

Tips When Writing Proposals

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Why I am here ?

An ARP member during cycles 3 and 4;

An ARP chair during cycles 3 and 4;

In my case

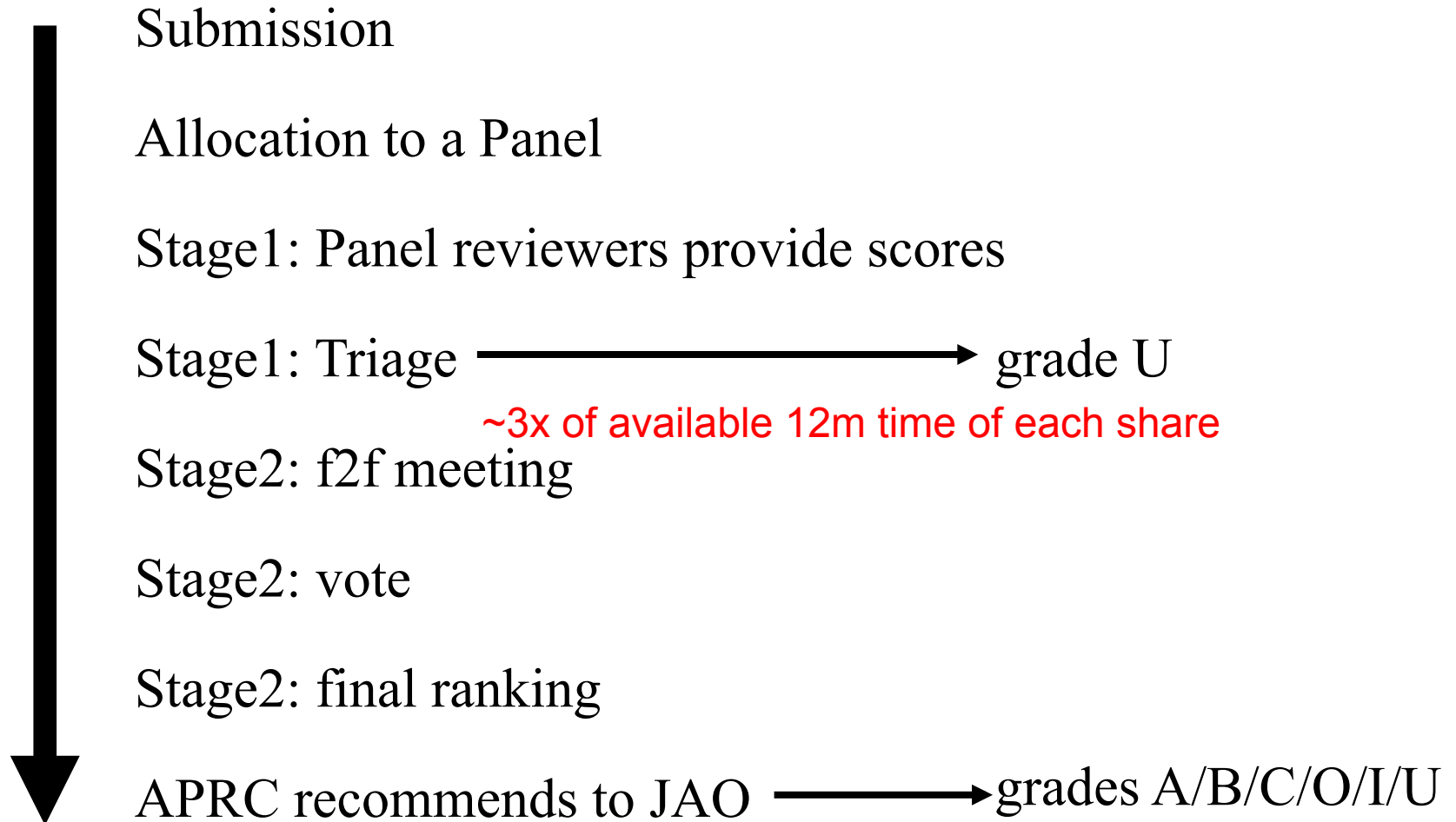
- Cycle 3
grade U



- Cycle 4
 - improved my proposal by considering the reviewers' points
 - Scientific contents are almost unchanged

Grade A !

