**Belle II PXD EVO Meeting**

20.1.2011

Present:

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David Moya, Wacek Ostrowicz, Martin Ritter, Piotrek Kapusta, Susanne Koblitz, Bartlomiej Kisielewski, Laci Andricek, Andreas Wassatsch, Jochen Knopf, Christian Kiesling, Jelena Ninkovic, Carlos Mariñas, Sergey Fourletov, Florian Lütticke, H.J. Simonis, Hans Krueger, Elena Nedelkovska, Carlos Lacasta, Mikhail Lemarenko, Stefan Rummel, Igor Konorov, Peter Kodys, Zdenek Dolezal, Shuji Tanaka, Yutaka Ushiroda, Andreas Ritter, Andrzej Bozek,

[Thursday 20 January 2011](http://indico.mppmu.mpg.de/indico/conferenceDisplay.py?confId=1052#2011-01-20) |

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| **Thursday 20 January 2011** | [top[top](http://indico.mppmu.mpg.de/indico/conferenceDisplay.py?confId=1052#top)](http://indico.mppmu.mpg.de/indico/conferenceDisplay.py?confId=1052#top) |

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| |  |  |  | | --- | --- | --- | | 10:00 | Fibre optics irradiations (20') ([[files](http://indico.mppmu.mpg.de/indico/materialDisplay.py?contribId=0&materialId=slides&confId=1052) Slides](http://indico.mppmu.mpg.de/indico/materialDisplay.py?contribId=0&materialId=slides&confId=1052) [pdf file](http://indico.mppmu.mpg.de/indico/getFile.py/access?contribId=0&resId=0&materialId=slides&confId=1052)  ) | David Moya | |

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| |  |  |  | | --- | --- | --- | | 10:20 | CO2 cooling meeting in Karlsruhe (20') ([[files](http://indico.mppmu.mpg.de/indico/materialDisplay.py?contribId=3&materialId=slides&confId=1052) Slides](http://indico.mppmu.mpg.de/indico/materialDisplay.py?contribId=3&materialId=slides&confId=1052) [ppt file](http://indico.mppmu.mpg.de/indico/getFile.py/access?contribId=3&resId=0&materialId=slides&confId=1052)  ) | Hans-Jürgen Simonis | |

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| |  |  |  | | --- | --- | --- | | 10:40 | DEPFET Workshop, Bonn (20') ([[files](http://indico.mppmu.mpg.de/indico/materialDisplay.py?contribId=2&materialId=0&confId=1052) agenda](http://indico.mppmu.mpg.de/indico/materialDisplay.py?contribId=2&materialId=0&confId=1052) [pdf file](http://indico.mppmu.mpg.de/indico/getFile.py/access?contribId=2&resId=0&materialId=0&confId=1052)  ) |  | |  | |  | | --- | | http://indico.mppmu.mpg.de/indico/conferenceDisplay.py?confId=1031 | | | |

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| |  |  |  | | --- | --- | --- | | 11:00 | AOB (20') |  | |  | * Conferences 2011 (15') |  | |

(http://indico.mppmu.mpg.de/indico/conferenceDisplay.py?confId=1052)

1. **Fibre Optics Irradiation**

David Moya summarized the irradiations of fibre optic prototypes for the position sensors. The irradiations were done at CSIC in Seville, with 15.5 MeV protons from a cyclotron. The dose ranged from 2.5E14 to 33E14 protons/cm². (Far beyond the dose expected at superKEKB).

Different fibres with different properties were irradiated. It seems that some fibres were outside the proton beam and were not irradiated. This will be investigated in more details. The irradiated ones showed a shift in the peak wavelength, which depends mainly on the coating and an increase of attenuation which depends on the fabrication method and the type of the fibre. Still more irradiations are needed. It was proposed that next time irradiations should also happen at a lower does, more realistic for Belle II. It might turn out that the damage is low enough so that fibres can be selected according to other criteria. (Ivan: next time the irradiation will be done in steps, so lower dose will be covered).

Furthermore David informed us that the first omega shaped fibres have been fabricated and will be sent to Imanuel for the mock up.

