**Minutes – 060818**

**Present: HH, DS, AG, SW, JT, PS, TJ**

**Apologies: PD, SB (holidays)**

**Strip modules**

r.e. Ashley’s email

Q: who is on email list?

Keep things in house as much as possible. Only ship known good hybrids to the US. Save on shipping time. Can split load between here and Birmingham.

AG: to write down what he wants. He prefers UK only . prefer 2 firms in the UK . Prefer single contact.

Request Liverpool (AG) to be included in scheduling meeting.

Module frames and tooling are halted. The US want to change things again – advantageous to AG (to be discussed this week).

Whilst AG is away in Greece. AG would like to place order on hybrids, everything else can wait till he gets back.

Confirmation that the ASIC chip is delayed. It has been submitted. Still being manufactured on 85day turn around. October is the earliest the chips are ready to be diced.

All reviews pushed back till may.

**Strip Mechanics**

Stave assembly drawings have been uploaded.

EDMS permissions dependent on ATLAS-ITk group mailing list.

DS: DS to discuss with Hamish and Tim the glue tests.

We are using same glue as oxford. We will use boron nitrate instead of graphite. DS to talk to Kieron about orbital welding. Our orbital welder need parts (Richard to get). Another welding workshop in sheffield. Need to get the big CMM up and running this week. The little one should be up and running soon. CMM course?

Back up CMM computer up.

Strip B0 moved from 405 to 399mm. Helen to update geometry for step 3.0.

Tooling: now able to make stave vacuum jig out of aluminium. Priority to get this done by October. Kevin to do machining. PS to order material and work on design before he goes away. Ask Kevin about design of middle to prevent bending.

Another stave mechanics meeting this week in oxford.

DS can’t access EMDS stave core drawings.

**Pixel modules**

Richards has sent us bare chips. Glue one chip to glass, and one to flex to make bare module. Oxford has made first modules for ring 0.

Liverpool making dummy module with glass and bare chips. Flex glued to glass, glass glued to bare chip -> good for electrical tests.

IT does not want to modify JT rubber mold. To cope with different flex thickness. Variance in module thickness.

Get peter to do final 3D print.

Q: how cold can we make our module test boxes? We guess 30 deg? Oxford worried about bumps peeling off if gets too hot (60deg). Oxford are thermally cycling modules .

Priority box making week : one sent to Manchester. One sent to oxford. On Friday 2 boxes sent to oxford, where the thickness of aluminium plate is controlled by laminate, 1 micron precision. Still takes time for glue to set. Q: can we use alfa gel? Try making one box for Glasgow to test.

Q: who is keeping track of WP13 spend? -> cc. craig.

identified bug in kiethley software. Only apparent for low HV.

Action on Jon to look at cost for DAQ system. Bonn DAQ does not work on our spare card.

Either wait for help, or buy something specific. 900 quid to buy card. Jon to mail CB to request WP13 buy us one as well.

* JT to send cost and options info.

Friday IT has meeting with Richard on design for cern pixel 8. => changing pitch from 50x50 to 25x100.

**Pixel Mechanics**

PS: needs a week to do a whole thermal study of pixel cylinder before he goes on holiday .

Q: do we understand inputs?

PS has done a thermal study on half ring. PS to convert this to a shell model. Compare to solid model. Convert this to full endcap model. Goal is to understand stress and structure.

AOB: TJ destroyed wire bonds on strip hybrid by shaking. 8/50 wirebonds have lifted. 2 phase to the failure. Unknown if heel lift or bond break.