

## Minutes of WP-meeting 348

### Attendance:

Zoom: Yumi Aoki, Paul Colas, Ralf Diener, Ulrich Einhaus, Leif Jönsson, Jochen Kaminski, Shinya Narita, Huirong Qi, Oliver Schäfer, Ron Settles, Akira Sugiyama, Jan Timmermans

### General News:

Ralf mentioned that the recordings of the ECFA Detector R&D Roadmap Symposia are online and everyone who missed the talks can still listen to them.

In the gaseous detector symposium on 29<sup>th</sup> of April LCTPC was mentioned in the talk of Piotr Gasik ‘TPCs at future lepton and lepton-hadron colliders (TPC, drift chambers, large volume gaseous detectors)’.

Ron mentioned that according to the presentation of Florian Brunsbauer the Timepix4 has a time resolution of 200ps, which would be enough to do TOF. The time of arrival could be measured very precisely for tracks passing through the endcap and the TOF could be determined.

Jan mentioned that there was another conference advertised: the 12<sup>th</sup> PSD (Position sensitive detectors). Since LCTPC has never been presented there, it might be a good idea to test it. The abstract deadline is 31.5. and the conference will be held in September as a hybrid (both in person and online).

### PCMAG/LP setup, test beam:

Ralf: Test beam schedule:

- Ralf said that so far the plan remains unchanged that the test beam will be reopened on 24<sup>th</sup> of May for international users. However, users from high risk areas (>200 incidents/100,000 inhabitants/7days) will have to go to quarantine for 14 days. Only users from risk areas (100-200 incidents/100,000 inhabitants/7days) can make a test after 5 days and thus shorten the quarantine.
- For both the GridPix test beam and the French T2K test beam, it is too early to conclude anything, as in both countries the incident levels are too high and the long quarantine would be prohibitive at the moment, but the further development can not be judged.

### News from the groups:

Huirong reported that a new 4<sup>th</sup> concept detector was developed by IHEP physicists for the CEPC in April. A drift chamber is discussed as a main tracker for this detector concept. Huirong also presented the newest results from the setup at IHEP. Very precise measurements of the drift times were performed with a 400 MHz FADC for one pad. The three different positions of the laser give a nice linear dependence from which the drift velocity can be deduced. Also, the signal width and the spatial resolution were determined for these three drift distances. By comparing the signal charge of the laser signals to the signal charge of the well known <sup>55</sup>Fe spectral lines, the  $N_{\text{eff}}$  could be extracted from the data. From the dependence of the spatial resolution on the  $N_{\text{eff}}$ , the diffusion constant was extracted. This approach was discussed. Since  $N_{\text{eff}}$  is difficult to measure and there are a lot of fluctuations, it was suggested to also try the standard approach of plotting the spatial resolution in dependence on the drift distance and extracting the diffusion constant from this. Huirong will update this results according to all of the comments.

Ralf reported that a hole had been found on the field strip foil and Oliver has closed the hole with glue.

The next step is to do a HV test with the resistor chain. As only Oliver is needed for doing this, he has the permission to go into the lab and perform the measurement. Any further actions require more people and have to wait until DESY is back to normal operation. Ralf also reminded that comments on the GEM paper should be handed in until tomorrow.

AOB:

The next workpackage meeting will take place on May 20<sup>th</sup>.