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Determinations of Properties of Low-Mass WIMPs from Direct Dark Matter Detection Experiments with Non-negligible Threshold Energy

Thursday 10 August 2017 15:00 (15 minutes)

In this talk, we discuss the effects of a non-negligible threshold energy on our model-independent methods developed for reconstructing WIMP properties by using measured recoil energies in direct Dark Matter detection experiments directly. Our expressions for reconstructing the mass and the (ratios between the) spin-independent and the spin-dependent WIMP-nucleon couplings have been modified. We will focus on low-mass ($m_{\chi} < \sim 50$ GeV) WIMPs and present some (preliminary) numerical results obtained by Monte-Carlo simulations.

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