

# Recoil Higgs at CEPC

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## CEPCSW Release

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## Defination

- Luminosity:  $21.6 \text{ ab}^{-1}$  (*Table 3.2, CEPC TDR Accelerator*)
- Center of mass energy: 240 GeV.

## MC Samples

ZH;  $Z \rightarrow ll$ ,  $H \rightarrow$  inclusive.  $l = e, \mu$

- full production chain. SIM+DIGI+TRACKING+REC
- 50,000 + 50,000 with scale factor  $\sim 3.1$ .

## Collections

CyberPFO in Rec Event Contents.

- Momentum  $|p| > 20$  GeV
- $|\cos\theta| < 0.85$ .

## Two leptons

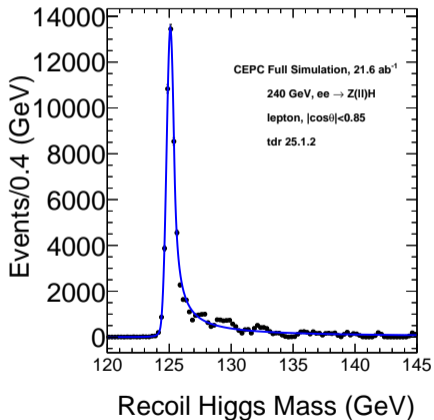
- Two opposite charged PFO with invariant mass closest to Z mass
- within Z and recoil Higgs mass window.

## Recoil Higgs

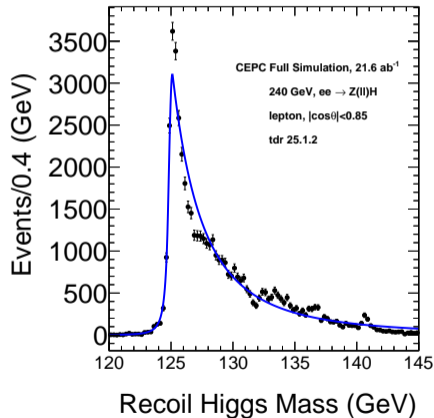
- Z mass window:  $|M(ll) - 91.19| < 20$  GeV.
- $Z(p_T) > 30$  GeV.
- $Z(|\eta|)$  under study.

# Recoil Higgs

$Z(\mu\mu)H$



$Z(ee)H$



# Summary and Outlook

## Summary

- Updated version of Recoil Higgs study for CEPC Ref-TDR.

## Outlook

- Fitting study.

Thanks for your attention!