

Indirect Studies of Electroweakly Interacting Particles at 100 TeV Hadron Colliders

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There are many models beyond the standard model which include electroweakly interacting massive particles (EWIMPs), often in the context of the dark matter. We study the indirect search of EWIMPs using a precise measurement of the lepton pair production cross sections at future 100 TeV hadron colliders. It is revealed that this search strategy is suitable in particular for Higgsino and that the Higgsino mass up to about 850 GeV will be covered at 5 sigma level irrespective of the chargino and neutralino mass difference. We also show that the property of the observed signal, in particular its weak charges and mass, can be independently read off by using both the neutral and charged current processes.

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