

Abstract Submitted  
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**Development of a Position Sensitive Liquid Scintillator Bar-type Detector**<sup>1</sup> ARIELLA ATENCIO, JOLIE CIZEWSKI, DAVID WALTER, Rutgers University, KELLY CHIPPS, MICHAEL FEBBRARO, STEVEN PAIN, Oak Ridge National Laboratory, KARL SMITH, CORY THORNSBERRY, University of Tennessee, Knoxville — The ability to detect neutrons is important for both nuclear reactions and beta decay. Liquid scintillators have the useful property of Pulse Shape Discrimination(PSD), which can be used to separate gamma-ray-induced events when the scintillators are used as neutron detectors. Because of their ability to apply PSD, these liquid scintillators will have many applications in neutron detection, such as a recent experiment conducted at the University of Notre Dame. The liquid scintillators use a xylene based liquid made in-house at Oak Ridge National Laboratory. Naphthalene in the liquid scintillator improves the light output properties of the scintillator. An optimized method for the purification of naphthalene will be discussed as well as the first implementation of an array of these detectors.

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