

ALMA Cycle 7 Proposer's Guide

A-Ran Lyo

ALMA Korean node

Antennas

50x12m-Array

12x7m-Array

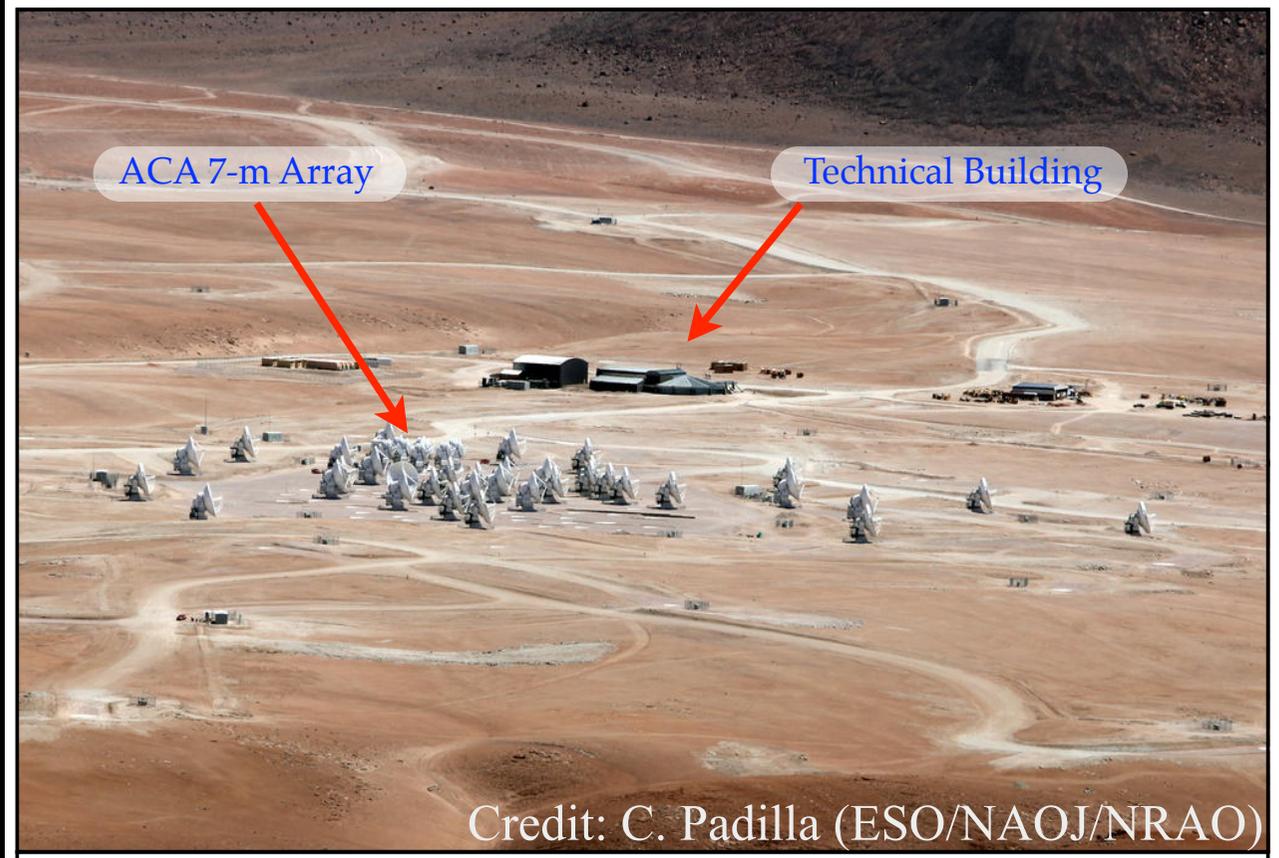
4 12m-TP Array

Longest baseline: 16 km

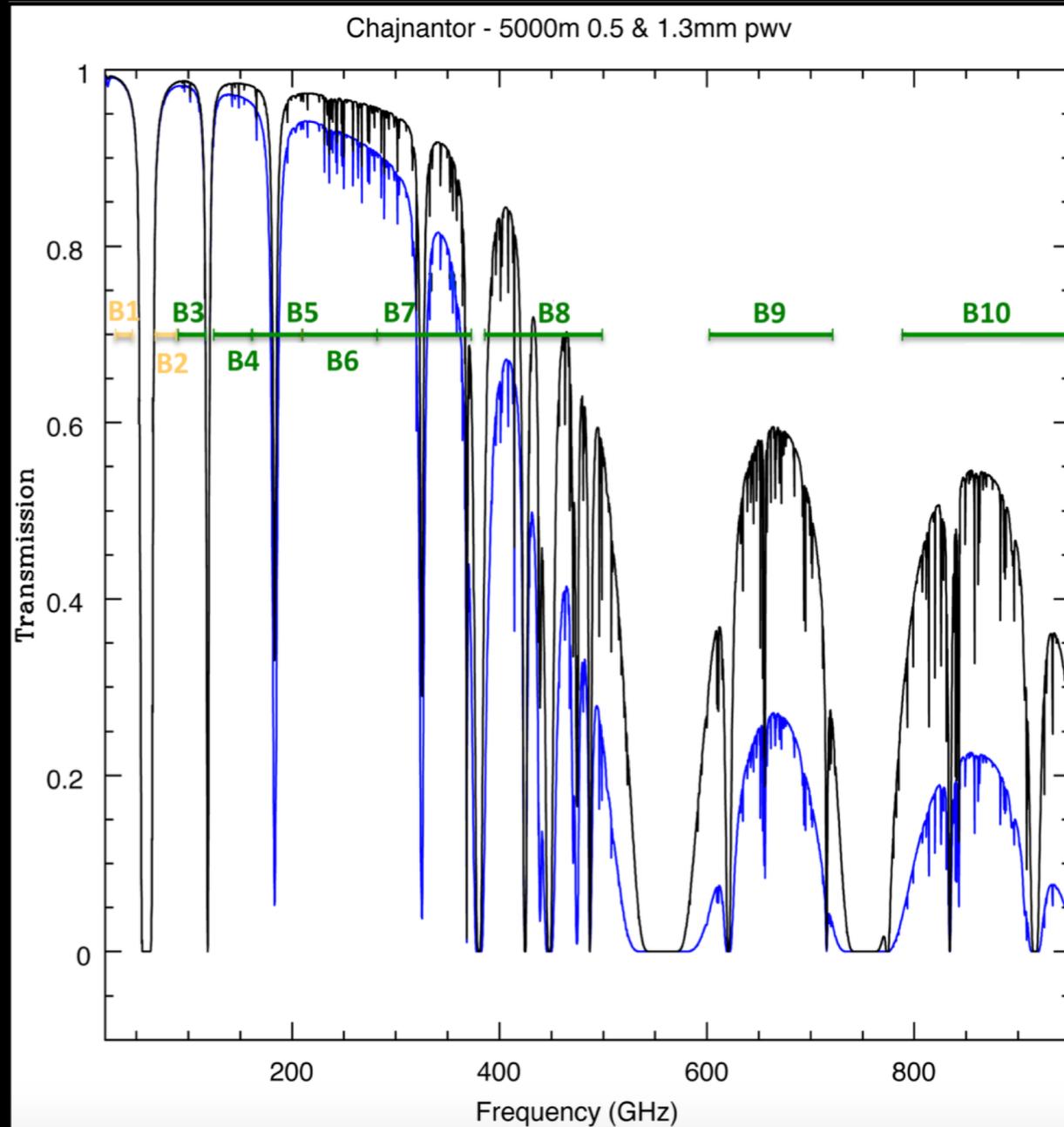
Completed in 2013

Latitude=-23.029°

Longitude=-67.755°



ALMA Receiver Bands



Receiver Band's properties

<i>Cycle 7 Receiver Bands</i>					Most Compact			Most Extended		
Band	Frequency (GHz)	Wavelength (mm)	Primary Beam (FOV; ")	Continuum Sensitivity (mJy/beam)	Angular Resolution (")	Approx. Max. Scale (") (see P.24)	Spectral Sens. ΔT_{line} (K)	Angular Resolution (mas)	Approx. Max. Scale (") (see P.24)	Spectral Sens. ΔT_{line} (K)
3	84-116	3.6-2.6	73-53	0.088	4.0-2.9	34-25	0.16	50-36	0.59-0.43	1075
4	125-163	2.4-1.8	49-38	0.12	2.7-2.1	23-18	0.18	34-26	0.40-0.30	1104
5	158-211	1.9-1.4	37-29	0.12	2.1-1.6	18-13.5	0.15	26-20	0.30-0.24	962
6	211-275	1.4-1.1	29-22	0.12	1.6-1.2	14-10	0.14	20-15	0.24-0.18	947
7	275-373	1.1-0.8	22-16	0.22	1.23-0.91	10.4-7.6	0.2	15-11	0.18-0.13	1307
8	385-500	0.78-0.6	16-12	0.42	0.88-0.68	7.4-5.7	0.35	55-42	0.67-0.52	91
9	602-720	0.5-0.42	10-8.5	2.0	0.56-0.47	4.7-4.0	1.2	35-29	0.43-0.36	312
10	787-950	0.38-0.32	7.8-6.5	4.6	0.43-0.36	3.6-3.0	2.5	27-22	0.33-0.27	662

