

Abstract Submitted  
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**Examination of Scintillation Light in a Liquefied Mixture of Noble Gas and Other Dopants** NICHOLAS KAMP, EZRA LESSER, EMILY CAMRAS, CHRISTINE AIDALA, Univ of Michigan - Ann Arbor — Scintillation light behavior in various liquefied gas mixtures is pertinent to the development of noble gas detectors, which have been used for detecting neutrinos and photons, and are fundamental in searching for dark matter. The University of Michigan has been developing a test procedure to examine scintillation light in a mixture of liquid argon and various dopants, as part of development of a liquid argon scintillating time projection chamber to detect neutrons. We are investigating organic dopants due to the efficient transfer of momentum between neutrons and protons from the nuclei of hydrogen atoms. However, some organic molecules known to dissolve in argon tend to absorb the 128 nm argon scintillation light. The status of our experiments and our conclusions on scintillation light in various liquefied gas mixtures will be presented.

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