

Minutes of WP-meeting 413

Attendance:

Zoom: Paul Colas, Ritsuya Hosokawa, Jochen Kaminski, Claus Kleinwort, Peter Kluit, Shinya Narita, Huirong Qi, Oliver Schäfer, Ron Settles, Jan Timmermans, Maxim Titov

General News:

The ICHEP in Prague will take place at Prague from 18th to 26th of July.

The international WS on CEPC will take place from April 8th to 11th in Marseille.

Wang Yifang, the director of IHEP, was at CERN and has given 2 talks, one on JUNO and one on CEPC. Unfortunately, the later one is difficult to find.

PCMAG/LP setup, test beam:

Oliver: Test beam schedule:

- The new call for test beam campaigns at DESY II is open.

News from the groups:

Peter gave an update on his presentation of the LCTPC-CM. He concentrated on the “dE/dx” performance of the 8 quad module during the DESY test beam. In addition to the hit counting he has also studied the distance between individual hits. The slope of the distance distribution can be fitted and can be used as a measure for dE/dx. It gives a better results for the particle identification than the number of hits and by event summation it can be shown, that a 1 m long track of electrons with an energy of 6 GeV would have an energy resolution of 2.9 % (instead of 3.4% for hit summation). These results were obtained in $B = 1\text{T}$ and are significantly better than in $B = 0\text{T}$ (6% for hit summations, 5.4% for slope fitting). Peter also studied the effect of the particular CEPC circumstances for Tera-Z running including the magnetic field of $B = 2\text{T}$. Peter also extrapolated the spatial resolution from the single electron results of the test beam to a 6mm track length corresponding to a pad based readout and to 10 cm tracks corresponding to the resolution of silicon strip detectors. He also showed, that the field distortions due to the ions have the lowest impact on the last 10 cm of a track, because they are the furthest out and see the least distortions. In particular if the track is going through the endcap, the last track points are very precise and the track can be used to measure the track distortions. And later tracks can be corrected.

Paul reported that the top TPC of the T2K experiment has been commissioned at CERN and tested. One of the gas sensors was found to be defect and it was exchanged. The detector is now packed. The shipping to Tokyo had started on April 8th and will take a few weeks to arrive in Tokyo. It will be shipped via plane. As there are severe pressure (>200mbar) changes expected, the gas inlet and outlet are open for pressure compensation. The ends are covered with filters to keep the interior clean.

AOB:

The next workpackage meeting will take place on April 11th.