**Minutes – 210518**

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

**Apologies:**

**Strip modules**

Meeting today to discuss tools. 3UK. Discuss who needs how many tools when. BH to send us a LSsensor this week. **We should build a LS module. (DESY test beam).**

Module frames and integration are stalled: want to build modules on module frame. Redesign needed? HV tab has sacrificial part. Don’t know how to remove.

Hybrid panel is done. **AG to do module frame and EDMS**

Liam wirebonded test pieces (for bubble test). 20 minutes – no bubbles – no residue.

AG looking for hybrid sensors that work at -40deg.

*2 LS modules to DESY.*

*New hybrid panel. SW to get new module bond .*

*Bubble technique. – put 100 wirebonds down, put de-ionised water down. Look for bubbles.*

*Need to test supply before using it.*

*Encapsulation would need to be dine at hybrid sites.*

*AG to talk to Giorg about ramp up procedure.*

*AG to discuss with stevenage.*

*Could liam and mike research the bubble test and the erosion problem. DS to look at video*

*How to make it scientific.? => LSDC project.*

*AG has Liam for 2 days a week.*

**HH to speak to Marielle. (2 days a week)**

Bondhead is back. They are visiting this week? Second wirebonder not back yet

Strip tooling: SW to ask MW about tooling turn around time.

SW to do metrullurgy

If good -> build dummy circuits

Strip staves:

DS has moved into SBND.

DS to investigate industrial partners for strip module tooling.

We would need to do qualification procedure.

Would need to go to tender.

Need a spec doc.

Fall out from F2F

Implement HV tabs on sensors. Can’t go on bus tape

Need to change LSS module going from X-> Y

Need to change frames, modules….

Conclusion on how the hv tabs look like

Problem with strip integration of design

Want module frame that can be used to test sensors

1 months work in 2 weeks….

**Joint uk/us hybrid production meeting?**

Chinese doing hybrid production?? Yanyan to ask Joelle

**Strip Mechanics**

Discussion at 10am meeting about agenda for 4th/5th meeting.

Stave core assembly meeting 1st week in June

4th/5th June (Lime street shut) HH – investigate

TJ to book lunches, rooms are booked

DS at CERN last week for welding meeting. (ATLAS, CMS, LHCb…. ) Sheffield taking the lead.

We have all the foam for the stave cores. – DS can get going with stave cores. TJ only here Monday/tuesday this week.

**Pixel modules**

Argonne meeting: RB reports 15000 pixel modules produced including barrel. UK/Italy commitment is 2000.

Donald Trump requested to half science funding to US. Common hybrid to share risk.

3 hybrid designs : Bonn (rubbish), Japanese – derivative from Bonn: FEI4, Liverpool (Us are using it as base line): FEI4. : LBL – RD 53. – 4x1. Using keycad.

IT to give summary at WP1 next week. IT to make LBL design 2x2. Make common design.

KA was requested to downgrade his “ferari”. People find mesh exotic – no mesh. Jessica asked to summarise pros/cons on methods. Our biggest point is that mesh is no rad hard. Mesh has large CTE.

**Baseline of stamp onto bare silicon – dowel pins for alignment. Put flex directly on.**

**No sense for vacuum curing.**

**Jessica is rising star (politican, Maurice disappearing?)**

**We need a good relation with Jessica (Argonne).**

**Kirk to take encapsulating. (paralene as coating? Kirk is fan of glue? Very likely but not 100%. ) concern is that it could contribute to delamination.**

**Jesicca responsible for gluing.**

**Someone for circuits.**

**Carrier box: transport module on pcb. Needs to be Eurocard compatible.**

**IT test hv return on stave . 2x2 RD 53 hybrid design. Hybrid for new bustape design.**

**Maurice does not want PSPP chip.**

**Pixel Mechanics – new bus tape.**

**PS to do pastries.**

**PD: “**This week is irradiation week for me. I’ll pick up irradiated sensors today and take them to Sheffield. Test their readout system. And talk to the guys building the new scanning system.

Any spare time and I’ll work on the COB.

**“**

JT visitied paralene company last week. Pick up this week (for gla and liv). Measure leakage current on modules on stave. Feed back to power demonstrator people.

AK has new bits for COB for RD53.

IT: draft new hybrid design for Thursday.

Tooling

Bench drill in plastic lab has died. A bad belt. Bad spindle.

* Request for next weeks operation meeting.
* IT needs in order of weeks.
* No students allowed to use. Restrict access to trained personnel

SB and HH to discuss with TJ for a proposal to take to operations meeting.

Ilya has looked at design , Jo should be happy. Ilya to measure force. Both pull and push force . Ilya to ask PS to design connector release tool. Graham to come on Wednesday to get PSPP chip wire bonded.

IT to continue new hybrid design . order mesh and aluminium for Argonne.

JT to look at paralyne coating for Argonne.

JT: Pull tests, follow up from comments from AUW. Comments on cross talk could be caused by settings .

JT: open question on forward bias. Massive leakage current. Sensor is a diode. It rectifies all pick up noise from environment.

Is it due to power supply or circuit?

YG chase Kenny for adapter board for YARR system.

**Last 2 modules received from Glasgow are warped.**

* **Use laser in small smart scope.**

**Pixel Mechanics**

SB started half-ring specification document.

PS working on tapes.

Discussion last week. agreement on envelope. Agreement on tolerances. 97mm between barrel and endcap. Including 61mm for barrel.

Peter is in tomorrow. PS to explain to Ilya conventions 9-10 tomorrow. Ilya needs to draft hybrid.