

Minutes of WP-meeting 404

Attendance:

Zoom: Ralf Diener, Ulrich Einhaus, Ritsuya Hosokawa, Jochen Kaminski, Claus Kleinwort, Shinya Narita, Huirong Qi, Oliver Schäfer, Ron Settles, Jan Timmermans, Mingrui Zhao,
Wire Wizzards: Leon Verreijt, Antoine Laudrain

Presentation by the Wire Wizzards:

The Wire Wizzards had won the Beamline 4 Schools competition and had been at DESY for 2 weeks taking data with homemade MWPCs. The presentation by Leon discussed their experience of building and testing the detectors. The choice of materials (first acrylic glass, later polycarbonate), the type of sealing (first glue, later bolts) and the PCB layout (wire alignment by vias etc.) were discussed. The detectors have 12 wires at a distance of 10mm and spacing of 7 mm from the wire to the cathode. The electronics available was unfortunately not good and had to be replaced at DESY. There was help from people at Nikhef (Martin Fransen, Peter Kluit) in the initial phase and from Oliver and Antoine Laudrain at DESY. Of the final detector design 4 detectors were built and taken to DESY. They were placed in pairs into the test beam. The two detectors of a pair were turned by 90° to measure the particle position in 2 dimensions. The signals were amplified by preamps designed and built for TASSO and reused for HERA-B. The preamp output was either visualized by an oscilloscope or digitized by QCDs during a time period initialized by the scintillator signal. Different gas mixtures were used (Ar:CO₂ 80:20, Ar:CO₂ 93:7, P5) and the different signal sizes at different voltages could be observed. Leon showed oscilloscope screenshots as well as plots with charges of different configurations (with signal/without signal). The detectors were also scanned in two directions to assess their functionality across the complete area. He also showed a 3D-reconstruction of a particle track through all the 4 detectors. There is still a lot of data to be analyzed and Leon will write his school project on the detectors. To finalize the project he will also develop a preamp based on the OPA694. First tests show that the design works in principle, but it starts swinging after a signal.

General News:

Jochen greeted a new member of the collaboration: Ritsuya Hosokawa join the university of Iwate as assistant professor. He has worked sofar on the ALICE-TPC and will start working now on LCTPC related issues and DUNE.

Jochen reminded everyone of the aging conference at CERN the following week (<https://indico.cern.ch/event/1237829/>)

Shinya announced, that the LCWS2024 will be at Tokyo from July 8th to 11th . Currently the program committee is starts working and a preliminary webside has been generated (agenda.linearcollider.org/e/lcws2024). The workshop will be officially announced in December.

Jochen discussed the next LCTPC-CM meeting. It will be likely at the end of January. There are three options: DESY, Bonn or CERN. There will be be an ILD-CM on January 17th and 18th at CERN, so the LCTPC CM could be done either before or after the ILD meeting. Jochen will set up a poll to see, how we could maximize the in-person attendance.

Huirong mentioned, that the CEPC-TDR (accelerator) will be released at the end of this year. There is an indico (<https://indico.ihep.ac.cn/event/20817/registrations/1668/>), where one can sign up for supporting the project and the deadline for collection is Nov. 20th. There will also be a physics and detector TDR, which will be written in 2024 and published early 2025.

AOB:

The next workpackage meeting will take place on November 16th.