**Minutes for Snowmass Progress Meeting**

Time: 29/01/2021 9:00-11:30

Participants: 14

**CP-violating phase measurement potential at CEPC**

By Mingrui Zhao

Disentangle the CP-odd and CP-even components in B->J/ψ φ with llKK channel to measure the CPV phase. The estimation of CPV phase precision is made. The Flavor tagging power of 20% is validated

**Comments:**

* The sample size used is limited, an increasing of sample size is appreciated.
* Since the same side kaons capture most of the charge information, their energy spectrum might be interesting to look at.
* The study is made using 3 methods, it will be useful to change the combination of the methods.
* Maybe an update of different assumption of Z pole luminosity is needed

**Higgs CP measurement via the H->ττ process**

By Gang Li

To explain the Baryon Asymmetry in the Universe, new sources of CP violation might exist, for example, lepton mediated EW Baryogenesis. The advantage of ee Higgs factories is that the tau leptons can be better reconstructed, thus the sensitivity to hττ CP phase can be improved. Different CP observables are compared, and polarimeter azimuthal angle difference is chosen since it has the best sensitivity in ρρ mode and can apply to pipi/ρpi channels.

**Comments:**

* The correlation between observables might be more understandable to present.
* The background is not yet included
* The direction of neutrino depends on the vertex detector, this study can propose the requirement to the detector design.

**Probing bino NLSP at ee colliders**

By Chengcheng Han

The light bino can be pair produced at lepton collider. For Bino mass less than 100GeV the photon channel dominates the Bino decays. Three variables (recoil mass, reconstructed mass, and the energy balance calculated from the Bino decayed photons) are used in the signal selection. The result shows in this case the ee colliders can reach far beyond the LHC.

**Comments:**

* The luminosity used here is 3 ab-1, it would be better to update to the CDR design. Besides,it might be interesting to have a look at the 360GeV setup.
* Gravitinos are always LSP in most models, but the Binos are not.

**Measurement of H->ZZ\* at the CEPC**

By Ryuta Kiuchi

The HZZ channel has Z bosons with multiple combinations of final prodects, among them the mumuqqvv channels have clear signature. The combined precision is 7.9% using BDT, but it shows there are some discrepancy with the past result in White Paper.

**Comments:**

* The signal event number is much larger in the past result, this might be a combination of two conjugated channels (qq from the on-shell Z and off-shell Z)
* Different fit methods might help to improve the result