

Abstract Submitted
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Functionalization of Polymers with Fluorescent and Neutron Sensitive Groups for Efficient Neutron and Gamma Detection¹ ADAM MAHL, HENOK YEMAM, TYLER REMEDES, JACK STUNTZ, UNSAL KOLDEMIR, ALAN SELLINGER, UWE GREIFE, Colorado School of Mines — This presentation will review the efforts made by an interdisciplinary development project aimed at cost-effective, thermal neutron sensitive, plastic scintillators as part of the communities efforts towards replacing ^3He based detectors. Colorado School of Mines researchers with backgrounds in Physics and Chemistry have worked on the incorporation of ^{10}B in plastics through admixture of various commercial and novel dopants developed at CSM. In addition, new fluorescent dopants have been developed for plastic scintillators in an effort towards better understanding quenching effects and scintillator response to thermal neutrons via pulse shape discrimination methods. Results on transparent samples using fluorescent spectroscopy and gamma/neutron excitation will be presented.

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