

## Minutes of WP-meeting 338

### Attendance:

Zoom: Yumi Aoki, Paul Colas, Ralf Diener, Ulrich Einhaus, Keisuke Fujii, Leif Jönsson, Jochen Kaminski, Jurina Nakajima, Tomohisa Ogawa, Huirong Qi, Oliver Schäfer, Ron Settles, Akira Sugiyama, Jan Timmermans, Maxim Titov, Keita Yumino

### General News:

Jan had followed a large fraction of the AWLC last week and recommended among other presentations the one of Murayama on the last day, which summarized the perspectives of the ILC. In this context Maxim triggered a longer discussion on several questions regarding LCTPC and the detector planning for ILC in general. He, for example, suggested a scenario, where a first detector has to be ready, when the accelerator can deliver first beam. But a second detector based on more advanced technologies could start data taking 5-6 years later, either replacing the first detector, or taking data alternatively by the push and pull principle. One other option mentioned was the reuse of the heavier outer parts and replacing only the internal parts such as the tracker and vertex detectors. Another question important for LCTPC is the technology choice. In particular, the question who should make the technology choice is of interest: should LCTPC just study the different technologies and leave the choice to the ILD spokesperson, or should the choice be made by us. The general preference was, that the choice should be done by us. We still need to define the steps and the measurements required for making the technology choice. It should be based on performance, but also on other points, like availability and readiness. The later one is also quite important, as the time line will be set by the accelerator and the detector has to be ready in time. We should reserve one session during the next collaboration meeting for this discussion.

Jochen started a discussion on the form and on the time of the collaboration meeting. He currently does not see an option for an in-person meeting and suggested a video-conference only. If the situation should change, this could be reevaluated and in-person meeting organized. Several suggestions were made: Keisuke suggested a meeting early in January, as the subgroup 2 of the IDT WG3 will need some input on the resources necessary during the prelab period. This information is likely to be required until the end of January or February. Therefore, an earlier meeting will be good. Jan suggested to spread the meeting over several days, to allow for a higher attendance from all time zones – likely around the 2pm time slot of the WPmtg. Jochen will send around a doodle regarding the days.

### PCMAG/LP setup, test beam:

Oliver: Test beam schedule:

- The test beam is still operational an beam can be delivered according to the schedule, but because of the pandemia more and more groups are canceling their beam time.

### News from the groups:

Huirong reported about the progress with the IHEP setup. He showed the TPC, the electronics and the laser setup. He gave some more details and discussed the impact of the UV-laser windows on the electrical drift field. He showed how the tuning of the laser beam can influence the ionization density along the track. In a spectrum together with the  $^{55}\text{Fe}$ -peak different numbers of the primary electrons (400-600) were presented. Currently the high noise level prevents measurements with higher precision. Huirong hopes that a thorough cleaning of the electronics will lower the noise. He finally announced,

that there is a new test beam facility under construction at BES. A 2.5 GeV electron beam will be available for detector tests. Maxim asked about possible contributions of the ILC community to the CEPC and vice versa. Huirong was not sure, in particular as the CEPC is likely to be delayed for 5 years. The CEPC was not chosen for the Mega-projects in 14<sup>th</sup> five-years in China. Concerning Maxim's questions, Huirong will forward all of information to the leaders of IHEP to discuss in the related meetings soon.

Keisuke said that there are three projects ongoing at KEK: Keita is doing a Garfield simulation for understanding the gas gain variations and improving the geometry of the LCP-GEMs, Aiko works on the pseudo double track analysis by overlaying single track events and Yumi is building a GEM thickness measurement system. Because of limited financial resources, no larger projects can be addressed at the moment.

Leif reported that the MCM board work in principle and at the moment the group in Lund is struggling to decrease the noise. Once this is finished, they will start with the final design of the LV board.

AOB:

The next workpackage meeting will take place on November 12<sup>th</sup>.