

Subject: [allemploy] FYI: April 2010 MONTHLY CALENDAR OF THE ALMA PROJECT at NRAO

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MONTHLY CALENDAR OF THE ALMA PROJECT at NRAO
April 2010

***** THIS MONTH*****
ALMA's Compact Array

On 1 April antenna DV02 was moved to an antenna foundation eventually slated to hold a 7m diameter antenna of the Atacama Compact Array (ACA).

In this current array (Fig 1) there are two 30m baselines and one 18m baseline. With such short baselines atmospheric variations affect signals less than on the baselines of over 100m which had previously been used. Cooler autumn temperatures also ensured a somewhat lower turbulent component in the atmosphere. A key goal of April commissioning was therefore to verify antenna performance at high elevations (measurements at the Operations Support Facility are limited to tower beacons at low elevation) and in cooler windier weather. The method used to validate antenna performance is astrophotography—that is, holography using astronomical sources. Planets are bright but scarce and many are resolved even on short baselines at 3mm and shorter wavelengths. Quasars are more abundant but only moderately bright. These factors limit sensitivity to surface errors on meter scales. Initial tests show that the telescopes are performing as predicted by models based on lower elevation measurements at the warmer OSF; these models include gravitational sag of the telescope structure. Smaller scale surface errors may be measured through observations of distant sidelobes of bright sources; Sun and Moon observations were made to constrain this. With atmospheric distortion minimized, sensitive tracking tests were carried out. Other tests focused on phase stability and other characterizations of the ALMA system. In the compact array, the telescopes are powered by the first phase of the single AOS power system rather than by multiple generators.

At the 2900m altitude of the OSF new antennas and electronics were accepted, integrated and tested. One or more of the four antennas there will be transported to the AOS for incorporation into the array during May, even as newly assembled antennas will be accepted by the project into the OSF compound from the manufacturers for their integration and tests. At present the four antennas at the OSF are deployed with two in interferometric testing and the other two in total power tests, eventually to be incorporated in the interferometer as its elements migrate to the AOS. Antenna DV03 was moved from the OSF to the AOS on 2010 April 29.

At the contractor's camps, assembly continues. Notably, the 'dish' structures of two AEM antennas, fully tiled with their reflector panels, were mounted onto their pedestal and cabin structures during the month. Further assembly now proceeds.

By far the most dramatic event that happened in Chile since the last JAO newsletter was of course the big earthquake on 27th

February. We feel extremely lucky that none of the ALMA staff were injured and we reiterate our deepest condolences to the families of the victims and our sympathy and support for all those who have been affected by this catastrophe. The ALMA site is far enough from the epicenter that there was little direct effect and lots of positive things have happened within the project over the last months. We invite you to find out about all these advancements by reading this fifth issue of the JAO ALMA newsletter.

<http://www.almaobservatory.org/en/newsroom/newsletter/182-newsletter-5>

Past issues of this Calendar may be viewed at

<http://www.cv.nrao.edu/~awootten/mmailcal/ALMACalendars.html>

General Happenings

Photos of activity may be found at NRAO eNews:

<http://www.nrao.edu/news/newsletters/>

Sky: Venus passes between the Pleiades and the Hyades, nearby star clusters. Mars is getting further and fainter. Saturn is high overhead. As its rings are nearly edge-on, its satellites are lined up with the rings and well placed for identification. Titan is the brightest, revealed by moderate-power binoculars. Full Moon was on 27 April. The Sun is quiet.

AOS: A fourth antenna, Vertex antenna DV03, was moved to the AOS from the OSF on 2010 Apr 29, where it underwent final verification and commissioning testing.

OSF: Vertex antenna DV07 is scheduled for acceptance during the end of April followed by a move to the OSF TF. DV04 panel setting was completed, to a surface of 8 microns at the tower elevation.