David was asked to compile information on services needed and sent them to Stefan Rummel (Diameter, bending radius...) (A)

1. **Summary of the meeting on CO2 cooling in Karlsruhe**

Hans-Jürgen Simonis summarized the meeting on CO2 cooling held in Karlsruhe on January 13. Present were people from Karlsruhe, Munich, Valencia, Vienna. The intention of the meeting was to communicate the progress

in the field of cooling and to give feedback to the mechanical engineering.

Furthermore the next steps had to be discussed. Status reports were given from Karlsruhe, Valencia and Vienna. Slides are at:

<http://indico.mppmu.mpg.de/indico/conferenceDisplay.py?confId=1067>

The most important point was the demonstration that the CO2 system can cool the detector to the desired temperature. This is an important Milestone. Even the stainless steel blocks have a rather small temperature gradient (since the cooling channels are close to the surface). So the only problem with the present blocks is that they are not antimagnetic. Antimagnetic blocks (steel and other materials with higher heat conductivity) have been ordered by Valencia.

Discussion on CO2 cooling systems:

Whereas open systems are relatively easy and well suited for short lab tests,

it is clear that we need a closed system for Belle-II. The wish is to have a closed system as soon as possible (before 2012?) to perform system tests and to collect experience on its behaviour at various load situations.

That cannot be bought from the shelf. The CERN prototype seems to be well suited and needs just to be copied. The problem is, that the Japanese rules

about running a high pressure system are different from European rules. Parts

(valves, connectors, containers, etc) which are allowed in Europe might be difficult to establish in Japan. It was decided (A) to send a list with components of the CERN system to Shuji-san to check for compatibility. The topic will then be discussed in Bonn in February. Another question is whether we need a copy of the CERN system locally in Europe for system tests.

Furthermore the air cooling was discussed (kind and location of heat exchanges) and the construction of the mock up. The present idea is to integrate the PXD mock up prepared in Valencia with the SVD mock up made in Krakow. More discussion in Bonn. Shuji showed a model of the cooled beam pipe:

http://kds.kek.jp/getFile.py/access?resId=0&materialId=0&confId=6484

Two were made, one can be used for the PXD/SVD mock up.

In the discussion Carlos Marinas asked whether the idea to cool incoming air with the CO2 in the transfer lines has been given up. Answer: yes, since then the two cooling systems are not independent.

1. **DEPFET Workshop in Bonn**

The preliminary agenda and more information (venue, accommodation, registration, fees etc) can be found in the WWW pages of the workshop:

http://indico.mppmu.mpg.de/indico/conferenceDisplay.py?confId=1031

We went through it in order to confirm organisers and schedule:

* 1. ASIC development and tests (Peter Fischer). Peter was not connected, he will be asked by Email.
  2. Test systems (Jelena Ninkovich): ok.
  3. DEPFET matrix development (Rainer Richter). Rainer was absent; we will probably extend it by 30 minutes (re-arranging the lunch break).
  4. Vertex Tracking and Performance (Christian Kiesling): ok.
  5. Interconnection and Module Design (Laci Andricek). 1h is too short. Needs to be shifted to Tuesday to allow CNM people to connect by EVO (and provide connection).
  6. Engineering (Hans-Jürger Simonis): ok, but services will be in an extra session.
  7. Add session on services, power supplies and DHH (Stefan Rummel) (1h?).
  8. Interface to Belle II (Hans-Günther Moser): will be labelled ‘Technical Coordination (Schedule, Organisation, Actions) and shifted to Wednesday.
  9. Data Acquisition (Sören Lange). Needs confirmation by Sören.
  10. Test beam (Marcel Vos). Needs confirmation by Marcel.

If you don’t have registered yet, please do so!

1. **AOB**

* Zdenek asked for contributions to conferences (TIPP 2011, but this is not urgent) and ANIMMA 2011 (deadline for abstracts: tomorrow). Since only Peter Kodys is interested in ANIMMA it was decided that he should submit an abstract. More conferences can be found in out TWIKI and contributions can be discussed in Bonn.

http://twiki.hll.mpg.de/twiki/bin/view/DepfetInternal/ConfContrib2011

* Elsa irradiations: Finally DEPFETs were irradiated at ELSA last weekend (Andreas Ritter)
* Zdenek informed us on the outcome of a DOE review, which recommended Belle II for funding. Unfortunately funding will be available earliest in 2012. SuperB was not recommended.
* Next meeting: February, 24 (Thursday) 10:00