ALMA Cycle 7 main timeline

(<https://almascience.nrao.edu/proposing>)

Date	Milestone
19 March 2019 (15:00 UT)	Release of Cycle 7 Call for Proposals, Observing Tool & supporting documents and opening of the Archive for proposal submission
17 April 2019 (15:00 UT)	Proposal submission deadline for Cycle 7 Call for Proposals
End of July 2019	Announcement of the outcome of the proposal review process
August - 5 September 2019	Submission of Phase 2 material for Cycle 7 accepted proposals
October 2019	Start of ALMA Cycle 7 Science Observations
September 2020	End of ALMA Cycle 7

Time available for C7 and Regional Share

- Total observation time
 - 4300 hours for 12m Array
 - 3750 hours for ACA Array
 - 20% for non-standard, 15% for Large, 5% for VLBI, 5% for DDT
- Regional Share
 - 22.5% for EA
 - 33.75% for EU
 - 33.75% for NA
 - 10% for Chile

New in Cycle 7

- Band 7 out to maximum baseline of 16.2km
- Solar observations in Band 7 at C43-1 & C43-2+ Band 3 at C43-4
- Sensitivity limits for full spectral resolution linear polarization observation at the level of 0.1 % (3 sigma)
- Spectral scans become standard mode at 12m array
- No data rate limits
- PI can delegate the right to trigger ToO observations to another selected ALMA user
- No submission P2G before the due date, the project will be downgraded
- requesting a range of angular resolution depends on its declination

Attention !

- Proposal format and cover sheet
(<https://almascience.nrao.edu/proposing/proposal-template>)
 - Cover sheet
 - : name of investigator = first letter of the first name + surname
 - : list of investigators on the cover sheet will be randomized
 - Font size: **no more than 15% of the text is smaller than 12 points.**
 - The proposal will be rejected
 - 4 pages : Regular, ToO, Solar, mm-VLBI and DDT
 - 6 pages : Large Programmes
- Large Program management plan
 - include the description of the computing resources available to the team to reduce and analyse ALMA data

Stand-alone ACA supplemental CfP (7m array or 7m + TP)

- 750 hours (standard observing mode) : grade C observing priority
- Distributed peer review: each designated reviewer will be responsible for evaluating 10 proposals submitted to the supplemental call.

December 19, 2018	Cycle 7 Pre-Announcement (Main Call and Supplemental Call)
September 3, 2019	Call for Proposals and Supplemental Call submission server opened
October 1, 2019	Deadline to submit Supplemental Call proposals
October 15, 2019	Proposals released to reviewers
October 22, 2019	Deadline for reviewer to report conflicts of interest on proposal review assignments
November 12, 2019	Deadline to submit reviews and ranks
Early December 2019	Notification emails sent to PIs
January 2020	Successful Supplemental Call proposals enter the observing queue

Proposal Types

- Regular Proposals
 - < 50 hr for 12-m Array, < 150 hr for ACA
 - Typical requested time: 2~10 hours, but encourage to request more than 10 hours
- ToO Proposals
- Large Proposals
 - > 50 hours of 12-m and > 150 hr for ACA
 - standard observation mode
 - 15% (645 hr for 12-m array, 450 hr for ACA)
- mm-VLBI Proposals (5%)
 - GMVA at 3mm continuum (Band 3), deadline Feb 1
 - NRAO/EHT at 1.3mm continuum (Band 6)
 - Observation might occur in March/April 2019
- DDT (Director Discretionary Time) Proposals (5%)
 - : only once submission

Cycle 7 Capability

- Antenna: 43 12-m Array + 10 7-m Array + 3 TP
- Receiver : bands 3,4,5,6,7,8,9, and 10 (3.0mm ~ 0.35mm)
- Configuration : baseline 0.16km – 16.2 km
 - maximum baseline for Band 8, 9, and 10 is 3.6km
 - maximum baseline for Bands 3,4,5,6,and 7 is 16.2km
- Spectral-line, continuum, and mosaic observations
 - spectral-line and continuum observation with 12-m & 7-m Array in all bands
 - single-field interferometry (all bands) and mosaics (band3-9)
 - single-dish spectral-line observations in Band 3 – 8
- Polarization at 12-m Array
 - : single pointing , on-axis, full linear (1/3)& circular (1/10) polarization for continuum & spectral lines in Bands 3,4,5,6, and 7

Standard vs. non-standard

- Standard observations are calibrated with the the ALMA data reduction pipeline but non-standard observations require manual calibration by ARC staff.
- Up to 20% of observing time in C7 will be allocated to proposals requesting non-standard modes

