

Abstract Submitted  
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**Temporally Gated Liquid Scintillator Neutron Detectors<sup>1</sup>** JOHN T. MORRISON<sup>2</sup>, Natl. Research Council, KYLE D. FRISCHE, ISSI Inc., Dayton, OH, W. MELVYN ROQUEMORE, Air Force Research Laboratory, Dayton, OH — Laser based neutron sources are of interest for non-destructive testing of materials and detection of sensitive materials. These sources typically also generate large numbers of secondary x-rays and gammas which can saturate Photo Multiplier Tubes (PMT's) measuring scintillating time of flight detectors if there is not sufficient time for them to recover before the arrival of the neutron signal. Improving the response time of scintillating medium allows for closer placement of the detectors and improved sensitivity. Liquid scintillators have been employed to reduce the decay time of the scintillating medium and temporal gating of the PMT's prevents saturation of the PMT's by the preceding gamma flash. Detector design and results of the detector calibration will be presented.

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