

Subject: [allemploy] FYI: 14 Aug 2006 Biweekly Calendar of the ALMA Project at NRAO
From: Al Wootten <awootten@nrao.edu>
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BIWEEKLY CALENDAR OF THE ALMA PROJECT at NRAO
14 August 2006 - 28 August 2006

***** THIS FORTNIGHT*****
Catherine Cesarsky, Director General of ESO, signed the contract for construction of the Operations Support Facility on 03-Aug-2006. Its contractual partners, Vial y Vives Ltda, Empresa Constructora Mena y Ovall S.A., and the VVMO Consortium, signed the contract today at 9:30 a.m. (local time) in Santiago. The VVMO camp area has been prepared. Congratulations on achieving this important milestone.

"This is a major milestone which has been achieved after a long period of initial ideas, conceptual designs, improvements, optimization, contractual and legal matters etc. This process has involved the efforts of many persons having expertise in a broad spectrum of different fields. I would like to thank all people involved for their dedicated, and in some cases passionate, hard work to get this project so far.

"Nevertheless, we are just at the beginning of the actual construction work. Let us all try hard and continue to work with the same commitment such that in the beginning of 2008 we all will enjoy working at the OSF."
-Hans Rykaczewski, ALMA/EU Project Manager.

A small stone corral, some 50 years old, used originally to contain animals and also as sleeping quarters for some local Atacamenho herdmen was discovered near the road from the Operations Support Facility (9600 feet elevation) to the Array Operations Site (16500 feet elevation). It has now been restored as a historical site. It was reconstructed the site with the help of the local people and with the advice of the original owners. The opening ceremony for the reconstructed corral was held on July 27. This museum was opened to preserve and interpret this typical Atacameno structure and also the giant cactus native to this region. Eduardo Hardy, legal representative of Associated Universities, Inc. attended the ceremony on behalf of NRAO. The governor of the second region of Chile, Marcela Hernando, attended also, and delivered a speech. See <http://www.cv.nrao.edu/~awootten/mmaimcal/ALMAMuseum.htm>
A new book, 'Desert Tracks' ("Huellas del Desierto") on the archaeology of the ALMA site may be obtained online at <http://www.nrao.cl/>

There will be an ALMA booth and display at the IAU. Jean Turner will speak on the morning of 16 August in the session on facilities of the next decade. Later in the meeting there will be a special meeting "The ALMA Era for Astrophysics Begins" Aug. 24, 2006 from 9:30 until 12:00 in Dressing Room 225. An updated agenda for this may be found at: <http://www.cv.nrao.edu/~awootten/mmaimcal/ALMAIAU.txt>

On July 27 and 28, a 4th ALMA Science Working Group Meeting (also the 2nd Japan-Taiwan ALMA Science Meeting) was held at NAOJ in Mitaka. About 70 researchers, mainly from Japan and Taiwan, attended.

Tony Beasley writes: "Jody Bolyard has recently spent a year in Santiago working for the JAO, helping document our safety policies and procedures. I am pleased to announce that although he has now returned

to his duties at NRAO, in future Jody will spend 20% of his time as ALMA System Safety Manager: in this role, he will be carry out the required safety analysis and administration associated with reviews and acceptance of designs, specifications, and bids for ALMA equipment; participate in design reviews; support, review and acceptance of completed Risk Analysis documentation and Statement of Conformity for equipment; and respond to specific safety-related queries from the IPTs. Jody will also be responsible for safety at the ATF site activities.

"Our safety program is an important part of ALMA development. Please join me in welcoming Jody's continued participation."

We welcome our newest ASAC/JP member, Dr. Kotaro Kohno of the University of Tokyo. He replaces Dr. Yasuo Fukui, who has served for some time on the ASAC.

Dr. Kotaro has published extensively on molecular gas in galaxies, particularly active ones, and has been a leader in the Japanese 10m ASTE observatory at Pampa la Bola, near Chajnantor.