Non-standard observation modes

- Bands 9 and 10 observations
- Band 7 observations with maximum baselines > 5 km if a suitable phase calibrator is not available within 5 degrees of the science target
- All polarization observations
- Bandwidth switching projects (less than 0.9375 GHz aggregate bandwidths over all spectral windows)
- Solar observations (Band 3,6, and 7)
- VLBI observations
- User-specified calibrations
- Astrometric observations

Configuration Schedule for Cycle 7

(In Cycle 8, no C43-9 and C43-10)

Start date	Configuration	Longest baseline	LST for best observing conditions
2019 October 1	C43-4	0.78 km	~ 22—10 h
2019 October 20	C43-3	0.50 km	~ 23—11 h
2019 November 10	C43-2	0.31 km	~ 1—13 h
2019 November 30	C43-1	0.16 km	~ 2—14 h
2019 December 20	C43-2	0.31 km	~ 4—15 h
2020 January 10	C43-3	0.50 km	~ 5—17 h
2020 February 1	<i>No observations due to maintenance</i>		
2020 March 1	C43-4	0.78 km	~ 8—21 h
2020 March 20	C43-5	1.4 km	~ 9—23 h
2020 April 20	C43-6	2.5 km	~ 11—1 h
2020 May 20	C43-7	3.6 km	~ 13—3 h
2020 June 20	C43-8	8.5 km	~ 15—5 h
2020 July 11	C43-9	13.9 km	~16—6 h
2020 July 30	C43-10	16.2 km	~17—7 h
2020 August 20	C43-9	13.9 km	~19—8 h
2020 September 10	C43-8	8.5 km	~20—9 h

Proposal preparation and submission

- Science justification uploaded as a PDF file into OT
 - Includes S/N, range of angular resolution, source size, source sample size
- ALMA OT
 - includes self-contained technical justification without figures
- The PDF: 4 pages, 12-point font, < 20 MB.
<http://almascience.org/proposing/proposal-template>

To do list for a Cycle 7 proposal

- Read two documents
 - <https://almascience.nao.ac.jp/proposing/call-for-proposals>
 - ALMA Cycle 7 Proposer's Guide
 - Observing with ALMA – A Primer (Cycle 7)
- Register yourself at the Science Portal, now
<https://asa.alma.cl/UserRegistration/newAccount.jsp>
- Download the ALMA OT software
- Duplication check
<https://almascience.nrao.edu/proposing/duplications>
- Prepare a proposal in advance. Science is the most important factor for a successful proposal.

- **Observing tool**

(<https://almascience.nrao.edu/proposing/observing-tool>)

: Web Start (Java version 10 or below), Tarball

Java 8 works for both

: OT Video Tutorials (<https://almascience.nrao.edu/proposing/observing-tool/video-tutorials>)

- **CASA Simulation**

(https://casaguides.nrao.edu/index.php/Guide_To_Simulating_ALMA_Data)

- **Splatalogue** : database containing frequencies of atomic and molecular transitions emitting in the radio through submillimeter wavelength range (<http://www.cv.nrao.edu/php/splat/>)

People in EA ARC Korean Node

Support for ALMA proposal preparation

P2G (observational script)

QA2 (data reduction)

AoD (QA0+1; operation on site)

<http://alma.kasi.re.kr>



A-Ran Lyo



Woojin Kwon



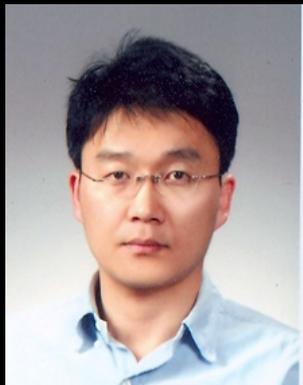
Jihyun Kang



Kijeong Yim



Min-Young Lee



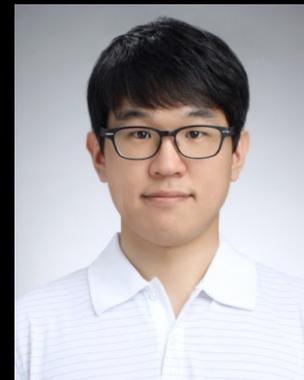
Jung-Won Lee



Do-heung Je



Hyunwoo Kang



Bangwon Lee



Jongsoo Kim

Multi-beam receiver covering Band7+8

Korean Flag at OSF at 2900m





Figure 34: Some of the residents of the OSF and environs. (top row) Vicuña; gecko; mother and young burro; Andean condor; flamingos; (bottom row) culpeo (Andean fox); viscacha (member of the chinchilla family); viscacha. (Credit: G. Schieven)



Credit: ESO/B. Tafreshi