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What Cycle 4 proposal issues and clarifications should I be aware of before submitting my proposal?

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This Knowledgebase article is a repository for information relevant to submission of Cycle 4 proposals. These items may affect how users write their proposals or set up their observations in the OT. The content may evolve rapidly as the April 21, 2016 proposal deadline approaches. Items added to this list after its initial deployment will include the date they were added. We encourage all PIs to check back here regularly prior to proposal submission.

Relevant Documentation and Knowledgebase Articles:

- The official ALMA Cycle 4 Call for Proposal documentation and supporting material can be found on the Science Portal under the "[Documentaion](#)" menu item.
- [Knowledgebase articles specific to Cycle 4](#)
- [Knowledgebase articles relating to the Observing Tool](#)

Notable Changes from Earlier Cycles:

- Significant changes to ALMA in Cycle 4 are described in the ALMA Cycle 4 Proposer's Guide, [Section 2: "What's new in Cycle 4."](#)

OT Issues and Updates:

- **[Added April 18, 2016]:** A second patch of the ALMA Observing Tool for preparing Cycle-4 proposals [has been released](#). All users should obtain the new version, labeled **Cycle4(u2)**, and use it to prepare and submit their proposals. This fixes some issues that were found regarding the calculation of executive shares, particularly those for Large Programs ([Cycle-4 Known Issues C4_010](#)), as well as an issue where it was not possible to submit a proposal that included the stand-alone ACA ([Cycle-4 Known Issues C4_011](#)). It also includes the fixes from the earlier [Cycle4\(u1\)](#) release that fixed [Cycle-4 Known Issues C4_005](#), [C4_006](#) and [C4_008](#). Known Issue [C4_004](#) is fixed due to the availability of the CASA 4.6 release. Web Start users will automatically get the update if they restart their existing OT installation, but tarball users will have to download and install the new version manually.
- Issues to be aware of when installing or using the ALMA Observing Tool (OT) are

given in the [OT Troubleshooting](#) page and the [OT Known Issues](#) page.

- **[C4_004, updated April 13, 2016]** The Cycle 4 OT pointing file format has changed such that it is not possible to directly simulate ALMA observations in older versions of CASA using pointing positions exported from the Cycle 4 OT. This is no longer an issue with the recent CASA 4.6 version, *provided users export pointings from the OT using absolute sexagesimal (not relative) positions*. The CASA 4.6 release is available from the "[Obtaining CASA](#)" page.
- **[C4_005, added March 25, 2016]** The Cycle 4 Observing Tool (version 201603-CYCLE4-OFF-B) contains a bug in the Technical Justification section of a Science Goal that reports an achieved RMS of 0.00 Jy and S/N of infinity. This error does not affect proposal validation or time estimates. We recommend that users ignore these incorrect values in the Technical Justification and proceed with the normal proposal submission process. See [this KB article](#) for a screenshot. **FIXED WITH APRIL 13 OT VERSION Cycle4(u1)**
- **[C4_006, added April 6, 2016]** High redshifts can lead to the OT refusing to display the time-estimate dialogue. There is no validation error and the project times can still be seen elsewhere. A workaround is to zero the redshift and enter manually-redshifted frequencies instead. **FIXED WITH APRIL 13 OT VERSION Cycle4(u1)**
- **[C4_007, added April 6, 2016]** For science goals with multiple sources, the Tsys (atmospheric) calibration cycle is set equal to the phase calibration cycle, increasing the calibration overheads. The effect is worse for observations with short phase calibration duty cycles (observations requiring configurations C40-7, -8, and -9). The additional calibrations can add ~20% to the total execution time compared to the same sources observed in separate science goals. An alternative is to split each source into separate science goals. **This will not be fixed.**
- **[Added April 13, 2016]** The time estimate in the OT "control and performance" page can give different values from the sensitivity calculator tool for sources at low elevation. This is because the sensitivity calculator does not take into consideration the effects of shadowing. The OT "control and performance" time estimator does consider shadowing, and reports the better time estimate.
- **[C4_011, Added April 15, 2016]** There have been cases where the correct Executive for the PI does not appear on the PDF of the proposal. **FIXED WITH APRIL 18 OT VERSION Cycle4(u2)**
- **[C4_010, Added April 16, 2016]** There is a validation error for projects that need less than 50 hrs of 12-m Array time but more than 50 hours of 12-m Array + ACA time that is causing a "this is a large program" error when submitting as a regular proposal. **FIXED WITH APRIL 18 OT VERSION Cycle4(u2)**
- **[C4_012, Added April 18, 2016]** The OT is not observing the sensitivity unit that was previously set by the user when reading a new project into the OT. A project read into a newly-started OT will always show Jy, whilst subsequent projects will use the most recent selected unit. The "equivalent" sensitivity unit is correctly displayed

