

Minutes for AMiBA Engineering Telecom 20060511

Meeting Time: UTC 1:00, 20060511, (Taipei 9:00am, 20060511) (HST: 3:00pm, 20060510)

Regular Meeting Time: UTC 1:00 Every Thursday

Participants:

Australia:

USA: CT, Peter, Chia-Hao, MTC (minutes)

Taiwan: Homin, Eugene, Hiroaki, Patrick, Johnny, Johnson, Locutus, Protty, Pierre, Ted, Kyle, Su-Wei, Ken, Paul Shaw, Pierre

USA Dial-in = 1-877-505-6247; passcode 8339148 #; mod_code 2917771 #

Outside USA Dial-in = 1 630 693 3224

- AMiBA current status:
 - Path length alignment.
 - (0511) Analyzed from the noise source/translation stage measurement among the first 6 receivers, Kyle reported that the 15 baselines differed in length from few mm to almost 9 cm. Kyle would pursue to acquire a set of cables to narrow down differences to within +/- 2 cm. For the fine-tuning, he planned to rely on the variable delay lines built in the system. The final goal is to reach a max. difference of +/- 2.5mm.
 - Grxmon did not function properly. Could not monitor multiple receivers under the correlator PC, nor the monitor PC.
 - (0509) Homin reported that the problem seemed to stem from on F83 in Rxe-2, communication firmware. Rxe-7 might be OK, contrary to the perception from last few weeks testing. Request help from Michael and ATNF personnel.
 - (0510) Discussion on relocating Grxmon to different computer. Another monitoring PC close to platform?
 - Rx2 warmed up during the weekend. Cause unknown. Under observation. (0504)
 - (0509) Issue straighten out. Rx2 seemed cold now, although it took about 20% more time for cooling down. Likely a procedural issue. Rx-2 under observation.
 - (0506) Ted to organize and schedule regular maintenance for various site instruments, including cryogenic. On going.
 - (0507 log) Peter reported shelter dysfunction and stuck while opening. Need analysis on the problem and solution.
 - (0511) Not a recurrent problem. Peter reported his inspection on the shelter electrical, and there was no abnormal to be found. Further investigation pending on Ted and Pierre's arrival at site
 - (0504 log) CT reported ACU crashed. Patrick confirmed the issue. Not a major impact because it only happened intermittently when the system was idle overnight. Categorized in the Intermittent Problems.
 - (0508) Hexapod did not seem to like the position: az 275.1, el 47.0, hex-pol 0, on ACU. It showed "The Hexapod backward transformation has returned invalid results !!! Move telescope into NEUTRAL position from the Drive cabinet". Not a recurrent event so far. Categorized in the Intermittent Problem.
 - (0508) rx6 vga control not responding. Joshua to the issue
 - (0507) DRO & receiver overnight stability. Got measurement. DRO over night seemed OK in both phase and amplitude. MT urged everyone to look into what were the realistic numbers we were after. Would come back to this issue again next week.
- Intermittent Problems:
 - Compressor occasional trips. Cause unknown.
 - (20060504) ACU occasional crashes. Cause unknown. Reboot the machine would resolve the situation.
 - (20060508) Hexapod backward transformation invalid? Cause unknown.
- Testing:
 - (0511) MT reported a second-hand CCD (ST-237A) has been ordered. Johnny estimate a new OT bracket has arrived at Taipei's lab. Would be shipped to Hilo in two weeks; Homin had ordered the parallel -> Ethernet adaptor; Joshua would put a second OT electronic box together for the second OT on platform. Target date: End of May.

