

Subject: [allemploy] FYI: 21 Nov BIWEEKLY CALENDAR OF THE ALMA PROJECT at NRAO
From: Al Wootten <awootten@nrao.edu>
Date: 11/22/2005, 5:14 PM
To: alma-info@nrao.edu, anasac@nrao.edu, allemploy@nrao.edu

BIWEEKLY CALENDAR OF THE ALMA PROJECT at NRAO
Nov 21, 2005 -- Dec 5, 2005

***** THIS FORTNIGHT*****

Happy Thanksgiving to All!

A scientific Meeting was held on
'Physique stellaire avec ALMA' November 14/15, 2005, GRAAL - Montpellier,
France. Jerome Pety reports considerable interest in ALMA in this
community, with interesting discussions of science goals achievable with
the array.

Past issues of this Calendar may be viewed at
<http://www.cv.nrao.edu/~awootten/mmaimcal/ALMACalendars.html>
See also the JAO ALMA Calendar overview at:
http://www.alma.cl/alma_project

General Happenings

OSF: An anniversary celebration will be held in San Pedro de Atacama to
celebrate the community's founding.
Tender documents for grading of the Vertex contractor area have been released.
Bidding process for OSF, AOS Technical Building finishes, camp services, and
road finish (culverts, arroyo crossings etc) are all at various levels of
progress. Rough work on road in progress at km 40. There are about 125
persons working at the site.

AOS: Construction continues on AOS Technical Building shell. ASTE
reports no damage from the northern Chile earthquake last week.

ATF: Preparations continue for optical pointing tests. The AEC antenna
has moved.

AOC: Two line length corrector (LLC) modules and one laser synthesizer module
delivered to prototype system integration (PSI).
Antenna to AOS Technical Building simulation test completed with excellent
results.

NTC: Beam patterns measured on B6 (1.3mm) cartridge no. 2 show significant
improvement. Construction of cartridges 4 and 5 under way.
Correlator Quadrant No. 2 bin and power rack assemblies completed.
First tunable filter bank (TFB) card with final components passed tests and
was shipped.

NAASC: Computing IPT Leads meeting was held in Charlottesville, along
with meeting of the Science Software Requirements committee.
The program for the Z-Machines meeting has been published
on the meeting website
<http://www.cv.nrao.edu/naasc/zmachines>.

DAILY CALENDAR (Times EDT) see
<https://wikio.nrao.edu/bin/view/ALMA/AlmaCalendar>
Mon 21 November
All Day: SSR Meeting, Charlottesville
Tue 22

10:30 AM-11:30 AM: JAO IPT Telecon
4:00 PM-5:00 PM: NAScienceIPT teleconference (open to all interested parties) (434)296-7082

Wed 23
Thu 24

Thanksgiving Holiday, U. S.

Fri 25

NRAO Holiday, U. S.

Sat Nov 26
Sun Nov 27
Mon Nov 28
Tue Nov 29

10:30 AM-11:30 AM: JAO IPT Telecon
4:00 PM-5:00 PM: NAScienceIPT teleconference (open to all interested parties) (434)296-7082

Wed Nov 30
Thu Dec 1
Fri Dec 2
Sat Dec 3
Sun Dec 4

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

- * Nov 21-22 -- SSR Meeting, Charlottesville
- * Nov 30-Dec 1 -- National Science Board meets
- * Dec 7-8 -- ESO Council Regular Meeting
- * Dec 7 -- ASAC Telecon
- * Dec 7 -- ANASAC Telecon
- * Dec 22 -- ALMA Board Telecon
- * Jan 4-7 -- URSI/NA, Boulder
- * Jan 12-14 -- ALMA Zmachines workshop

***** TECHNICAL NEWS *****

ALMA Memo 543: Estimating Calibrator Counts at 250 GHz Using MAMBO Observations of Flat Spectrum Quasars
Author: M.A. Holdaway, Chris Carilli, Axel Weiss, Frank Bertoldi

