

# Continuing CSV and Cycle 1

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# Cycle 1 requirements

(Start July 2012 -> testing complete before CfP in Feb 2012)

- Any remaining Cycle 0 “stretch” items
- Sub-arrays (2?)
- Support for ACA. (Hope for 6 antennas)
- Four quadrants for 64-input correlator.
- Different modes/baseband + multiple region modes.
- Fast Frequency Referencing – i.e. with pretuning
- Zero-spacing (Fast scanning or nutator?)
- Solar observing – short integrations, Stokes V + ?
- More/better - mosaics, calibration, polarization
- Support for fixed source on Chajnantor peak

# CSV 2011 -- January

(**January** = weather getting much worse)

- Deployment and user testing of R 8.0 - **delayed**
- Complete 600m baseline tests - **delayed**
- Start Scientific Verification Observations - **delayed**
- Single-dish test data sets - **delayed**
- Polarization de-bugging continues
- Astigmatism problem - **ongoing**
- DV03 goes down, PM01 comes up - **ongoing**
- Move DV09 back to phase III pads - **done**

# CSV 2011 -- February

- Deployment and user testing of R8.0 - **ongoing**
- Start Scientific Verification Observations - **ongoing**  
Standard Interferometry: 1 simple Galactic, 1 simple extragalactic using community suggestions
- Polarization campaign 10th Feb to 1st Mar - **done**  
affected by bad weather, but sufficient data taken to identify problems, start working on solutions
- Test “small” mosaics – observe and reduce - **done**
- Single-dish test data sets - **ongoing**
- Complete correlator mode check-out, verify data rates in R8.0 suitable for Early Science - **done**

# CSV 2011 -- March/April

- Continue and complete 600m baseline tests
- Antennas on ACA and phase III pads, establish some antennas on Central Cluster - ??
- Continue SciVerif projects (2 standard interferometry)
- Reach conclusion on Mosaicing, Polarization, Zero Spacing and Baseline length dates (Cycle 0 vs Cycle 1)
- Shut-down 18th to 25th March for CLOA2, 2-quadrant Correlator, control-room HVAC
- Test new Corr and LO systems from 25th March onwards
- Call for ES proposals 31st March
- Accept R8.0 software version
- Allocate time blocks for staff to work on ES proposals, during and after shutdown

# CSV 2011 -- May/June

(Proposal Submission starts June 1, closes June 31)

- Complete Antenna performance evaluation?
- Ancillary equipment (such as oxygen sounder, etc)
- Assist with System Verification tasks
- Check-out of new antennas – many in this period
- R8.1 testing and deployment
- Move antennas out to a 250m configuration?
- SciVerif continues, more full-process end-to-end tests
- First 7 meter and/or AEM antennas at AOS?

# CSV 2011 -- July/August

- Bug finding and fixing, further ObsMode tests (including Observatory Mode SBs for CalSurvey, Automated Interferometry Pointing, etc)
- Continue Science Verification phase 2 - more complicated interferometry, mosaic, zero-spacing
- Preparations for Early Science:
  - E2E tests including ProjectTracking, AQUA
  - Deliver Test Reports and Procedures to Operations

# CSV 2011 -- Sept/Oct

- Most items above continue
- Full complement of antennas tested for Early Science
- Even more test runs of full-up observing process
- Further Cycle 1 commissioning:
  - Additional Receiver bands?
  - Largish Mosaics
  - Extended field polarization
  - Single dish: fast scanning, nutator?
  - “Proper” Solar Observations
- System review: finalize the requirements
- Start Early Science!

# CSV 2011 -- Nov/Dec

- CSV continues in parallel with ES, all Science Team involved in SB checking/observing/data reduction/quality assessment
- Nominally 2/3 of “useable time” is still for CSV
- Science Verification continues with frequency referencing, zero spacing, larger mosaics
- Demonstrate all Cycle 1 capabilities
- Testing of R9.0 software version
- Current forecast is 26 antennas at high site by 20 Dec 2011

# Staffing over 2011

- We still need 25-33 participating scientists for continuing CSV, including support of ES
- Science Team will still be comprised of AIV, CSV and Ops astronomers
- Need to replace 2 AIV Scientists who have departed, CSV and Ops staff currently filling in, 2 positions
- Still need to replace CSV Scientists who move to Operations positions, because Ops Staff can only contribute 30% of their time to CSV, so 2-3 positions currently open, deadline April 15.
- We still have a great need for visiting experts, trips of at least 3 months preferred, suggestions welcome!!
- We also need to make sure community is aware of expertise in Chile!

# R8.0 Software status

- Main observing modes have been implemented and tested (StandardInterferometry, TotalPower, AstroHolo, TowerHolo, OpticalPoint)
- Major SW refactorings are done (DataCatcher, Total Power Processor, Correlator)
- Archive still behind schedule, still source of concern
- Correlator tests now show no internal performance limits. Bulkdata still limits highest data rate modes, although this will not affect early science)
- SW is still not very robust to HW failures/glitches
- It is difficult to recover parts of the system without a FSR
- Staffing level in CIPT is decreasing, need for support not

