

Minutes of WP-meeting 195

Attendance:

DESY: Ralf Diener, Claus Kleinwort, Felix Müller, Astrid Münnich

Fuzebox: Serguei Ganjour, Jochen Kaminski, Takeshi Matsuda, Martin Rogowski, Ron Settles, Jan Timmermans

PCMAG/LP setup, test beam:

Ralf: PCMAG/TRACI/test beam area:

- The preparations of the floor maintenance are ongoing. All beam areas have been emptied and the epoxy application will be done soon.
- The date for the maintenance of the cold head has been fixed to the 8th of May.
- The mounting structure (the rails inside the PCMAG) are being modified. It was observed, that the rails sack towards the cathode side and that they are several millimeters lower at the most interior position than they are at the edge of the magnet. This leads to a misalignment of the LP axis with the PCMAG axis. Since the TPC is tilted with respect to the B-field, $E \times B$ -effects have been observed in the data taken with the laser shining on the Al dots of the cathode: all images are systematically shifted downwards. To improve the setup, it is planned to introduce triangular brackets to stiffen the mounting structure and then to realign it. Additionally, an Al-ring will be added, so that the mounting structure is no longer fixed to the Aluminum plate of the PCMAG.

LP:

- The construction of the 2nd field cage has slowed a bit because of activities mentioned above. First gluing test showed that the glue used by the company has a high viscosity and can not be used for the second field cage, because it does not connect sufficiently with the glass fiber layers.

News from the groups:

Takeshi mentioned that the GEM-gate tests in high magnetic fields have started. The electron transmission of a 10 cm \times 10 cm sample of a GEM gate is tested at the cryogenic department of KEK in a $B = [0,1T]$ field. There are no final conclusions yet, but there are first hints that the transparency is very close to the optical transparency of about 80 % and that the magnetic field has only little influence on the transparency. The tests will last until the end of April. Then in a second test in July, two different gating girds will be compared (chemically edged and laser drilled). The handling of the GEM gate was rather easy for the first version, since the copper was covered with nickel, which makes the structure stiffer. But for the next version, there will be no nickel and handling is expected to be more delicate. In particular the copper may break, if too much tension is applied.

If this test will be successful, the stopping power of ions will have to be tested and confirmed by simulations. Also, the influence of the field distortions on the tracking performance will have to be studied by simulations, before the production of a large area (LP module size) will be addressed.

Jochen shortly reported on the work towards a 96 InGrid module at Bonn. Currently the mechanical structure is studied by a student. Also the reduction of the field distortions between InGrids by covering the gaps with an Al strip are looked at by another student. Finally, the prototype versions of a more powerful SRS FEC (virtex-6) has arrived and will be tested soon.

AOB:

Ron asked, if the cosmic trigger is still in place. This was confirmed by Serguei, who attended the February test beam of the Micromegas modules. There during several nights cosmic rays at a rate of 1 Hz were recorded. However, the cosmic trigger is only interesting for the AFTER electronics, since the ALTRO electronics needs constant supervision. (The overheating protection is implemented only in software and is not sufficiently trusted.)

Takeshi also informed about a recent meeting at KEK on the ILC. There, it was mentioned, that a more detailed geological survey may be needed and that this may modify the schedule of the ILC construction.

The next workpackage meeting will take place on May 8th.