We welcome Bob Dickman, on sabbatical leave from NSF, to the University of Virginia for the upcoming three months. Dr. Phillip Puxley will become the Acting Staff Associate for ALMA at NSF in Dr. Dickman's absence.

Past issues of this Calendar may be viewed at
<http://www.cv.nrao.edu/~awootten/mmailcal/ALMACalendars.html>

See also the JAO ALMA Calendar overview at:

http://www.alma.cl/alma_project

General Happenings

Sky: Mars leaves the evening sky to Jupiter during these evenings.

Santiago: An option to purchase space in the Bicentenario building under construction across the street from ESO for the permanent ALMA headquarters remains under investigation. Occupancy could occur much sooner than it would with new construction. A new balancing of value between the Executives has been achieved.

AOS (Array Ops Site, 16570ft altitude): Sub-millimeter amounts of water vapor are again being registered by APEX under the Chajnantor skies.

OSF (Ops Support Facility, 9600ft altitude): OSF construction contract is receiving signatures. Construction of the underground utilities to the VERTEX, MELCO and ALCATEL SEF (Site Erection Facility) are under way and expected to finish on Aug. 09. Fabrication of SEF building is nearing completion and planned to ship to Chile in August for erection at the OSF. Currently there are approximately 73 persons working at the site of which approximately 62 uses the ALMA and Contractor's lodging facilities.

NAASC: Factory acceptance tests for the Vertex production antenna azimuth and elevation bearings have been successfully completed and are being crated for shipment to Kilgore, Texas. PDR of the Antenna transporter was held at Pfedelbach, Germany, at the Scheuerle factory. Participants included ESO, NAOJ, JAO, NRAO, and external experts. The meeting was thought generally successful.

NTC: Measurements of gain compression confirm that Band 6 (1.3mm) cartridge #1 meets specifications; this will shortly be delivered to the NA Front End Integration Center (FEIC). The first delivered Band 7 (.85mm) cartridge from IRAM was tested at the NA FEIC, with Provisional Acceptance on-Site (PAS) completed. This first Band 7 cartridge was tested cold in cryostat #2 during and following the

face-to-face meeting in CV (Band 6 was first tested in cryostat #1 using cartridge test system electronics in April 2005). Basic functionality and noise temperature were measured at three frequencies. The results confirm the performance measured at IRAM, with mid-band SSB noise temperatures below 40K.

The FE LO CDR was held in Charlottesville July 27-28. The CDR was conditionally passed.

Plans for the conclusion of the SMA fields and return of the prototype Water Vapour Radiometers (WVR) to ESO are being made.

Assembly of the transmitter section of the holography receiver was completed and power was applied; assembly of M&C system began. Functional testing of transmitter and receiver will start August 7.

Correlator: There have been no custom chip failures in 3.5 months. Negotiations between ESO and U. Bordeaux for Tunable Filter Bank (TFB) production have been completed.

AOC: Lab tests continue to reveal subtle and vexing timing issues. Owing to slow progress towards lab interferometry, the move of the prototype hardware from the lab to the ATF has been delayed until mid-September.

ATF: PSI staff have been involved in diagnosing problems with both Alcatel and Vertex prototype antennas.

DAILY CALENDAR (Times EDT) see

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

Mon 14 Aug

All day: A Summer School on "(Sub)Millimetre Observing Techniques" Victoria, BC, Canada 14-17 August 2006

Tue 15 Aug

Holiday, Chile (Virgin's Ascension)

IAU General Assembly, Prague begins

10:30 AM-11:30 AM: JAO IPT Telecon

Wed 16 Aug ASAC telecon scheduled today postponed one week

Morning: In Prague at the IAU meeting, Jean Turner speaks on ALMA in the facilities of the next decade sessions.

