

Global fits of SUSY at future Higgs factories

I will discuss results from [2203.04828], in which we explore the potential impact of electroweak and Higgs precision measurements at future electron-positron colliders, including the CEPC, on several typical supersymmetric models, including the Constrained Minimal Supersymmetric Standard Model (CMSSM), Non-Universal Higgs Mass generalisations (NUHM1, NUHM2), and the 7-dimensional Minimal Supersymmetric Standard Model (MSSM7). The impact was quantified by post-processing previous SUSY global fits with additional likelihoods from possible measurements at the CEPC, the Future Circular Collider (FCC) and the International Linear Collider (ILC). I will show that the currently allowed parameter space of these models will be further tested by future precision measurements. In particular, dark matter annihilation mechanisms may be distinguished by precise measurements of Higgs observables.

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Session Classification: BSM

Track Classification: Physics: 10: Physics beyond the SM