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Search for Coherent Elastic Scattering of Solar ^{8}B Neutrinos in the XENON1T Dark Matter Experiment

The XENON collaboration recently published results searching for nuclear recoils produced by solar ^{8}B neutrinos in the XENON1T dark matter experiment. By lowering the energy threshold from 2.6 keV to 1.6 keV through a variety of novel analysis techniques, this result achieves unprecedented sensitivity to the coherent elastic scattering of solar neutrinos off xenon nuclei, an indistinguishable background of growing importance in direct dark matter searches. This talk will summarize this analysis, and the resulting constraints on the liquid xenon scintillation response, low-mass dark matter, and non-standard neutrino-quark interactions.

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