

Minutes of WP-meeting 373

Attendance:

Zoom: Paul Colas, Ulrich Einhaus, Serguei Ganjour, Jochen Kaminski, Huirong Qi, Oliver Schäfer, Ron Settles, Jan Timmermans, Maxim Titov

General News:

There was a discussion on the ECFA roadmap of detector R&D implementation. A presentation with the ECFA vision was presented by the ECFA chair Karl Jacobs is posted on the indico page of the WPmtg372. Maxim summarized the status as follows: Many smaller institutions would like to have an official R&D structure, because they can then approach their funding agencies easier to get money for detector R&D. Therefore, ECFA wants to establish a new structure called DRDC at CERN similar to the 1990's. The different collaborations should be established along the lines of the task forces defined by the Detector R&D Roadmap panel:

DRDC1 – Gaseous Detectors,
DRDC2 - Liquid Detectors,
DRDC3 – Solid State Detectors,
DRDC4 – Photon Detection & PID,
DRDC5 – Quantum –Emerging Technologies,
DRDC6 – Calorimetry.

These six collaborations (not more) should be founded in a bottom up approach. Besides, the Detector R&D Roadmap panel foresees, that the substructure of these collaborations is divided into working groups along the items identified in the 2020 Update of the European Strategy for Particle Physics. For DRDC1 these are:

DRDT 1.1 - Improve time and spatial resolution for gaseous detectors with long-term stability.

DRDT 1.2 - Achieve tracking in gaseous detectors with dE/dx and dN/dx capability in large volumes with very low material budget and different read-out schemes.

DRDT 1.3 - Develop environmentally friendly gaseous detectors for very large areas with high-rate capability.

DRTD 1.4 - Achieve high sensitivity in both low and high-pressure TPCs

For the MPGD community, this would have the following implications:

1.) RD51 would have to be dissolved into DRDC1 and united with all other gaseous detector communities, such as RPC, wires etc. This is very problematic, as the MPGD community is very well organized, but other communities have not been able to unite.

2.) There would be two review processes: A scientific one by the ECFA road map panel and a financial one by CERN and the funding agencies.

3.) The new structure will not lead to more money. In contrast, it is feared, that the MPGD community would lose some of its funding to other technologies.

→ The RD51 management is very unhappy with these plans. But as it seems unavoidable, it suggests the following approach:

We should ask for a reasonable time transition of 2-3 years for the formation of the collaboration to be built, so that the other communities can be incorporated. The same structure as in RD51 should be retained, that is:

WG1 - Technological Aspects and Development of New Detector Structures

WG2 - Common Characterization and Physics Issues

WG3 - Training and Dissemination

WG4 - Simulations and Software Tools

WG5 - MPGD related electronics

WG6 - Production

WG7 - Common Test Facilities

This is important to also maintain the common infrastructure of RD51: the electronics, common test facilities, the simulation tools (Garfield++), etc. which are the most important merit of RD51.

Other communities will be do the transition much faster, for example the transition of RD50 into DRDC3 will be presented already in the June 16 Council meeting. Also the transition of the CALICE collaboration into DRDC6 should be fairly straight forward. These transits should be closely observed by the MPGD community to see what we can learn from the processes.

Currently, a FCC WS is being held at Paris.

Uli announced that there will be an ECFA WS on e+e- Higgs/EW/Top Factories from 5.-7.10. at DESY. We should think about submitting abstracts. The deadline is on June 30th. There is a 1.5 h plenary session on detectors reserved on the agenda

(<https://indico.desy.de/event/33640/timetable/#20221005>). Uli suggested to give a presentation on the TPC in particular on the potential dE/dx performance. Volunteers are welcome.

PCMAG/LP setup, test beam:

Oliver: PCMAG/TRACI/test beam area:

- Oliver and Jan had agreed to look into the timing jitter of the beam scintillators (probably due to the low detection efficiency of the scintillators observed during the June 2021 GridPix testbeam and suspected to lead to the time jitter observed in the analysis of the GridPix data). Oliver had started to do so, but then discovered issues with the mechanical mounting of the scintillators and had given an order to the mechanical department. He has to wait for further studies until the issue is fixed.

News from the groups:

Oliver mentioned that the new large prototype will be glued in June. Volker Prah and Ole Bach have found a common time slot to do this.

AOB:

The next workpackage meeting will take place on June 23rd.