- Testing Schedule (Kyle)
 - Determine delay difference and order IF compensation cable. (Kyle) – *Early May, three weeks.*
 - Test, assemble and install Ant7 (Rx7). (Johnson) – *Mid May, two weeks.*
 - Install compensation cable and measure Ant7 delay with translation stage. (Johnson?) – *Late May or early June, one week.*
 - After compensation, measure fringe of each baseline as reference. (Johnson, Patrick, Hiroaki) – *June, two weeks.*
 - IF, LO monitoring. And phsw power difference, DC offset, noise property investigation. (CT) – *May, three weeks?*
 - 2nd OT installation and verification. (Patrick, Ken) – *Late May? Two weeks?*
 - Remove 1st OT and install 60cm dishes. Dish/Rx alignment with TP from sun. (??) – *Late June or early July? Two weeks.*
 - Planets! (??) – *July.*
- Pointing:
 - (0427) Star pointing OK.
 - (0427) Tracking OK.
 - (0504) Polarization test, under test.
 - (0504) Patrick reported that tests on hexapod polarization indicate no serious problem. Some drifting in the center of rotation (CoR). The magnitude is consistent with current pointing error. However, “random” star traces & arcs obtained from polarization test. There seems no clear conclusion from this meeting. Ken and Patrick will continue their analysis to seek a convergence of the problem.
 - (0511) Polarization data analysis, on going
 - Interpolation table working?
- Site:
 - Shelter improvement, electronic, pending on Pierre’s return to Hilo.
 - (0504) No update on firewall (John & Homin)
 - (0504) No update on emergency power generator (Pierre & Ted)
 - (0510) Pierre reported scheduled site electrical work on power distribution, additional grounding for shelter, fence, cone etc. Replace shelter electrical box, high power flooding light on site. Compressor electrical enclosure relocation, finished shelter electronic/electrical, power generator, etc.
 - Few more tasks or issues need to be discussed or taken care of:
 - Automate the weather station
 - A Site PA system (Over internet?)
 - Light inside the shelter (For day time worker)?
 - Control container, water leakage need to be fixed?
 - Lighting protection?
 - Sleeping container, need to install a door stopper to prevent further door damage
 - Need discussion regarding move out the transformer? Pierre’s comment.
 - A shelter operation procedure.
 - Fabric replacement (Long term, but important.)
 - Ground shield, feasibility study, may contract to Bill and ARL
 - Supporting cone insulation?
 - Platform covers for drop-thru holes (CFRP, strong structure)?
 - A stair way up to the platform – might have to order an off-the-shelf model and modify it?
 - Crane?
- Calibration:
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- RX/IF/LO:
 - Rx-7, pending on Johnson’s arrival
- Correlator:
 - (0511) Cha-Hao will continue the design work on the correlator cover door. Should be finished by the week
- Software update:

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- Dish:
 - (0504) No news on 1.2m dish (Paul Shaw). MTC notes that 1.2 M dish is becoming a very critical and pacing item in the task.
 - (0511) MT reported a phone conversation with Dr. Ong. The dish should be coated on 5/10, and the surface measurement on 5/11. Paul_S and Patrick would be on-site for the measurement.
 - Proposed Schedule (Ong, 4/20/2006)
 1. Mold modification: April 27
 2. New dish surface
 - May 2: dish surface preparation(machinning and polishing)
 - May 4: surface aluminum palting(Taipin, Taichung)
 - May 5: dish surface measurement(ITRI)
 3. Dish RMS calculation (Patric?) May 10
 4. Assembly and measurement May 12
 5. Delivery: May 15
 - (0504) 1.2 M dish structural support. MTC expresses concern on 1.2M dish mounting mechanism. MTC to ask Philippe to look into this issue.
 - (0511) no update on 1.2M structural issue from Philippe.
 - (0504) No update on dish cover.
 - Some lingering ideas (Need further sharpened...)
 - (0511) Kyle proposed another run of photogrammetry.
 - (0511) Protty addressed data storage on site.

Traveling Schedule to Hilo

Ken Chen	Feb 9 - May 9
Chia-Hao Chang	May 2 - June 16 (Hilo)
Ted Huang	May 11 - June 12 (June 13 – 24 to NRAO VLA)
Johnson Han	May 11 - June 19
Su-Wei Chang	March 2 - May 9
Kyle Lin	March 7 - May 4
Ken Chen	May 16 -
Chao-Te Li	April 27 - May 26
Patrick Koch	May 17 - June 12 (June 13 – 24 to NRAO VLA)
Hiroaki Nishioka	May 17 - June 12
Pierre Martin-Cocher	May 11 – 27, (May 28 – June 2 to Orlando)
Homin Jiang	June 1 – 8 (May 28 – 31 to Orlando)

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