

Cycle 1 Capabilities

Cycle 1

- Start of Cycle 1:
 - August 1, 2012
- Length of Cycle 1:
 - Nominally 9 months (finishes on April 30, 2013)
- Number of hours for observations:
 - Propose that the percent of time dedicated to science operations increases from 33% in Cycle 0 to 60% in Cycle 1, i.e. 60% of the available time after subtracting engineering time and time lost due to weather and technical problems - in total about 1400h.
- Note: Inauguration is expected to take place towards the end of Cycle 1

Baseline Capabilities:

Antennas and Array Configurations

- Number of antennas:
 - Target: Thirty-two 12m antennas and Six 7m antennas
- 12m Array Configurations:
 - Reconfiguration will be “pseudo-continuous” – the array expands and contracts by moving a few antennas at a time. Some of this provided by adding more antennas.
 - Maximum baseline lengths will be from 150 to 750m (tbc)
 - PIs will apply for a required angular resolution and largest angular scale rather than specific configurations.
 - (The above scheme is intended to match the scheme assumed for Full Operations. Details still to be worked out.)

ACA Capabilities:

- At least Six 7m antennas forming the compact array.
 - A single configuration designed to fill in the short-spacing hole in the compact configurations of the 12m array
 - Baseline: only used in combination with the 12m array.
 - Stretch: stand-alone observations (for new Rx bands?)
- Zero spacing observations (single dish):
 - Baseline capability: spectral-line data only – maps to match interferometric mosaics (no stand-alone use).
 - Data reduction capabilities will be limited – e.g. “feathering”. No commitment to joint de-convolution.
 - Stretch capability: single-dish continuum data (using fast scanning, not the nutator)

Correlator Capabilities:

- 64-input Correlator (four quadrants for Cycle 1):
 - Range of bandwidths and resolutions will be essentially unchanged but add spectral averaging (smaller data sets).
 - Independent setting of bandwidth/ resolution of the four basebands. Improved flexibility in placing spectral windows
 - Also supported: independent tuning of sub-bands, sideband separation, either 90° by Walsh switching or LO offsetting.
 - Not supported – modes with more than 2 bits, double Nyquist sampling, multi-resolutions within a baseband
- ACA Correlator:
 - Expect to match the 64-input capabilities (tbc)

Receiver Capabilities:

- Baseline: Only Bands 3, 6, 7 and 9 will be offered (the same as in Cycle 0).
- Quite a few receivers will have bands 4 and 8 and a few will have bands 5 and 10. In the baseline plan these will be on random antennas and therefore not well suited to provide a proper array configuration. A possible stretch capability is to concentrate them in the ACA antennas and offer that as a stand-alone capability in bands 4 and 8.

Observing modes

- Mosaics:
 - Maximum number of pointings: 150 per SB (i.e. 150 per science goal from the user's perspective)
- Polarization
 - Baseline target: continuum observations, single fields only. Linear polarization. Accuracy 1% of Stokes I.
 - Stretch: spectral line, mosaics and circular polarization.
- Solar observations
 - Baseline target: no amplitude calibration (i.e. morphology and time variation information only)
- Spectral Sweep mode: not to be offered in Cycle 1

Cycle 1 Programmes

- Standard Programmes
- ToO
- DDT
- Time critical observations can be done with a scheduling fuzziness of 1-2 weeks
- Large Programmes will NOT be offered in Cycle 1
- Highly rated Cycle 1 projects not observed in Cycle 1 will NOT be transferred to Cycle 2

Additional Limitations

To be defined:

- Maximum number of sources per proposal (surveys)
- Maximum number of spectral setups per proposal (spectral surveys)

Deadlines

- Present the list to ASAC at the September 14 telecon
- By September 21 - definitive list of items to be worked on by technical teams.
- October 15th (i.e. after the ASAC f2f meeting).
Deadline for decision on details of all capabilities (baseline and stretch). Documentation to be based on this. After this date no capabilities can be added or significantly modified, but stretch capabilities can be dropped.

Cycle 1 Proposed Timeline

2011:

- December 1 (or 2 months after the start of Cycle 0) : Announcement of Cycle 1
- December 16: First version of documents for the CfP available for comments

2012:

- January 18: Deadline for final input to Science Portal content and decision on which stretch capabilities can be supported (others removed at that point).
- February 1: Call for Proposals
- March 29: Deadline for Proposal submission
- April 10: Start of Science Assessments, Stage 1
- May 10: Deadline Stage 1
- May 16: Start of Stage 2, reading of remaining proposals
- May 28 – June 1: ARP/APRC meetings
- June/July: Technical Assessments and Phase 2
- August 1: Start Cycle 1 observations