

Minutes of WP-meeting 227

Attendance:

DESY: Ralf Diener, Oleksiy Fedorchuk, Leif Jönsson, Felix Müller, Dimitra Tsionou, Annika Vauth
Fuzebox: Alain Bellerive, Paul Colas, Keisuke Fujii, Takahiro Fusayasu, Katsumasa Ikematsu, Jochen Kaminski, Michael Lupberger, Takeshi Matsuda, Ron Settles, Junping Tian

General News:

Keisuke discussed the interim report, that was issued by MEXT on August 5th. He started by summarizing the political framework: The funding agency responsible for HEP projects is MEXT, the ministry of education, culture, sports, science and technology. An official petition by the Japanese HEP community was filed in October 2013 and MEXT formed the ILC advisory panel (also known as the expert panel) consisting of 13 experts to give a recommendation. The advisory panel has formed two task forces to answer specific questions of the panel. The particle and nuclear physics WG deals with physics related questions, the TDR validation WG deals with technical question mostly concerning the accelerator. A research contract will be given to an independent research institute, which will study the spin off effects in research and industry. The ILC advisory panel has issued on August 5th an interim report, which gives three recommendations:

- Recommendation 1: Here the formulation 'it is indispensable to share the cost internationally.' seems strong, but a representative of MEXT explained that such a strong statement is necessary that the government can initiate government-to-government talks. In addition 'the scientific merit of the project, a clear vision on the discovery potential of new particles as well as that of precision measurements of the Higgs boson and the top quark has to be shown' does not mean we need to guarantee new discoveries, but that the impact on new physics is very likely for example, that, if the LHC finds new particles, that the ILC can also study any accompanying particles.

- Recommendation 2: '...the specifications of the performance and ... considered to be designed based on the results of LHC experiments, which are planned to be executed through the end of 2017' This moves the final decision to the end of 2017. Since the run schedule of the LHC has been slightly delayed, the decision will probably also be delayed to the end of LHC Run 2. But it does not mean that nothing will happen in the meantime, but inter-government talks will be done in the meantime. The statement also does not mean 'when LHC doesn't find anything, the ILC will not be built', but then the potential of the precision measurements will have to be stated clearer in particular for H, t and W measurements and its predictive power for new physics. This recommendation requires that the project is explained well enough that the necessity is clear to fellow scientists in other research areas, so they don't complain, if the money goes to the ILC. '...and how to mitigate cost risk...' it is very important to MEXT to get positive signs of interest from other countries. The Japanese government is very much afraid of a scenario, in which it states its interest in constructing the ILC, but no other country will join. Therefore, it is important that the relevant funding agencies are contacted in all countries and made aware of the situation and that a strong positive statements is desirable. This is the crucial part in the decision process: If the reaction of other countries is positive, the ILC will be built, if the signs are too weak now, it can mean the end of the ILC.

- Recommendation 3: '... general understanding on the project by the public and science communities.' This sentence is important, to start some R&D funding within MEXT. Sofar, the funding has been from general R&D budget, since there is no approved project yet. Now some R&D money can have a specific ILC tag, to study the open issues.

The future plan of the ILC advisory panel is to investigate the human resources by a new working

group (the chair man is being appointed). The final report expected at the end of this fiscal year (March 2016) is not expected to say anything new, since the panel wants to await the results of LHC Run 2. In general Keisuke thinks that the interim report is positive, but positive signs of interest are needed from other countries now.

PCMAG/LP setup, test beam:

Ralf: PCMAG/TRACI/test beam area:

- Ralf described that during the θ -inclination of the stage an up-and-down movements was observed before. This is probably because the large ring is not supported everywhere, but only at some places. The effect has been studied in more detail now. Ralf described where the alignment markers were placed. The survey group had to place the laser at two positions to cover the full setup. The up and down movement was a maximum of +/- 1 mm at the maximum. This does not affect our measurements, since the beam is about 5 mm wide anyway.

LP:

- Because some little aluminum scrapes have often been found in the LP which are expected to stem from mounting and dismounting the modules, Bernd Beyer has designed a new feature for the module, which can avoid this: The problem is, that the module is designed to fit with very little margin into the opening. Not even the mounting tool is precise enough to avoid scraping. Robert suggests to remove 0.7 mm of the lowest 9mm-step of the module and replace the material with a plastic chamfer (a triangular cross section) which guides the module into its position without scraping. A test module will be produced.

News from the groups:

Katsumasa reported on the mounting tests with a gate GEM. Saga has received LP1-module size gating GEMs. Unfortunately, the quality is not good enough, so that the resistivity between the two electrodes is too low and no HV can be applied. The responsible person at Fujikura thinks, that the production was not performed in a clean room is sufficiently high standards. In total 6 gate GEM were delivered to Saga and three have been used in mounting tests sofar. But further tests are needed. The limiting issue is the limited number of PEEK frames, which are expensive and hard to procure. Regarding the procedure, it is difficult to find the best procedure and tension to span the fragile foil without the side frames as required by the Japanese module philosophy.

One complete LP1-module including the gating GEM was presented in the JPCA show at the Fujikura stand and attracted a lot of attention.

The next improved gate GEM version should be delivered at the send of September, so it can be studied and first results presented at the MPGD 2015.

Paul announced that Saclay has started to plan measurements of the ion backflow of the gating GEM. Help and suggestions from anyone are welcome. Besides, Serguei and Paul will travel to Carleton next week, to discuss the analysis of the test beam data 2015 with Alain and his group.

AOB:

Alain asked all groups to submit abstract for the LCWS both to the speaker's bureau, so that could be coordinate, in case this should be necessary, and to the tracking and vertexing convenors of the LCWS. The next workpackage meeting will take place on September 24th.