and time estimates are also unaffected.

- **[Added April 19, 2016]** When generating a PDF from the OT, the user may see black boxes over many of the pages. All PDFs are re-generated after submission in order to ensure that they are readable. If you would like to ensure your PDF is readable prior to the deadline, please submit a helpdesk and we will provide you with a PDF generated from the archive for your project.
- **[Added April 20, 2016]** The latest patch of Java 8 (8u91) may cause the Web Start version of the OT to not work. If you updated Java and have troubles with the web start OT, please use the tarball version of the OT or revert back to the previous version of Java 8.
- **[C4_013, Added April 21, 2016]** Co-PIs are not receiving email confirmations after proposal submission (or resubmission).
- **[C4_014, Added April 21, 2016]** The spectral setup can report the following error: "The spectral window range exceeds the baseband width". This error is spurious and the result of a rounding error. It only affects spws with the maximum allowed bandwidth and can be removed by modifying the spw central frequency slightly - usually 0.1 MHz will suffice.
- **[C4_015, Added April 21, 2016]** Proposal submission may hang for proposals that request many hundreds of sources or pointings. The probable solution is to install the tarball version of the OT and replace "-Xmx1024m" with "-Xmx2048m" in the ALMA-OT.sh script. This increases the OT's memory allocation.

Documentation Clarifications and Updates:

- **[added April 5, 2016]** [Cycle 4 Technical Handbook](#) page 86 (Section 7.3): The minus signs are missing from the following sentence: "Significant shadowing affects ACA sources with declinations less than **-60°** or greater than **+20°**. In the most compact 12-m configuration, shadowing becomes significant for sources with declinations less than **-75°** or greater than **+25°**".
- **[added April 6, 2016]** **Proposer Guide Section 2.1 - Circular polarization:** Only [linear polarization](#) is an accepted observing mode. While PIs will receive data which will allow them to generate circular polarization data, the quality and/or accuracy of that data at this time is not assured, and such data should not be used for scientific purposes. For more information about polarization in Cycle 4 can be found in the [ALMA Cycle 4 Proposer's Guide](#) section A.7.
- **[added April 7, 2016]** For technical questions about the [1mm VLBI](#), proposers should contact NRAO staff via the NRAO Helpdesk (<https://help.nrao.edu>).
- **[added April 11, 2016]** Aspects of the policies for Large Projects have been clarified, and specific examples given, in a News Item posted today to the Science Portal (<http://almascience.org/news/clarification-of-large-program-policy>). These clarifications concerns (1) what constitutes a duplication between large and regular proposals, and (2) the hours available for large projects as a function of LST.

- **[Added April 13, 2016]** The Czech ARC Node has created an FAQ to assist those who wish to submit a Solar Observation proposal. The FAQ can be found here: www.asu.cas.cz/alma/alma-arc-czech/solar-alma-faq
- **[Added April 18, 2016]** A requirement for the OT development for "ACA-only" observations was that ACA-only observations were required to be standard observing modes. A non-standard ACA-only scheduling block within an observing program is not allowed and will not validate in the OT.
- **[Added September 08, 2016]** In the [Technical Handbook for Cycle 3](#) and the [Technical Handbook for Cycle 4](#) the Figures 7.9 and 7.10 are inconsistent with the numbers in Table 7.1. The problem is caused by a bug in the software that generated the plots. The updated versions of the Technical Handbooks for Cycle 3 and Cycle 4 with the correct figures are now available via the Science Portal.