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Updated Dark Matter Search Results from the PICO-60 Bubble Chamber

Tuesday, July 24, 2018 11:50 AM (25 minutes)

The PICO-60 experiment, located in the SNOLAB underground laboratory, is the largest bubble chamber operated to date by the PICO collaboration, filled with 52 kg of superheated C_3F_8. Initial dark matter search results were reported in 2017 based on operation at a 3.3 keV threshold. I will report new dark matter search results from increased exposure and lowered operational threshold, with improved sensitivity to low-mass WIMPs. I will also report on a new analysis of neutron calibration experiments performed by the PICO collaboration using neutron beams and low-energy (γ,n) sources, resulting in an improved measurement of the energy dependence of the nuclear recoil detection efficiency.

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