Minutes for AMiBA Engineering Telecom 20070726, UTC 2:00

Regular Meeting Time: UTC 2:00 Every Thursday USA Dial-in = 1-877-505-6247; passcode 8339148 #; mod_code 2917771 # Outside USA Dial-in = 1 630 693 3224

- Mount operation:
 - General:
 - Stephan will arrive next Tuesday morning. Pierre will arrive next Monday. Victor and Ven arrive Monday or Tuesday.
 - Stephan requires ethereal installed on TCS (done) and on a separate laptop (OT laptop). Also the double-shielded cable should be installed.
 - * New interface card tests show much less frequent backward transformation error. Jack 3 still jumps couple thousands times per night.
 - * Hiroaki tested the analogue output of ACU and it works. Next we can try to log the analogue output to see if we can determine the origin of spikes.
 - Problem lists :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) invalid backward transformation, kinematics error can cause a 'stop'
 - Problem lists: Our side (PK summary)
 - \ast $\,$ 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
 - user-friendly input for tracking with defined hexpol Not very pressing items, but we need to keep working on it.

Testing on site:

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- 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:
 - * VGA tuning will still be carried out under etd 0 mode.
 - * Derek found 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:

- * No update.
- Observations:
 - Ven and Victor will try to observe A1689 next week after day time support for Stephan is done because A1689 will set around 9pm and we still have about 60 patches to observe.
- RPFITS
 - * 4R6R data glitches in 7rrll config now fixed. Tuning VGA under 7rrll config is also done.
 - * Remaining: ACU-TCS delay prevents smooth operation of correlator thru a_boss.
- General site issue:

• 13 element:

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- Pacing items:
- * Mixers
- * New IF/LO
- Rx
 - We now have 6(?) pieces of mixer blocks.
 - * Rx8 and Rx9 in Hilo have LNA now and miss one IF/LO module.
- IF/LO
 - * New IF/LO requires Rx mixer output to be higher than -45dBm to provide adequate tuning range in IF.
 - * Johnson reported Rx outputs are roughly -45dBm looking at sky but some of the channels may be lower.
 - * Mini-IF/LO review shows the project is still moving forward and promising. 1st prototype will be delivered in September.

- * SW has order two sets of the current IF/LO module. Longest lead time for components is 3 months.
- Electronic box

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- Compressor and He line
- R0 and correlator
 - * Layout of RO should finish this week or next. Pierre will try to review and discuss with the contractor if he can get the trace diagram before leaving for Hilo.
 - * ARL has come up with a design of the corr bracket. A CDR will be held in Aug.
 - * Peter is making progress on the 1^{st} and 2^{nd} section assembling.
- 3rd section
 - * 3^{rd} section packaging is finished and being sent back to us.
- 1.2m dish
 - * Near-field beam measurement in EE still needs to wait about two weeks. Dashun is asking quote on the supporting frame for the measurement. The EE setup can measure up to 90cmx90cm so the entire dish will be measured at least four times to cover entire area. Overlap region will be used to calibrate the phase offset.
 - * In parallel, Locutus us planning to restart the far-field measurement, starting with indoor mount capavility test.
 - * First two dishes will be delivered to Taipei tomorrow. They come with detachable baffle (shield) and weigh 27kg and 28kg respectively. Our spec was 25kg. MT inclines to accept them but at a discounted price and demand spec should be strictly followed in future dishes (without detachable baffle).
- Platform modification
 - * 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:

ASIAA Hawaii: http://pmo.asiaa.sinica.edu.tw/Hilo%20office/

AMiBA Website: <u>http://amiba.asiaa.sinica.edu.tw/</u>

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