

**Project Scientist Report  
Al Wootten (Interim JAO PS)**

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***1) Highlights of Recent Events***

**ASAC.** The ASAC held a telecon 11 July, in which Mundy reported on his presentation of the May report to the ALMA Board. New Chair J. Cernicharo ran the meeting. Scheduling of a single face-to-face meeting to discuss charges expected from the Board to be reported upon at the Board's 30-31 October meeting has proven impossible. The ASAC Chair and vice-Chair have agreed to a plan suggested by the Project Scientist that the Charges be discussed at planned regional face-to-face meetings and ASAC telecons, then formed into a single report to be delivered to the Board in San Pedro in October.

***Commissioning and Science Verification.*** The Commissioning and Science Verification phase manpower is being closely examined. Job descriptions for the SCO Commissioning Scientists have been drafted.

***ALMA Specifications.*** The Project Scientist has, in the course of CCB duties, considered ALMA-38.00.00.00-001-A-SPE, *Technical Specifications and Requirements for the Design, Manufacturing, Transport and Integration on Site of the ACA 12-m Antennas* and ALMA-35.03.00.00-002-A-SPE, *Technical Specification For the Design and Manufacturing of the ALMA NUTATOR SYSTEM*. These documents have been found to be consistent with ALMA's scientific requirements and specifications.

***Prototype System Integration Support.*** ATF efforts have now turned toward radiometric pointing and achieving phase-stable interferometry. Laing and Hills visited in June. Emerson refocused the antenna which most recently had its secondary reinstalled. Testing of the delay set by the digitizer clock by control software will continue.

***Configuration Design.*** Scientific validation of the extended array design continues, with simulations in the Casa, Miriad and Gildas simulators ongoing.

***Calibration.*** Integration of weather station placement with the design for the AOS road, power and fiber optic system is in planning stages. The report on amplitude calibration via semi-transparent vane was received. Richer and Nikolic discussed WVR matters with Lucas and IRAM personnel in Grenoble.

**Imaging.** A CASA tutorial for CASA testers organized by the ESO ARC was held at ESO for three days. Reception was favorable. Attendees included Science IPT members and others from the ESO ARC, European ARClets, Japan and Taiwan.

**EPO.** ALMA has been represented in several meetings. Laing participated in the Herschel calibration steering group meeting. Testi presented ALMA at the 10th Italian-Korean Symposium on Relativistic Astrophysics in Pescara. The NAASC Workshop *Transformational Science with ALMA: Through Disks to Stars and Planets* was very successful; presentations included several ALMA simulations and may be found online at <http://www.cv.nrao.edu/naasc/disk07/>  
In July, Emerson, Mangum and Reid will attend the North American URSI meeting in Ottawa, which has a special session on 'Advances for the ALMA' organized by Napier and Knee.

## **2) Near-term Actions and Concerns (for Board information)**

Among the items listed in the Actions and Conclusions from the Santiago Board meeting was: '28. Requested that it be informed of the status and completion date of the calibration plan by the JAO Project Scientist. This should be done by the time of the July board telecon.'

The Calibration Plan document (SCID-90.03.00.00-007-A-PLA) was completed 2004 October. It was developed into the set of Calibration Examples covering eleven types of calibration and their interactions, presented to the ASAC 2006 September. These, in turn, have been taken by the Computing IPT Telescope Calibration ('TelCal') group (John Richer of the Science IPT is subsystem scientist for TelCal) of the Science Software Requirements team (led by R. Lucas) to develop implementation. As the ALMA Test Facility transitions to CIPT control in Fall 2007, these implementations will be exercised and evaluated on prototype ALMA hardware by Science IPT members. The transition to implementation on ALMA production hardware will occur in Fall 2008 at the OSF, followed by commissioning and verification work at the AOS during 2009 and onward.

## **3) Board Decisions Requested**

The Board is requested to approve the plan for ASAC discussion of its Charges at regional face-to-face meetings and ASAC telecons in order that a written Report might be formulated in time for presentation at the October Board meeting.

