



Contribution ID: 63

Type: **not specified**

Study of Electroweak Phase Transition in Exotic Higgs Decays at the CEPC

Monday, 18 July 2022 20:40 (20 minutes)

A strong first-order electroweak phase transition (SFOEWPT) is expected within BSM scenarios and can be induced by light new particles weakly coupled to the Higgs. At the future Circular Electron Positron Collider (CEPC), 1 million events of Higgs boson associated with a Z boson will be collected in a very clean environment and the sensitivity to probe the SFOEWPT for new scalar masses can be down to ~ 10 GeV. In this poster we will present the search for exotic decays of the Higgs bosons into a pair of spin-zero particles using the simulated e^+e^- collision data with a luminosity of 5000/fb at $\sqrt{s} = 240$ GeV. The expected sensitivity is significantly better than that can be achieved at the HL-LHC.

In-person or Virtual?

In-person

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Session Classification: Poster Session