

2020-04-08

# CEPC HIGGS ZZ MINUTES

## 1. DISCUSSED ITEMS

- A. Memo and code updated with cut-based version [Min, Yanxi]
- B. Draft updated [Ryuta]
- C. Related papers and talks [Xin]
  - i. Higgs production and EFT interpretation in 4l decay: arXiv:2004.03447
  - ii. Recent Higgs boson property at ATLAS, CERN seminar:  
<https://indico.cern.ch/event/904420/>

## 2. TODO

- A. Memo v1.0
  - i. Add statistical uncertainty in the cut flow tables [Min and Yanxi]
  - ii. Update section 7.21 for the BRs with stat. uncertainties
  - iii. Create table "summary of event selection" [Min and Yanxi]
  - iv. Update ChangeLog section for v1.0 [Min and Yanxi]
  - v. Release tag v1.0 for memo and code [Xin]
- B. Paper draft v1.0
  - i. Update fig.1 Feynman diagram with vector [Ryuta]  
(c.f.: <https://feynman.aivazis.com>)
  - ii. Re-arrange Table 1 according to Shih-Chieh's suggestion [Ryuta]
  - iii. Update Table 2 according to memo [Ryuta]
  - iv. Tag draft v1.0 on git [Xin]
- C. Memo v1.1
  - i. Unify some cuts (e.g.  $N_{\text{PFO}}$ ,  $\cos \theta$ ...) [Min and Yanxi]
  - ii. Add standalone section with these new set of cuts for the final BRs with stat. uncert. [Min and Yanxi]
  - iii. Add section to compare the results of v1.0 and v1.1, check if they agree within 1-sigma
- D. Memo v1.2
  - i. Simplified version with only one set of cut based results [Min and Yanxi]
- E. Memo v1.3

- i. Add BDT results into memo
- ii. Compare BDT and cut based numbers