Abstract: We analyze the 250 GHz MAMBO fluxes of cm-selected bright, compact, flat spectrum quasars, match them with 8.4 GHz CLASS flux measurements, and derive a distribution for the spectral index between 8 GHz and 250 GHz. This spectral index distribution, when combined with Condon's 5 GHz flat spectrum source counts and the distribution of core fraction taken from the flat spectrum members of the 3CR2 sample, provides us with an estimate of the source counts of bright, compact, flat spectrum quasars which will be available to ALMA at 250 GHz for various calibrations. Over the entire sky at 250 GHz, we find there should be about 28,000 quasars brighter than 10 mJy, 2230 quasars brighter than 100 mJy, and 70 quasars brighter than 1 Jy. The source count estimates in the current memo exceed the estimates of Holdaway and Owen (2005) at 250 GHz by 14% at 10 mJy, 33% at 100 mJy, and 55% at 1 Jy. The higher estimated counts as derived in this current work are a direct result of sources observed to have a very flat or even inverted spectral index between 8 and 250 GHz which were largely missing in Holdaway and Owen's spectral index distribution.

A pdf copy of this memo is on edm.alma.cl and at:
<http://www.alma.nrao.edu/memos/html-memos/alma543/memo543.pdf>

ALMA Memo 544: Quasi-Optical Verification of the Band 9 ALMA Front-End
Author: M. Candotti, A. M. Baryshev, N. A. Trappe, R. Hesper, J. A. Murphy, J. Barkhof, W. Wild

Abstract:
The front-end optical design for band 9 (600 to 720GHz) of the Atacama Large Millimeter Array (ALMA) is now completed and verified. A frequency

independent design approach is used to couple radiation to the two orthogonal polarized mixed detectors from the large 12m ALMA Cassegrain telescope. As it is a heterodyne receiver, two local oscillator beam paths are integrated into the front-end optical system. Due to the large number of interferometer elements (64 antenna units) to be built, installed and maintained in the remote site of the Atacama Desert, reliability of the optical system should be ensured. A modular and compact optical design is also important. In addition a cheaper fabrication process is considered, at these more tolerant higher frequencies, by milling the mirror surfaces near the surface roughness limit. In this paper we verify the optical design and estimate system efficiency by means of experimental measurement and software simulation comparisons. Precision planar scans of near field beam patterns (amplitude and phase) have been measured. Experimental beam measurements were taken at the output of the mirror coupling system (telescope focal plane location) for both polarization paths and for both local oscillator beam guides. At the same measurement locations, software simulations of a highly accurate geometrical model of the mirror coupling system were predicted using the commercial package GRASP8. These comparisons at some fundamental locations along the beam paths, allow the assessment of the quasi-optical beam coupling system design. The local oscillator power budget analysis is carried out from results obtained using GRASP8. In the conclusion we summarize the current status and describe future analysis plans.

A pdf copy of this memo is on edm.alma.cl and will eventually appear at: <http://www.alma.nrao.edu/memos/html-memos/alma544/memo544.pdf>

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

APEX has detected the 13-12 line of CO at 1496.9229090 GHz with a hot-electron bolometer. This is the highest frequency spectral line detected from Chajnantor (and perhaps any earthbound site), and the highest frequency spectral line detected by a Vertex antenna.

-----TENURE TRACK ASTRONOMER POSITIONS-----

The National Radio Astronomy Observatory (NRAO) invites outstanding applicants for tenure track astronomer positions. In the next few years, the NRAO expects to make one or two appointments per year. Appointments are not restricted to radio astronomers. See

http://www.nrao.edu/administration/personnel_office/careers.shtml#tenure

-----ALMA Postdocs-----

2006 Postdoc Position at the North American ALMA Science Center/ALMA Construction

The National Radio Astronomy Observatory expects to invite applications for a NRAO Postdoctoral appointment at the North American ALMA Science Center in Charlottesville, Va. These positions provide 50% time for independent research, with the remaining 50% assigned to project and operational duties at the sites.

The position is funded by a grant from the National Science Foundation through the ALMA Construction Project. See

http://www.nrao.edu/administration/personnel_office/careers.shtml#alma

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