

ECSV discussion
Tuesday 13 March 1012

Attendees: Dana Balser, Andreas Brunthaler, Barry Clark, Mark Claussen, Stuart Corder, Eric Greisen, Amanda Kepley, Casey Law, Josh Marvil, Emmanuel Momijan, Steve Myers, Jurgen Ott, Frazer Owen, Rick Perley, Nirupam Roy, Bob Sault, Deb Shepherd, Lorant Sjouwerman, Ken Sowinski, Urvashi, Gustaaf Van Moorsel, Joan Wrobel

- Correlator and general system health (Ken)
 - Its been a quiet week for failures. Things are going smoothly
 - Martin is working on the CBE to understand failures that occur under one messaging scheme but not another. He is also working on improving performance. Martin is also starting on some of the changes needed for 7-bit requantization in the correlation (rather than using the 4-bit requantization now). We are still far from realizing this but progress is starting to be made. Note: 7-bit requantization buys us more dynamic range so we will have more immunity to strong RFI.
 - Bob Sault is here working on sideband aliasing and he is doing some checks on the correlator dump times. More detailed report later.
 - Sonja is busy working on recirculation issues – Mark Claussen’s recirculation file failed when there was a standard OSRO scan before it but it was fine if recirculation-only scans were run. Sonja is searching into the reason for this.

- CASA status - 3.4 close out and 3.5 planning (Steve)
 - Steve gave a summary of what was happening to prepare for the CASA 3.5 planning.

- Documentation status:
 - High frequency observing guides (Mark) – spent some time on this a few weeks ago. Mark will start again after the technical reviews are finished.
 - OPT quick start guide (Amanda & Deb) – Amanda wrote the quick start guide but Deb hasn’t been able to review it yet. Amanda will send this out to the ECSV mail list to get comments. Gustaaf will look at it.
 - Spectral line guide (Juergen) – Juergen has been working on this but before he can proceed much more he needs to understand what are the standard observing modes we will offer for the next proposal call.

- This lead into a discussion about the standard observing mode development and Deb summarized what was happening.
 - Frazer noted that Low-band is supposed to be offered on 1 July and it should be ready by then but it will not be far enough advanced to specify what can be offered to our users before then. This is a problem that must be resolved.
 - Several people wanted clarification about whether there will be shared risk observing. Deb noted that we were planning to put in a proposal to extend RSRO into 2013. It was suggested that it might be a good idea to have shared risk programs and the notion that people are resident in Socorro

should be decoupled from the shared-risk observing. This is something to think about.

- It was suggested that we should consider offering different capabilities for D, C and A/B configuration.
- New RSRO plans discussed:
 - Nirupam Roy (support for templates/examples for the JVLA standard modes)
 - Joanna Corby (coming in May, complex chemical studies setup)
- Mosaic planning script implemented in CASA (demo by Andreas)
 - Andreas wrote a script and made it into a CASA task that helps the user setup observations in the OPT when there are very large number of fields. There are 2 modes:
 - Mosaic: make a mosaic schedule based on the central position, spacing of fields, type of geometry, LST start and duration of observations, flux, bandpass and gain calibrators, how many cycles through the mosaic are needed, etc. This has the option to create a simple mosaic (go to the nearest field next), or complex (optimal scanning).
 - Note: fixed LST (or short LST range). Make different files for various LST times – very easy to do.
 - When you run the task you get plots showing how the fields are arranged, where the calibrators are located relative to the mosaic, min and max elevation, start, end and duration LST of the obs. Very useful
 - The task will also create a file which is the schedule starting with the dummy scan. Then, in the OPT, you call in this as an input file.
 - A file with the field center locations is also created that can be filled into the source catalog.
 - Pointing-file input with positions of many sources (e.g., hundred's).
 - The setup is similar to the mosaic mode.
 - When you run the task and it will sort the target sources for optimal observation and determine what calibrators will be used for each source. Then it does the scheduling for it, putting the results in an output list, calculating the slew time between sources and it creates a region file. You read this into the OPT, modify initial start times, and you are done. Very nice.
 - There was palpable excitement in the room as people saw how useful this would be. Suggestions were rampant for how to improve the task. Highest priority additions are:
 - Pointing scan addition
 - Put in wraps
 - Document code for hand over.
 - Then put this on casaguides.