

## Testing Higgs $CP$ properties at the CEPC with an additional ISR correction parameter.

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We evaluate the experimental sensitivity to the  $CP$ -odd admixture in the standard Higgs boson in the process  $e^+e^- \rightarrow HZ$ , which is expected at future lepton collider CEPC with  $\sqrt{s} = 240$  GeV and statistics of  $5.6 \text{ ab}^{-1}$ . Using the Whizard generator with Higgs Characterisation model and DELPHES detector simulation framework we obtain data samples with different  $CP$ -odd Higgs admixture parameters  $\tilde{c}_{ZZ}$ . The initial state radiation (ISR) effects are taken into account in Whizard. Angular and ISR energy shift distributions are used to distinguish the  $CP$ -odd and  $CP$ -even Higgs components. Upper limits on the  $CP$ -odd Higgs admixture parameter are obtained.

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