Minutes for AMiBA Engineering Telecom 20070426, UTC 1:00

Regular Meeting Time: UTC 1:00 Every Thursday
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Outside USA Dial-in = 1 630 693 3224

- Mount operation:
  - Vertex issue: (PK summary)
    - (1) ACU response delay: can cause a 'stop' or non-smooth scan -> likely to be a Vertex problem, but we need to be sure about our network
    - (2) lost program track commands in ACU stack: will loose on-source flag, stop
    - (3) invalid backward transformation, kinematics error - can cause a 'stop'
    - (4) problems with az=0 crossing in dec scan - likely related to (1) and (2)
    - (5) recent pointing: some sequences of preset, startrack seem to fail if a pol drive is required. Not yet clear.
  - Our side: (PK summary)
    - - correlate 1st OT -2nd OT data, especially polarization pointing: I am working on that
    - - improvements on control software: change in polarization pointing to save time, more
    - - user-friendly input for tracking with defined hexpol Not very pressing items, but we need to keep working on it.
  - General:
    - Michael is considering a visit to Hilo the first week of June.
    - We should put together a troubleshooting guide. (Procedures for network problems, etc.)
- Testing on site:
  - Rx status
    - Vacuum valve of Ant2 may be broken. Ant2 is now warm.
    - SW and CH installed a temperature control in IF/LO#5 and are taking long term stability data.
    - There was not enough return pressure in compressor #3. After recharging He, all cold head temperature are normal.
    - Ant6 cold head will be serviced when emergency generator comes at end of May. Since we have three spare cold heads, the service should not take more than 1 day.
  - IF power:
    - Derek tests the SNR as a function of driving power level to the corr module in the lab. Preliminary result suggests 0dBm input has higher SNR than -6dBm. And -6dBm has higher SNR than -12dBm. Details are discussed offline. Will test the SNR onsite with planet fringes.
  - DC offset:
    - DK suggests to swap Rx and phsw to correlator in order to see if DC offset is related to receivers.
    - CT mentioned that turning of IF would cause the DC offset to return to small counts. So the large offset may be originated before the corr box.
  - Observations:
    - Ant1 has been shimmed and a new radio alignment data is required.
    - Some problem in CCC is preventing atdc setup. The solution is to kill the processes bcc and bcc-script and then restart CCC.
    - System stability was 10% in gain and 20deg in phase when the cooling in corr box was on all the time. We will measure the stability when we control more sections of the IF path.
    - KU estimated the SNR of A2142 to be 6.5 based on integration time. Paul would like us to check a CLEANed map of the cluster.
  - RPFITS
    - Michael provided new analysis package in Fortran. Proty will distribute to the team.
    - Michael made some changes to the rpfits version to try to solve the ‘hairs’ and file size issue. We will test it.
    - Discussing about whether we should assign one person from our team to take

care of rpfits issues.
    - Ground pickup:
        - KU analyzed the ground pickup and it shows definite elevation dependence.
    - Noise spectrum:
        - HN reported spectra of 5 hour noise data. Most baselines show white spectrum above 0.001Hz. More discussions offline.
    - Dish/Rx/Platform tilt:
        - Pablo reported dish-rx tilt at most 1'; rx-platform tilt at most 1'.
    - Radio alignment:
- General site issue:
    - Pablo will generate a shelter/site operation procedure document.
    - Shelter control (joystick) was ordered but not here yet. (not urgent)
    - Expect the emergency generator to arrive the end of May.
- 13 element:
    - Pacing items:
        - Mixers
        - New IF/LO
        - RO PCB needs another iteration.
    - Rx
        - Rx8 and Rx9 will be ready by end of May.
        - Short of Subharmonic mixers. We will get quotation from ITRI after some modification of the drawings. Expect 2-3 months.
        - Expecting 10+ LNA in a few weeks. They should come with room temperature data.
    - IF/LO
        - IF parts are ok.
        - Expect to get miniature IF/LO at end of June. It will be tested in lab for about 1 month.
        - Dashun found a way to simplify the bracket design. It can be finished in this week.
        - DRO is ready. SW is working on thermal control.
    - Electronic box
        - Joshua finished a new electronic box with new backboard. It will be used in the lab for new Rx testing.
    - Compressor and He line
        - Compressor order is pending onsite testing result. (Pablo?)
        - CH ordered a pair of hard He line. Soft He line has shorter lead time and can be ordered later.
    - RO
        - CT will spend more time on the RO board.
    - 3rd section
        - Order to Wisewave has been placed. Johnson is sending all materials to them.
    - Correlator housing
        - Ted reported an estimated schedule of 5 months.
    - 1.2m dish
        - Ted reports first two dishes (25kg) will come in 3 months.
        - Cotech projects with a schedule of 4 dishes every 2 months after the first one.)

Traveling Schedule to Hilo:

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