Thu 17 Aug

11:00 EDT: Calibration Group telecon

Fri 18 Aug

Sat 19 Aug

Sun 20 Aug

Mon 21 Aug

Tue 22 Aug

10:30 AM-11:30 AM: JAO IPT Telecon

Wed 23 Aug

Thu 24 Aug

0930 CEST: "The ALMA Era for Astrophysics Begins" IAU Dressing Room 225

Fri 25 Aug

Sat 26 Aug

Sun 27 Aug

Mon 28 Aug

***** UPCOMING EVENTS *****

Aug 14-25 IAU Meeting Prague

Aug 14-17 (Sub)Mm Observing Techniques Victoria

Sept 5 ASAC Telecon

Sept 6 ESAC face-to-face Garching

Sept 18 Move of PSI to ATF

Sept 16-17 all day ASAC face-to-face Arcetri

Sept 22-23 evening Dave Matthews Band CV JPJ Arena opening

Sept 27-29 Vertex RSI PPDRReview Essen

Sept 29-30 all day ANASAC face-to-face CV

Oct 2 - 6 all day 5th IRAM Mm Interferometry School
Oct 8 - 11 all day WVR Workshop Wettzell, Bavaria
November 9-10 all day ALMA Board Meeting Madrid
Nov 13-16 all day Science with ALMA: a new era for Astrophysics Madrid
***** TECHNICAL NEWS *****

ALMA Memo # 550: Mode conversion and Resonant Absorption in Bent Overmoded Waveguide

Authors: A.-L. Fontana and B. Lazareff

Mode conversion losses are a concern when an oversize waveguide is used to minimize ohmic losses. We present computations of mode conversion in oversize rectangular waveguide bends.

The numerical results are based on a published analytical formulation of the problem. They are presented in a dimensionless form applicable to a range of parameters believed to cover practical cases of interest for engineers that need to design a signal transport involving oversized waveguide and bends.

A few cases have been cross validated using a 3D EM simulation software; the numerical and analytical results are in good agreement.

Oversized waveguide bends are sometimes used to minimize ohmic losses when a signal must be transported over a significant distance. The waveguide devices at both ends are usually in a smaller, single-mode waveguide size, and are connected to the overmode waveguide by suitable transitions. The combination forms a resonant cavity for higher order modes. We examine how the transmission of the fundamental mode is affected by resonances in the higher order modes.

View a pdf version of ALMA Memo #550 at:

<http://www.alma.nrao.edu/memos/html-memos/alma550/memo550.pdf>

*****ALSO OF INTEREST*****

There will be a current Call for Proposals for the Submillimeter Array (SMA), the radio interferometer on Mauna Kea built by the Smithsonian Astrophysical Observatory and the Academia Sinica Institute of Astronomy and Astrophysics. The SMA is currently accepting proposals from principle investigators from within the Harvard-Smithsonian Center for Astrophysics as well as from the worldwide astronomical community.

The proposal deadline is 7 September 2006 for the observing semester 6 November 2006 through 30 April 2007. More information, technical details, and instructions and tools for proposal preparation and submission can be found at <http://sma1.sma.hawaii.edu/>, the SMA Observer Center web site.

Questions or comments regarding the Call for Proposals can also be addressed to proposals@sma.hawaii.edu

The Large Bolometer Camera for APEX (LABOCA), a 295-element bolometer array operating at 870 microns, has successfully passed its pre-shipment review, and will be installed on the APEX 12m telescope on Chajnantor in September 2006.

ESO now invites proposals for science verification from the ESO community. Pending successful on-sky commissioning, ESO also proposes to schedule its share of LABOCA observing time on the telescope in October and December 2006 as further Science Verification. All observations will be performed in service mode by the local APEX staff. All proposals should be sent to cdebreuc@eso.org by noon CEST on Monday 4 September 2006.

For further information, including exposure time estimates, see http://www.eso.org/science/apexsv/labocasv/SV_LABOCA.pdf

ESO has an opening for European ALMA Project Scientist. Please see:
http://www.eso.org/gen-fac/adm/pers/vacant/alma_project_scientist_2006.html

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/mmaimcal/ALMACalendars.html>

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