

Minutes for AMiBA Telecon 20070913, UTC 1:00

Regular Meeting Time: UTC 1:00 Every Thursday

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- Mount operation:
 - General:
 - Still no news from Vertex about the skypol-lock solution. Patrick has sent the reminder.
 - We will ask Vertex to modify the TCP parameter in ACU regarding the latency issue.
 - Jack encoder cables are still on the surface. Will try to route thru conduits next week.
 - Problem lists :Vertex issue (PK summary)
 - (1) ACU latency problem seems to be resolved. Guillaume is trying to simulate and reproduce the delay using ACU simulator in Taipei.
 - (2) Sky-pol lock problem was identified and Stephan will send the corresponding modification in another week
 - Problem lists: Our side (PK summary)
 - improvements on control software: change in polarization pointing to save time
 - user-friendly input for tracking with defined hexpol Not very pressing items, but we need to keep working on it.
- Testing on site:
 - Rx status
 - RR box "hair" problem?
 - Broken 2nd mirror of Ant2:
 - With the damaged mirror, we will lose efficiency and increase noise and also change the beam pattern. However, for on-axis observation, the problem is not very obvious.
 - IF power:
 - Derek reported Ant#4 IF2 PhSW is not functional.
 - Ant3IF2 TP shows zero counts and is not changing with input power under etd 2.
 - Jupiter fringe first taken after RR input power was raised from -12dBm to -8dBm. SN ratio will be analyzed.
 - DC offset:
 - Derek reported the measurement of PhSW effects on AM-ing of IF signals on the blog.
 - 1L LO power adjusted and IF power has increased with no more AM-ing. Next will verify the y-factor.
 - Derek measured the power modulation of 1L using a Krytar detector and peak-to-peak is 7mV. However, the square wave pattern from IF power sometimes disappear while the triggering phsw pattern is normal. At the same time, 1R looks normal and 7L/7R also look normal. Plan to measure all IF AM-ing tomorrow.
 - Pointing:
 - Pointing taken simultaneously by both OTs is proposed.
 - Combined result of two OT's shows there is 0.3' to 0.5' discrepancy, probably due to local effect. Polarization pointing: being worked on.
 - Observations:
 - Six pointings of the A2390 mosaic were observed. Next team to go to Hilo is Keiichi and Sandor (in late-Sep).
 - 1L- and 2R-related baselines show abnormal pattern. Being investigated.
 - RPFITS
 - Remaining: ACU-TCS delay prevents smooth operation of correlator thru a_boss.
- General site issue:
 - Compressor #3 (refurbished one, connected to Ant 1267) was found to have leaked some oil into He lines. Supply lines are hotter than usual. Pablo has replaced it with another compressor. The temperature of the Ant's are good so far.
- 13 element:
 - Rx
 - Mixers (3) are being wire-bonded.
 - Johnson will consult Pablo about cold head power on setting up compressor in Hilo lab.
 - IF/LO
 - The whole prototype module will come in next week; current IF/LO will be assigned to Ant #8, #9. Issues about module single stage signaling.
 - Prof. Chu's lab is going to acquire test fixtures for individual chips. (test fixtures for the entire chain was already made.)
 - SW has order two sets of the current IF/LO module. Longest lead time for components is 3 months.

- RO and correlator
 - RO boards are revised one more time perhaps. It shows some noise pickup. CT might take some to Hilo.
 - (correlator frame) The drawings from ARL are going to be reviewed.
 - Peter is making progress on the 1st and 2nd section assembling.
- 3rd section
 - 3rd section packaging is finished and being sent back to us.
- 1.2m dish
 - Far field measurement was completed with two patterns in different resolution. Preliminary analysis of low resolution one shows main lobe to 1st side lobe peak difference ≈ 17 dB < 60cm's ≈ 20 dB, but no obvious ground-pickup or severe symmetry distortion, nor projection of arms for secondary. FWHP ≈ 11 arcmin.
 - Cross-talk measurement is planned, waiting for one more dish and modification of the source/emitter.
 - 3rd dish is finished. Cotech claims it is within our weight spec. Ted is going to inspect it and also examine the feed leg shape next week.
 - Received frame for near-field measurement. Minor modification required for assembling in lab. The setup will be taken to EE dept for 30cm dish verification first.
- Platform modification
 - The new interface ring concepts are being studied.
 - Philippe reported an idea of new carbon fiber interface ring. Its main advantage is light-weight and possibility to change design to better support outer rim of platform. We should consider what rx position will never be used.
 - Total weight of 1.2m 13-element is about 4.5tons. It is 800kg over the spec of hexapod but still within safety margin.
- Calibration system
 - No update

Traveling Schedule to Hilo:

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