

Abstract Submitted  
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**Measurements of liquid neon scintillation properties for use in current and future dark matter detectors** HUGH LIPPINCOTT, Yale University, DEAP/CLEAN COLLABORATION — The DEAP/CLEAN program is a series of detectors designed to search for WIMP dark matter and pp solar neutrinos using liquid argon and liquid neon as target materials. The sensitivity of these detectors is limited by the energy threshold and the ability to discriminate between electronic and nuclear recoils in the detector, a discrimination that is possible due to the different scintillation timing signatures of the two classes of events. The energy threshold is set by the scintillation light yield of each target material. I present measurements of discrimination power and scintillation light yields for neon using the microCLEAN detector, a 4 kg prototype detector operating at Yale. In addition, I discuss simulations of a 40 tonne scale detector based on the measured scintillation parameters.

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