

## Minutes of WP-meeting 194

### Attendance:

DESY: Ralf Diener, Leif Jönsson, Claus Kleinwort, Felix Müller, Astrid Münnich, Volker Prahl, Klaus Zenker

Fuzebox: David Attie, Paul Colas, Oleksiy Fedorchuk, Keisuke Fujii, Takahiro Fusayasu, Jochen Kaminski, Katsumasa, Shin-ichi Kawada, Kematsu, Takeshi Matsuda, Martin Rogowski, Ron Settles, Akira Sugiyama, Jan Timmermans

### General News:

The current status of the AIDA-2 proposals was discussed. AIDA-2 is a follow up project of AIDA. In both projects the infrastructure for particle detector R&D is/should be funded. Two weeks ago there was a telephone meeting of the gaseous detector work package. There were three LCTPC projects proposed: Leif has submitted one for the further development of pad-based electronics and pad planes, Ties has submitted one for an external tracking device and Bonn has submitted one for the implementation of the Timepix3 readout in the Scalable Readout System. All three projects were received with moderate interest, because it was felt, that they should be diverted to other tracks. Leif's and Bonn's projects were deemed to belong to the electronics working package, while the external tracking device has a higher chance in the facilities workpackage. Paul explained that there will be 750k€ for gaseous detector working group. Of this money about 250k€ for RPCs and 500k€ for MPGDs are likely to be earmarked. This money will be hard fought for. Leif also observed, that his proposal was tailored to the EU requirements of innovation and cooperation with industry, but that the more important issue for this proposal is the creation of infrastructure. He has rephrased his proposal and it is planned to combine all three projects into a common proposal.

While attending the Vienna AIDA meeting Paul talked to Thomas Bergauer, who had contacted several other groups, if they were interested in building the external tracker with their technology.

Unfortunately, all groups have either no money or no time. It looks very difficult to recruit a group from the Si-community. Ties is still in contact with a group in Aachen. If this does not work out, the fall back solution is that DESY will try to do with a PhD. student who must be paid by AIDA-2.

At Vienna Paul, Leif and Ralf presented the current projects in the gaseous detector working group. All the money has been spent and most tasks have been completed.

Paul told there was a new collaboration RD53 looking at pixel detectors for LHC (CMS and ATLAS) in 65 nm. He suggests to get into contact with the collaboration to get information and maybe some building blocks for the design of our chip.

### PCMAG/LP setup, test beam:

Ralf: test beam area:

- The preparations of the upgrade and maintenance work has started.

### News from the groups:

Takeshi summarized the activities of the Japanese groups: Small samples of the GEM grid are being prepared for some tests in a magnet starting on April 21<sup>st</sup>. There the electron transparency shall be determined. The currently available samples are a laser etched 1 cm × 1 cm with a square pattern, a laser etched 9 cm × 9 cm with hexagonal pattern and a chemical etched 10 cm × 10 cm square pattern. A chemical etched 10 cm × 10 cm hexagonal pattern will be delivered mid of April and is likely to be

ready only for a similar test in June.

David has cleaned the module that failed during the test beam. It now works again. It seems there was some dust in the grid. This led to a discussion on dust inside the LP. Ralf reported that there was more dust and metal scraps inside the LP, when it was dismantled after Paul's test beam. It was expected to be less because of the mounting tool, but this does not seem to be the case. Further investigations are planned.

Also the higher contaminations of oxygen and water during the test beam were discussed. Oxygen levels of a bit below 200 ppm were measured. Before the test beam a test with 7 dummy modules was done, during which an oxygen level of about 40 ppm and a water level of about 50 ppm was reached and an overpressure of 8 mbar with a flux of 40 l/h was reached. This hints, that the modules were not quite gas tight.

Deb has made some progress with the analysis and will report during the next analysis meeting. He will leave for India on May first and stay there until November.

AOB:

The next workpackage meeting will take place on April 17<sup>th</sup>.