SUMMARY OF THE TECHNICAL CONVENERS MEETING OF 30 May 2017

Present: Karsten, Akira, Matthew, Felix, Akimasa, Taikan, Paul, Wataru, Auguste, Ivan, Claude.

ILD LYON MEETING FOLLOW-UP:

Claude reminded the conveners about the ET recent decisions on some open points concerning the software framework for the next physics benchmark simulations:

- The ET decided that the baseline physics benchmark simulations will be done with the hybrid (Sci/RPC) HCAL response in the TESLA geometry, and that the hybrid simulation will also be implemented in the Videau geometry to allow some samples to be simulated and compared in both geometries.
- The ET also decided to accept the ECAL change request and to have it implemented by extending the ECAL in the inner directions, for both small and large ILD options. For the barrel this will be done by reducing by 3cm the outer inactive part of the TPC, which is considered still safe by TPC experts. For the endcap, the ECAL extension will result in a smaller gap between the ECAL and the TPC services. The ECAL groups are expected to provide a drawing with the exact dimensions in this region, in order to check that the change is compatible with other constraints.

Progress on the subdetector software implementation was reported by the conveners:

- Vertex: at Ringberg it was agreed between experts not to change the vertex geometry for now. One open issue is the dead material associated to vertex cable paths. Their effect has to be checked with Mikael Berggren and implications of a possible routing change investigated.
- FTD: Marcel informed by mail that an additional pixel disk between FTD1 and FTD2 was discussed at Ringberg. This has to be clarified within the vertex/tracker group and with Frank.
- SIT: there is a principle agreement to implement a pixelized SIT at digitization level. Discussions are still ongoing on the necessary bunch tagging capabilities as regards physics.
- CALO: a SDHCAL digitization package is being developed in Lyon and will be soon provided to Frank for implementation in DD4HEP.
- VFS: Validation of the new layout is ongoing, including further beam background simulations by Alejandro. Work is currently focusing on understanding the differences in occupancy rates seen versus previous simulations.

SUMMARY RINGBERG LC VERTEX DETECTOR WORKSHOP :

- Many discussions and reports from other experiments, as well as reviews on technologies.
- A ~10 page summary note is being written with a draft version expected for the SLAC meeting.
- It is foreseen to create a light CALICE-like Vertex R&D consortium gathering ILD, SID and (possibly later) CLICdp experts, in order to develop high precision / low power vertex detectors adapted to e^+e^- linear colliders, to improve on sharing of common tools, and to have a better international visibility for funding requests.
- A similar follow-up workshop is foreseen in ~18 months.

SUMMARY KEK “INTEGRATION” WORKSHOP:

- Reports on the ongoing ILC staging were presented, with corresponding information expected to be made public at the SLAC meeting. The goal is to reduce the overall ILC first stage cost by ~30-40% to

have it within the limits considered acceptable by the Japanese government. Several options are in discussion as regards the strategy for future upgrades. The first stage ILC configuration as well as strategy for future upgrades will have impacts on the design of the detector(s) and the construction schedules.
- Reports on several engineering issues were also given. One important input is that a coil with an anti-DID option is now considered feasible by the industrial suppliers.

AWLC SLAC JUNE MEETING (26-30 June)
- Attendance of Japanese Colleagues is expected to be significant, and updated information on the machine design will be made public.
- The Friday will be devoted to an ILD meeting. Technical expert attendance may be too weak to have detailed subdetector reports. It is suggested to focus the technical discussions on some issues related to detector optimization in relation with the physics studies: bunch tagging in vertex/trackers, dead materials, beam BG simulations, calorimeter geometry and mechanical stability, etc…

NEXT VIDYO MEETING:
- Between 19th and 23rd June, 10:00 Paris time, doodle to be distributed.

SUMMARY OF SHORT TERM ACTIONS (until next meeting) :
- Provide drawing of the endcap region with extended ECAL (ECAL groups)
- Check effect of vertex cables on reconstruction and investigate implications of possible different routing (vertex group).
- Clarify additional FTD pixel disk in simulation (Marcel, Vertex and Frank)
- Clarify level of bunch tagging to be implemented in SIT digitization (Vertex/tracker/physics group).
- Provide SDHCAL digitization package (SDHCAL group)
- Understand differences of beam-beam BG simulations with previous results (Alejandro)