

Abstract Submitted
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Nuclear Recoil Calibration of DarkSide-50 ERIN EDKINS, University of Hawaii, Manoa, DARKSIDE COLLABORATION — DarkSide-50 dark matter experiment is a liquid argon time projection chamber (TPC) surrounded by a liquid scintillator active neutron veto, designed for the direct detection of Weakly Interacting Massive Particles (WIMPs). The success of such an experiment is dependent upon a detailed understanding of both the expected signal and backgrounds, achieved using radioactive calibration sources of known energies. Nuclear recoils provide a measurement of both the expected signal and the most dangerous background, as nuclear recoils from neutrons cannot be distinguished from a dark matter signal on an event-by-event basis in the TPC. In this talk, I will present the DS-50 calibration system, and analysis of the results of the calibration of DarkSide-50 to nuclear recoils using radioactive neutron sources. See also the DS-50 presentations by X. Xiang and G. Koh.

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