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Dark Matter Search Results of the PICO experiment in the Effective Field Theory Context

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Dark matter direct detection experiments have been traditionally reporting their results in terms of limits on the spin-independent and spin-dependent cross sections. However, these two types of interactions are only a subset of possible interactions between WIMPs and nucleons. The full set of couplings can be derived in the effective field theory (EFT) framework. In this approach "new" interactions depend on nuclear properties such as the orbital angular momentum and spin-orbit interactions. The focal point of the talk will be the interpretation of limits set by the PICO experiment in this theoretical context and the complementarity of different dark matter experiments.

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