NAASC: NAASC: A Science Operation IPT face-to-face meeting was held at the East Asian ARC node in Mitaka, Tokyo, where the participants were treated to a tour of the NAOJ labs for Bands 4,8 and 10 and the ACA correlator, as well as evenings filled with Sushi and Karaoke. At the meeting, Kelly Sharp gave a live demo of a proposed ALMA helpdesk solution. Anthony Remijan and Harvey Liszt spent time in Chile as part of the Commissioning team. The NAASC continues to prepare for a "Preparing for ALMA" night at the 216th AAS meeting in Miami Florida, and for CASA and Simdata tutorials and a "Preparing for ALMA" session as part of the 12th Synthesis Imaging Workshop in Socorro in June (see below).

The Fifth NAASC Workshop will highlight transformational science enabled by modern high resolution wideband spectroscopy.

'ALMA: Extending the Limits of Astrophysical Spectroscopy' will be held Jan 15-17, 2011 in Victoria, B. C. after the 217th AAS meeting 9-13 Jan 2011 in Seattle. Watch for an announcement!

DAILY CALENDAR (Times EDT/EST) see

<https://wikio.nrao.edu/bin/view/ALMA/AlmaCalendar>

May 17-19	Cometary Radio Astronomy	Green Bank, WV
May 20-21	NRAO Users Committee	Charlottesville
May 24	Preparing for ALMA Session	AAS
Jul 13-18	NAASC Operations Review	Chile
Aug	ALMA System Review III	TBD
Oct 7-8	CSV Status Update	Chile
Oct 11-12	SciOps Readiness Review	Chile

Oct 25-28	Annual ALMA External Review	Chile
Nov 10	Observatory Readiness Review	Chile
Nov 16-18	ALMA Board Meeting	Chile
Jun 8 - 15	12th Synthesis Imaging Workshop	Socorro, NM

***** TECHNICAL NEWS *****
 ***** ALSO OF INTEREST *****

NRAO Proposal Deadline Jun 1, 2010 | 5:00 PM
 No further information available at this time.

 CSO CALL FOR PROPOSALS Due: 31 May 2010
 The Caltech Submillimeter Observatory (CSO) encourages observing participation by astronomers from both U.S. and non-U.S. institutions. For instructions on applying and for information about available instruments, including bolometer cameras, see <http://www.submm.caltech.edu/cso/cso-call.html>. Applications for observing time between 1 September 2010 through 31 January 2011 are due by 31 May 2010. Applications will be reviewed by an outside peer group.

 The Call for Proposals for Basic Science observations with the Stratospheric Observatory For Infrared Astronomy (SOFIA) is now open. The deadline for responding to the call is Friday, July 30, 2010. The Basic Science program will consist of about 75 hours of on-sky exposure with either the FORCAST mid-infrared camera or the GREAT sub-millimeter heterodyne spectrometer. The observing time is expected to take place during a 2-3 month interval within the time frame of March 1 through August 31, 2011. Documents needed to consider observational possibilities and constraints, and to prepare and submit observing proposals, can be found at:
http://www.sofia.usra.edu/Science/proposals/basic_science

 EVLA Commissioning Postdoc Position
 All applications received by April 30, 2010, will be given full consideration, but applications will continue to be accepted until the position is filled. Applications may be submitted online at <https://careers.nrao.edu>.

 Please send information for upcoming calendars by Friday evening of the preceding biweekly period to Jennifer Neighbours or Al Wootten via e-mail (jneighbo at nrao.edu or awootten at nrao.edu).

The calendar will be issued between late Friday and sometime on Monday by e-mail to all NRAO scientific staff members and anyone else interested. A specific mailing list, alma-info, has been created for anyone wishing to receive it.
 Past issues are available at <http://www.cv.nrao.edu/~awootten/mmailcal/ALMACalendars.html>

Allemploy mailing list
Allemploy@listmgr.cv.nrao.edu
<http://listmgr.cv.nrao.edu/mailman/listinfo/allemploy>