April 20, 2009

Second set of questions after the Tsukuba IDAG meetings

For all three concept groups:

* Give an outline of the plan for calibrating the energy response of your calorimeter, both from test beams or monitoring signals and *in situ* running. What level of precision is required? How is it obtained ? How do you monitor and maintain it? If operation at the Z pole is part of your strategy, how much data is required?

*What is your plan for aligning your tracking systems. What is the precision required? Are there special operations needed for alignment after push-pull prior to data taking, and what time is required? How many degrees of freedom need to be considered after a move? How do the alignment needs affect the design of your detector? Is any real-time monitoring of the tracker alignment envisioned (e.g., related to power pulsing and long term stability)?

*Repeat the recoil analysis with Z -> μ+μ-, e+e- , including the corrected ISR spectrum, and simulation of beam-background hits.

For the SiD concept:

Elaborate on the robustness and redundancy of the tracking performance. In particular, how would it deteriorate with a missing layer? Give the efficiency and the fake track fraction in a jet environment with full background simulation.

Calibrate the template analysis for mass resolution in t-tbar and neutralino/chargino channels: study the robustness of the method by adding more comparison tables.

Z(e+e-)H inclusive: show the result of the analysis with and without the calorimeter.