-A ratings to proposals in order by region, according to their designated allocations. This is easy to do, but it implies some higher ranked proposals will be declined. There are intermediate solutions: schedule the first 1000 h (for example) exclusively by scientific rank instead of 2500 h; thereafter, give higher weight to regions with lower ranks.
- If fluency in the English language is the primary factor of the systematics by region, the JAO can instruct the reviewers to take into account that English is a second language for many PIs when assigning scores, and focus on the underlying science. (In JAO’s opinion, this can be difficult for reviewers to consider.)

The Principles as written are flexible enough that they do not need to be modified. A clear understanding is needed as to what is acceptable to each region because this issue is being raised each year when the DC/Chilean-representative approves the observing queue.

Chile would like to reach satisfactory solution in the queue building within a single proposal review process.

The SC recommended that the JAO achieve regional balance in Grade A and then Grade B, which was endorsed by the Board.

The SC is concerned about the relatively low number of high frequency proposals, and recommends that the JAO continue their efforts to optimize scheduling, improving the delivery rates, completing the surface adjustment, and resolving the astigmatism issues.

5. Duplication check: The Principles state that ALMA does not conduct duplicate observations unless scientifically justified.

- 27 hours of time in Grade A and B proposals were flagged for duplications. While it is a small fraction of the awarded time, it should not be completely dismissed either.
- The Director's Council expressed concerns about the efforts required to check the duplications.
- The JAO is proposing to only flag duplicates if the amount of time duplicated exceeds a threshold.

The SC recommended that the JAO may apply the duplication check in a way that is commensurate with the general principle, but that does not require massive efforts by the JAO with no clear scientific benefit in return.

6. Previous ad-hoc charge: ASAC to study and define the relative priority for the Communities to have access to raw data.

The Board discussed this matter, noting the following:

The ASAC's highest priority is the timely completion of QA2 for completely observed MOUSs. However, the release of raw data for partially/fully completed MOUSs to PIs who wish to have access is desirable. A number of scientific reasons exist. Start of the proprietary period upon delivery of the first raw data is acceptable. Placing other constraints on raw data release (e.g. QA0 pass) is acceptable.

The JAO's position is that releasing raw data is desirable, as it appears to be scientifically useful for some programs. However, the communities should note that due to the performance of the pipeline software for standard modes, downloading raw data may not be necessary. JAO believes that there should be a uniform policy across regions, as region-dependent data-release policies will add significant complexities to the system.

The ongoing AMT's analysis on this, having the input from the Integrated Science Operations Team (ISOpT) points that, if finally decided so, several conditions should be applied in order to minimize the negative impact of this. Moreover, the AMT considers that, given the current status of QA2, it is not recommendable to download raw data.

In sum, the Board noted the ongoing assessment of the data release policy to expand or not the raw data release, including the ASAC, JAO and AMT's inputs and requested further and more refined analysis before moving forward with this matter.

The Observatory Scientist shall provide the ASAC with further details on the above responses and on those issues in the ASAC report not covered in this document.

II. New ad-hoc charge recommended by the Science Committee

The Science Committee recommended to the Board the following ad-hoc charges for next ASAC meeting:

1. Assess whether ALMA's level one science goals have been met and whether the proposed new fundamental science drivers as stated in the ALMA Development roadmap are appropriate.
2. Deeper assessment of the scientific motivations for 2-year versus 3-year configuration schedule.