

ALMA CYCLE 7

The Joint ALMA Observatory (JAO) will start the next cycle of observing (Cycle 7) in 2019. A Call for Proposals with detailed information on Cycle 7 will be issued in March 2019, with a deadline for proposal submission in April 2019. ALMA Cycle 7 will start in early October 2019 and span 12 months. It is anticipated that 4300 hours of 12-m Array time will be available for successful observations of approved projects, and 3000 hours will be available on the Atacama Compact Array (ACA), also known as the Morita Array.



PROPOSAL INFORMATION

The same proposal types as in the previous cycle will be accepted. Regular Proposals may request up to 50 hours of 12-m Array time or up to 150 hours of ACA stand-alone time. Large Programs may request more than 50 hours of 12-m Array time or more than 150 hours of ACA stand-alone time. Up to 645 hours of 12-m Array time and 450 hours of ACA stand-alone time will be allocated to Large Programs. Only standard observing modes are permitted for Large Programs. Up to 5% of the available time may be allocated to proposals submitted for Director's Discretionary Time.

Proposals will be accepted for Very Long Baseline Interferometry (VLBI) observations with ALMA in Bands 3 and 6 (wavelengths 3 mm and 1.3 mm) in the continuum only. ALMA VLBI observations will be made in concert with the Global mm-VLBI Array (GMVA) at 3 mm and the Event Horizon Telescope Consortium (EHTC) network at 1.3 mm. In addition to submitting an ALMA proposal, proposers of 3-mm VLBI observations must have also submitted a proposal to the GMVA by its 1 February 2019 deadline.

Users should note that while configurations with baselines longer than 12 km (configurations 9 and 10) are offered in Cycle 7, they will not be offered in Cycle 8. The next opportunity to propose for these configurations after Cycle 7 will be in Cycle 9.

The proposal cover sheet has been modified in order to reduce potential biases in the proposal review process. The first name of investigators will now be listed by the first initial. Also, the list of investigators will be randomized on the cover sheet and the Principal Investigator will no longer be identified.

ANTICIPATED CAPABILITIES

Detailed information on the capabilities in Cycle 7 will be published in the Call for Proposals. The anticipated capabilities include:

Number of antennas

- At least 43 antennas in the 12-m Array
- At least ten 7-m antennas (for short baselines) and three 12-m antennas (for making single-dish maps) in the ACA

Receiver bands

- Receiver Bands 3, 4, 5, 6, 7, 8, 9 and 10 (wavelengths of about 3.1, 2.1, 1.6, 1.3, 0.87, 0.74, 0.44 and 0.35 mm, respectively)

12-m Array Configurations

- Maximum baselines for the antenna configurations will vary from 0.16 km to 16.2 km
- Maximum baselines of 3.6 km for Bands 8, 9 and 10
- Maximum baselines of 16.2 km for Bands 3 to 7

Spectral line, continuum, and mosaic observations

- Spectral line and continuum observations with the 12-m Array and the 7-m Array in all bands
- Single field interferometry (all bands) and mosaics (Bands 3 to 9) with the 12-m Array and the 7-m Array
- Single dish spectral line observations in Bands 3 to 8

Polarization

- Single pointing, on axis, full, linear and circular polarization for both continuum and full-spectral-resolution observations in Band 3, 4, 5, 6, and 7 on the 12-m Array. The field of view of linear and circular polarization observations is limited to the inner one-third and one-tenth of the primary beam, respectively
- Linear polarization imaging of a compact source on-axis in both continuum and full spectral resolution modes is feasible at the level of 0.1% (3 sigma) fractional polarization for the very brightest calibrators
- The minimum detectable degree of circular polarization is 1.8% of the peak flux for both continuum and full spectral resolution observations

Standard and non-standard modes

Standard modes have been well characterized and the observations are calibrated and imaged with the ALMA data reduction pipeline. Non-standard modes may require manual calibration and imaging by ALMA staff. Up to 20% of the observing time in Cycle 7 will be allocated to proposals requesting any of the non-standard modes listed below:

- Band 7 observations with baselines longer than 5 km if the phase calibrator is expected to be further than 5 degrees from the science target
- Band 9 and 10 observations
- All polarization observations
- Bandwidth switching projects (less than 0.9375 GHz aggregate bandwidths over all spectral windows)
- Solar observations
- VLBI observations
- User-specified calibrations
- Astrometry

STAND-ALONE ACA SUPPLEMENTAL CALL FOR PROPOSALS

In Cycle 7, ALMA will offer a stand-alone ACA Supplemental Call for Proposals. It is anticipated that the Supplemental Call will be issued on 3 September 2019 with a proposal deadline on 1 October 2019. The Supplemental Call will maximize the scientific output of the ACA by allowing more timely science to be proposed since it will follow the Main Call by six months. A minimum of 750 h of observing time on the ACA will be allocated through the Supplemental Call for observations between January 2020 and September 2020.

Proposals may be submitted that use the 7-m Array only or the 7-m Array plus the Total Power array and with the same technical capabilities offered for the ACA in the Main Call. Only regular proposals without time constraints will be allowed. As in the Main Call, stand-alone ACA observations are available for standard modes only. There will be no LST restriction on proposals at the time of submission.

Proposals submitted in the Supplemental Call will be peer reviewed using a distributed system in which each proposal team selects a reviewer to participate in the review process. The reviewer may be the Principal Investigator of the proposal or one of the co-investigators. Each reviewer will be responsible for reviewing ten proposals submitted in the Supplemental Call.

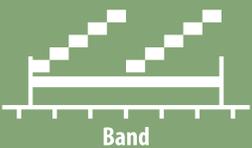
NEW OPPORTUNITIES IN CYCLE 7



4,300 h in 12 m & 3,000+750 in ACA



Band 7 Long Baseline Observations



Standard Mode for Spectral Scan (25% faster)



Band 7 Solar Observations



ACA Supplemental Call