Minutes of WP-meeting 389

Attendance:

Zoom: Paul Colas, Ralf Diener, Serguei Ganjour, Jochen Kaminski, Claus Kleinwort, Shinya Narita, , Huirong Qi,s Oliver Schäfer, Ron Settles, Jan Timmermans, Maxim Titov, Mingrui Zhao

General News:

Maxim reported from the DRD1 community meeting from 1.-3.3. at CERN. This was the first discussion with the other communities besides RD51 about the structure of DRD1, the MoU etc. The discussion was very constructive and it was agreed, that we try to work together as a single community instead of separate communities under one roof. Many of the things discussed were not in line with the ideas of ECFA, but were similar to RD51. Examples are the working group structure (WG1-8) and also a light weight MoU, which contains only a common fund as a financial obligation, and none of the ECFA strategic Detector Research and Development Themes. These could be gathered in WG2(applications) and could be financed by separate work packages, which could function as sub-MoUs for specific R&D projects.

The timetable is quite tight now. The conveners are asked to write a 3 page summary until Easter. The survey will continue until the 1st of May and then the conveners have to write a preliminary draft of the proposal until the beginning of June. The final proposal will be submitted end of June. It was noted that the contributions both to the survey as well as to the community meeting both from China and Japan was very low. It would be very good, if several more institutes could fill out the survey. There are no obligations linked to the survey.

Paul talked about the WG1 (technologies), which resembles WG1 of RD51, but also includes additional technologies like straw tubes, RPCs, wire chambers, TPCs, etc. The attendance was about 75% of RD51 and 25% of the other communities. Currently it looks like there will be many more topics, but as the other technologies are well developed there will not be too much new R&D topics. Jochen added that in WG5 (electronics) there were little surprises. A significant number of groups were in favor of a further development of the Scalable Readout System. Apart from that there was a large range of suggestions from different groups, but no obvious favorites. A surprisingly large number of groups offered institute assets for the development of common electronics.

Maxim mentioned, that he will send abstracts to the TIPP IEEE and EPS conferences. It was discussed how to proceed with the LCWS. Our standard is that this conference is not regulated by the speaker's bureau, but groups will submit abstract independently. However, we were asked by Ties to submit an abstract on the ongoing studies, in particular the track distortion studies for the circular machines. It is not obvious that this is generally accepted, since the name of the conference suggests the application of linear accelerators. In addition it is also difficult to find a collaboration member, who will attend the conference as currently it is only in person. It was decided that Maxim will submit an abstract and if no hybrid mode will be allowed, we will have to cancel the presentation.

Paul mentioned there will be a new type of workshop starting this year in Venice. It is called Muons4Future (<u>https://agenda.infn.it/event/33270/</u>). It will take place from 29th - 31st of May and covers all aspects of muon studies.

Huirong mentioned that a big program for the super tau/charm factory promoted by the USTC was started. It ill receive a large amount of funding also for the detectors. Unfortunately, they are planning to have a drift chamber with wires.

<u>News from the groups:</u> Ralf announced that Volker and Ole have glued the outer layers of the second field cage.

Mingrui had done a simulation study in 2017 [JINST 12 P07005] to show the feasibility of a TPC operation at the Tera-Z running of the CEPC. He is now updating this study and has shown some preliminary plots. The old simulation was done for a luminosity of $2x10^{-34}$ cm⁻²s⁻² and many details were missing. Mingrui is now updating the study to the new beam parameters, like the new beam structure, the reduced magnetic field (B = 2T) and also includes the primary ions and adjust the IBF to a smaller value. Because of the CEPC beam structure there will be 30000 ion discs accumulated in the volume of the TPC. The procedure to calculate the track distortions are equivalent to the ones described by Keisuke in WPmtg383: First the charge distribution is determined by generating MC events describing the physics events, which is done by Geant4. Then detector hits are generated and converted into a corresponding number of ions. Then events are added up to get the effect of ions from many overlapping events. This results in a characteristic 1/r ion density, which Mingrui compared to the one of Serguei. Mingrui is now calculating the resulting electrical field.

AOB:

The next workpackage meeting will take place on March 30th.