**Minutes for Snowmass Discussion (2021/06/10)**

Time: 10:00 a.m. – 12.30 a.m.

Participants: 12

The BSM white paper is under preparation, the main plan is at <https://indico.ihep.ac.cn/event/14583/>, contributions are highly appreciated.

If you are interested in the Flavor physics discussion, the doodle link is <https://doodle.com/poll/qey7tsrkzk5ke4ve>.

**Talk 1: Status update for EF10, by Weimin Song**

5 LoIs in EF10 were submitted. For Higgs portal analysis, the CEPC dark matter exclusion plot can be automatically made if the Higgs to invisible decay branching ratio up limit is given. The same plot for SPPC is not yet given since the detector performance is not known. For the moment, the FCC-hh can be taken as a reference. For lepton portal analysis, the work has been accepted by JHEP. The Dark QCD manuscript is finished.

**Talk 2: SUSY global fits, by Yang Zhang**

The global fits with CEPC higgs likelihood are time consuming, the idea of this work is to use the existing parameter and to implement the CEPC at each point. The mean value used is not SM value, but the current LHC fit value. The CMSSM model shows that the CEPC will largely reduce the preferred region, since the parameters are highly correlated in the CMSSM model. The recent work in pMSSM model shows that the CEPC reduce the preferred region but not as significant as the CMSSM model. In the future work, non-SUSY model might be also analyzed, and the CEPC Z-pole measurement can also be implemented.

**Talk 3: The Higgs to cc accuracy measurement, by Yongfeng Zhu**

The main steps of this work are: to find the full hadronic events, to find the 4-quark events, to find the ZH events, and to find the signal qqH with Higgs decay to cc events. The jet clustering, jet matching, and flavor tagging are essential for this analysis, and their influences on the accuracy are studied. Comparing with the ILC, the CEPC can measure the Higgs to cc channel with accuracy nearly 3 times better.

**Talk 4: Heavy neutrino search, by Kechen Wang**

Several CEPC pheno studies has been progressed on the single heavy neutrino production from the Z/gamma rare decays. Type1 seesaw test is an advantage of CEPC since it cannot be tested in LHC. The prompt heavy neutrinos and long-lived heavy neutrinos are analyzed, and the performance are comparable to the HL-LHC.

**Talk 5: Precise measurement of Z resonance parameter, by Shudong Wang**

The measurement of Z boson resonance parameters is studied, and the uncertainties are estimated. The data-taking strategy are develop using Global Determinant Parameter.