

Minutes of the LC TPC WP meeting (WP5 part) on 8 April, 2010.

In the WP5 part of the WP meeting on 8 April 2010, we had three presentations:

- (1) "Development of a low material endplate for LP1 and ILD" by Dan,
- (2) "Short summary of ILD-TPC mechanics meeting on 11.03.2010 at DESY, Hamburg" prepared by Robert and read by Klaus, and,
- (3) "June-2010 Model of ILC (ILD) TPC" by TM

(1): Dan compared in (average) material thickness, max. deflection, and max. stress of three current designs of the light TPC end plate; (a) Lightened (all aluminum), (b) Lightened (Al-C hybrid), and (c) space frame, to the current LP1 endplate.

There was a discussion about the distance between the "light-end (plate)" and the "sheet back-plane" of the space frame (which is the space that TPC endplate occupies). It is about 60mm in the LP design. According to Dan, the basic rule is that this distance scales to the size of the whole structure. In this case it becomes rather large for the ILD TPC. Dan needs some experiences before he can specify the space distance for the ILC (ILD) case.

There was a comment that Ron asked Mark and Steven to perform a simulation to find quickly the effect to the ILD PFA performance of the material thickness and space of ILD TPC endplate. We still need to wait for the results although there has been preliminary information from Mark that the dependence of the PFA results to the material thickness seems to be not large (in the case of the current ILD model: 10cm space for the TPC endplate).

(2) It reported that the TPC mechanics meeting discussed the short term and middle term tasks of the TPC mechanical group.

There was, in the WP meeting, a discussion on the HV resistance of ILD FC listed in the slides. There was a comment that the mechanical meeting should be announced to the LC TPC collaboration, and that at least Dan should join the mechanics discussion/group.

(3) This summarizes the tasks of WP5 in the short term. The "June 2010 TPC model" is one for the ILD physics simulation and for giving our answer to the ILD integration group (Cables and piping in the ILD detector),

There was a discussion that June might be too early to define a TPC model even for the physics simulation.

There was a comment on the "common parameters of (performance of) the pad readout TPC" where we plan to use the S-ALTRO electronics. It said that we might lose the different advantages of GEM and MicroMEGAS + resistive anode.

It was pointed out that there was a problem of terminology of the "double track separation" in the slides. The "double track separation" should be replaced by the "double hit-point separation" or something like that. TM will modify the slides to avoid this confusion. (Not yet sorry!)

General discussions:

It was agreed that, since we have many WP5 issues to be discussed in a short time, we discuss the WP5 issues as well as other issues at all WP meetings.

(TM)