ALMA Proposal Review Process



Proposal Review

- Assessment criteria
 - Overall **scientific merit** of the proposed investigation
 - Potential contribution to the **advancement of scientific knowledge**

Is A Reviewer Expert ?

- YES
 - Each ARP is composed of 8 Science Assessors **whose combined expertise** covers the range of topics relevant to one of the five scientific categories.
- NO
 - Some assessors in a panel may sometimes be **relatively novice to some range of topics** of proposals allocated to the panel.

Why ? → Justify them (1)

- **How reviewers assess:** e.g.,
 - Why is this science theme important for advancing astronomy ? Is its scientific background well and sufficiently described ?
 - Why are the proposed objects most suited in achieving the scientific goals ? Is the number of sources justified to be appropriate, not too many or not too few ?
 - Why is the spatial resolution chosen most appropriate ?

Why ? → Justify them (2)

- **How reviewers assess:** e.g.,
 - Why is the sensitivity chosen most appropriate in achieving the goals ?
 - Why is the frequency / the band / frequency resolution / molecular lines chosen most appropriate ?
 - Why are the spws needed and most appropriate ?
 - **Why is ALMA really needed ?**
 - ... Why, Why, Why ?

Make Reviewers Convinced !

- “Justification”

The action of showing something to be right or reasonable

<https://en.oxforddictionaries.com/definition/justification>

Justification (1)

- To show **evidence, reasoning, rationales**
 - Research background and motivation/issues to be resolved for advancing astronomy;
 - If the proposal is based on proposers' past research, show clearly what were obtained and what issues remained unresolved;
 - Methodology in resolving the issues;
 - Which information should be obtained in achieving the goals;

Justification (2)

- To show **evidence, reasoning, rationales**
 - Data analysis plan;
 - Demonstrate that your group has sufficient experience and skills to conduct the proposal;
 - Demonstrate it is possible to advance astronomy even if negative results were obtained;
 - Show clearly it is impossible to resolve the issues without ALMA;
 - ...

EA vs other regions

- NA and EU astronomers are used to **justify why and what** they want to conduct.
- EA astronomers tend to **emphasize what** they want to conduct with **less “why”**.
- Cycle 3: NA and EU had much higher assessment results than EA
- Cycle 4: EA have caught up greatly !
- Cycle 5 ?

Be kind to Reviewers

- Reviewers have to read at least 100 proposals in two weeks or so !!
- Proposals should have clear structure
 - Concise & minimal information, but sufficient justification
 - Be logical and **show sufficient evidence an/or rationales**
 - Use of “heading”s would help a lot

ure 3 are contaminated through consulting with the Splatalogue database. Finally we found four contamination-free $K = 0$ lines of glycine; their frequencies in GHz are 130.803, 148.268, 154.089 and 159.910. Molecular lines from G10.47+0.03 have linewidth of about 8 km s^{-1} , we choose the frequency resolution of 488 kHz (corresponding velocity resolution of around 1 km s^{-1}) to resolve the line shape. Since the brightness temperatures among these lines are about 160 mK, we would like to integrate the noise level down to 32 mK to achieve 5σ detections.

Estimation of Source Size: Assuming that glycine as well as water evaporate at 100 K, the source size may correspond to a region with temperature of 100 K and above. The size can be estimated by using a methodology developed by Bisshop et al.[13] as a function of total luminosity of a source. Then the estimated angular source size will be about 2 arcseconds[6]. This angular size corresponds to a linear size of 0.1 pc at the distance of G10.47+0.03, which is comparable with a typical size of a hot molecular core.

