

Perspectives of monojet searches at the LHC on supersymmetric Dark Matter

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The impact of the current searches at the LHC for monojets is compared to the current limits from direct searches for dark matter (DM) in the framework of the NMSSM. The DM annihilation cross section is ten orders of magnitude larger than limits on the scattering cross section. This can be explained, if the interactions are predominantly due to Higgs exchange, since the Higgs boson couples only weakly to the light quarks inside nuclei. The LHC limits cannot be visualized by a single exclusion contour in the usual cross section versus LSP mass plot in Supersymmetry, but the excluded points scatter, sometimes even below the neutrino floor from the diffuse neutrino background, a region hard to investigate by direct searches.

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