**Minutes, 73th PXD EVO Meeting, September 16, 2014, 10:00**

Present: H.-G. Moser, C. Kiesling, D. Klose, J. Ninkovic, C. Kreidl, D. Levit, L. Andricek, C. Niebuhr, C. Koffmane, S. Lange, B. Kisielev, S. Tanaka, S. Rummel.

* Agenda
* Tuesday, 16 September 2014
  + 10:00 - 10:10 IBBelle Status 10'

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| Sprecher: | Christian Kiesling |
| Material: | [**Slides**A description...](https://indico.mpp.mpg.de/materialDisplay.py?contribId=0&materialId=slides&confId=3015) |

* + 10:10 - 10:20 PS and Services 10'

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| Sprecher: | Stefan Rummel |
| Material: | [**Slides**A description...](https://indico.mpp.mpg.de/materialDisplay.py?contribId=3&materialId=slides&confId=3015) |

* + 10:20 - 10:30 Thermal Mockup 10'

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| Sprecher: | Carsten Niebuhr |
| Material: | [**Slides**A description...](https://indico.mpp.mpg.de/materialDisplay.py?contribId=4&materialId=slides&confId=3015) |

* + 10:30 - 10:50 PXD Meeting Pisa 20'

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| Material: | [**agenda**A description...](https://indico.mpp.mpg.de/materialDisplay.py?contribId=1&materialId=0&confId=3015) |

* + 10:50 - 11:10 AOB 20'

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**Status IBBelle (C. Kiesling)**

IBBelle (for ATLAS IBL) is presently being commissioned at CERN. So far it works well, though it is not able do go down to -40deg. However, this is not relevant for us, our temperature range (-30deg minimum) can easily be reached.

In order to start procurement of components and production we need a good documentation of the plant. Documentation of the mechanical exists but needs to be revised and updated. Sven Vogt at MPP is working on that.

The documentation of the electrical installation is not well documented. Reinhard Sedlmeyer (MPP) was (and still needs to go) to CERN to produce the necessary documentation.

Hence the procurement (asking for quotes and ordering) started slow. For some parts (Swagelok, 24V PS) the process has started but for most items the ordering will take till the end of the year.

(remark be Hans-Günther: the MPP money for IBBelle has to be spent in 2014, it cannot be transferred to 2015).

We got a proposal by Adachi-san for the location of IBBelle on top of the electronics hut which seems to be adequate as far as space is concerned. A problem is the access to the top of Belle which has to pass through the narrow corridor of the platform. This will often be obstructed and one should look for an independent access.

Alternatively we study the possibility to assemble IBBelle in a 40’ container. It can then, after commissioning at MPP, be shipped completely to KEK and placed outside Tsukuba-Hall. The advantage is that no dis- and reassembly before and after shipping is needed and the commissioning at KEK will be much faster. Disadvantage is the need of longer transfer lines and the need of services (water, 430V 3-phase) outside Tsukuba hall. In addition the container needs to be air-conditioned and humidity controlled.

**Power Supplies and Services (S. Rummel)**

8 units of the preproduction PS are ready and calibrated. Each has 24 channels. Adapters to operate the EMCMs are available. One set of special power cables is available. More have been made but have quality problems and need to reworked (~ weeks).

(remark by Christian Koffmane): two sets are needed at the HLL, one for the EMCM and one for a needle card setup).

The final production should start soon. The plan is to produce 68 units (50 for PXD, 18 for PS). Additional changes which will be implemented are the extension of the HV range to 200V and the use of higher quality components. Production needs to be finished by the end of the BMBF funding period.

The design of the Kapton flex is revised in order to provide larger pads for multiple wire bonds. This should avoid excess currents across single bond wires. Furthermore some layout changes are needed to improve the data links. Stefan will organize to meeting to discuss these changes (work has already started). Production should start in October.

Prototypes of docks and patch panels are ready. They need to be re-designed as well, taking into account the recent change of one infiniband cable to a CAT6 cable and further improvements. Concerning the docks the possibility to implement optoconverters (if sufficiently rad hard) is discussed.

**Thermal Mockup (C. Niebuhr)**

The PXD ladders for the thermal mockup are ready. DESY has already one and will receive the others as soon as a driver can be sent to Hamburg. The cooling blocks are still not ready. We were notified by the company producing them that they have some (minor) difficulties delaying the delivery which was due last week. Since the handling of the thermal ladders (thinned silicon) is quite delicate we will produce alu dummies (dummy dummies) allowing to exercise the assembly.

The SVD part is progressing. Support cones and outer cylinders arrived from KEK. The diffusion welded endrings arrived 2 weeks ago and will be machined at DESY. Work is ongoing to build the SVD thermal modules.

MARCO is operational and used by a student. No further degradation of the Gather pumps has been observed and it was decided not to replace them by the (expensive) LEWA pumps. Spare pumps exist in case they fail again.

**Agenda of SVD/PXD meeting at PISA**

The meeting (October 1-3) has two days of plenary meetings (Wednesday, Friday) and Thursday for parallel meetings. In the parallel meeting we need sessions on:

* ASICs (including switcher bonding and SMD mounting) (Ivan Peric)
* Lab tests (including EMCM production and tests) (Christian Koffmane)
* Beam Test and Beast (Carlos Marinas) (PXD only topis)
* Module assembly discussion (Christian Kiesling)

In the plenary following topics (amongst others ) need to be discussed:

* Mechanics (Installation)
* Thermal Mockup
* IBBelle
* Beam Tests
* Beast
* Slow Control and DAQ
* Database
* Assembly and Integration at KEK

Christian Irmler distributed a draft of an overall agenda. We will check it and circulate it soon. In the meantime the parallel session conveners should start to prepare their agenda.

**AOB**

Christian Koffmane reported shortly on the EMCM status: EMCM4 final measurements after copper started (one has already been measured, but it was a defect one which is not representative). Not much progress on the electronic tests (vacations) but work on the setup at MPP progressed.

Laci Andricek asked about the status of the module assembly, especially jigs for the module to ladder gluing (Si dummies will be ready end of the year): Ideas exist but detailed engineering hasn’t started yet, due to other projects. They will be finished soon and a first discussion will be at the Pisa meeting, more at the B2GM.