

Halo-independent bounds of WIMP-nucleon couplings from direct detection and neutrino observations in non-relativistic effective theory

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I will discuss the halo-independent bounds on the WIMP-nucleon couplings of the non-relativistic effective Hamiltonian that drives the scattering process off nuclei of a WIMP of spin 1/2. For most of the couplings the degree of relaxation of the halo-independent bounds compared to those obtained with the Standard Halo Model is relatively moderate in the low and high WIMP mass regimes while in the intermediate mass range it can be large. An exception with moderate bounds at all WIMP masses is observed in the case of several WIMP-proton couplings that depend on the nuclear spin and on the WIMP incoming velocity.

Secondary category for the parallel session (optional)

Dark Matter Physics

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