Data Analysis for Claiming Detection: First of all we will generate spectrum for each SB. After line identifications we will conduct the Gaussian-fitting to each line. It is crucial to examine if these lines show consistent linewidths and peak radial velocities at 68 km s^{-1} , the systemic radial velocity of G10.47+0.03, within acceptable uncertainty. If we judge that the lines are consistent with the glycine lines, we would then utilize the rotation diagram method in order to examine whether the line intensities can be explained consistently with a reasonable data point scattering. The energy levels range from 61 and 101 K, making it possible to estimate actual excitation temperature and column density. Our group detected 17 interstellar molecules in the past, we have sufficient experience

English writing ?

- Poor English writing
→ hard to read for reviewers, which would give bad impression → lower score
- It is advised not translate from your mother language to English; it is better to **draft English text from the first drafting.**
- **Simple but logical** sentences would be OK.
- **Improve the text several times.**

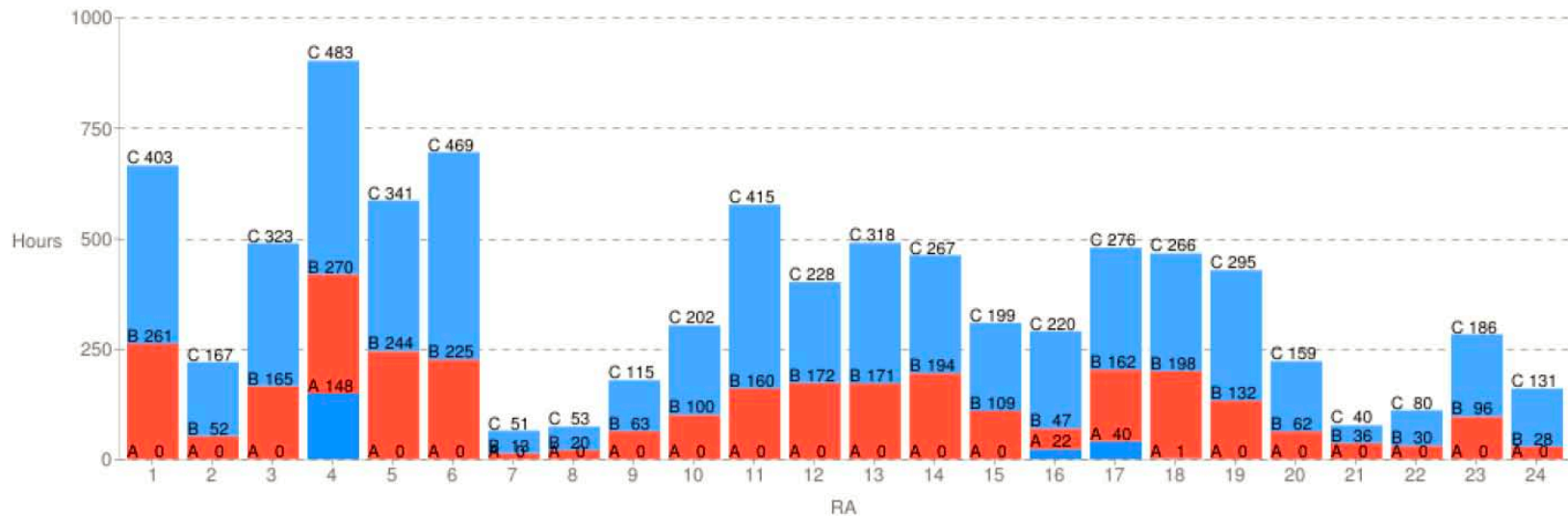
Duplication

- Check duplication prior to submission
 - Definition of “duplication” is provided in “Users Policies”: a factor of 2 -- field location, angular resolution, spectral windows
 - Visit ALMA archival system for checking duplications
 - Justify that it is needed to observe even if duplication conditions are met, otherwise the proposal may be descoped.

May Consider RA Distribution



2016.1 Proposal RA Distribution



All executives: Hours per RA for ABC priority flag proposals.

Technical Feasibility

- Checked by JAO staff for all stage 2 proposals.
- If a proposal is found infeasible, a label “I” will be given.
- Science assessment will be done by reviewers, however, “I” proposals might be descoped by JAO.
- Consult with the “Technical Handbook” before submission.

Good Luck !