Minutes of WP-meeting 430

Attendance:
Zoom: Paul Colas, Jochen Kaminski, Peter Kluit, Oliver Schäfer, Ron Settles, Jan Timmermans,

General News:
The upcoming conferences and meetings were discussed. Jochen will go to the VCI and give a presentation on the results of the pixelTPC test beam. In addition there are many national meetings going on to prepare the inputs to the ESPP. There was a meeting at Paris and Nikhef, one in Brussels and also in Germany. All this will be collected and jt will be discussed during the open meeting in Venice on June 23-27.

News from the groups:
Peter gave an update of his LCTPC-CM talk on PID. He had extended the extrapolation of the test beam results to the performance of a pixelTPC at ILD conditions. Starting from events taken at the 2021 test beam, the performance of a pixelTPC was extrapolated to 1m long electron tracks (5 GeV/c) with 60 % coverage by event stitching. From these performances (energy resolution of 3.6% for B = 0T, and 2.9% for B = 1T) using the template method, the results were extrapolated to ILD conditions, which is mostly the different radii, but still including only B = 1T, and electrons of 5-6 GeV/c. From this, the separation of different particles can be done with a confidence level of more than 5σ even for π/K up to 45 GeV. To judge the performance of the detector at different drift distances, the template fit was taken as a lower limit at short drift distances and the truncation method as an upper limit for long drift distances, as no cluster information is available anymore.
Peter also added some suggestions for running at Tera-Z. For this running conditions the gas mixture could be changed in a neon-rich mixture, for example replacing argon with neon in the T2K mixture. This would have the benefit of facilitating the PID at larger drift distances, reduce the primary and secondary charge in the drift volume and removing ions faster because of a higher ion mobility.

Jochen reported, that Sabine had succeeded for the first time to produce a aluminum grid structure resting on free standing pillars. The quality is currently not reproducible and sofar only short pillars (10µm) have been tested, but this will be solved with more experiences and more parameters tested.

AOB:
The next workpackage meeting will take place on February 27th.