

Abstract Submitted  
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**Compound Array for Transfer Reactions in Nuclear Astrophysics (CATRiNA)**<sup>1</sup> J.F. PERELLO, S. ALMRAZ-CALDERON, B.W. ASHER, K. HANSELMAN, P. BARBER, Florida State University — Deuterated-benzene scintillators have shown promising capabilities for neutron spectroscopy studies without time-of-flight (ToF). At Florida State University (FSU), we are working on the development of the Compound Array for Transfer Reactions in Nuclear Astrophysics (CATRiNA) using an array of 16 deuterated liquid scintillator detectors. The pulse-shape discrimination capabilities of the detectors allow us to distinguish between  $n/\gamma$  interactions. Moreover, the backward-peaked  $nd$  scattering result in a strong correlation between the incident neutron energy and the measured pulse height of the events. CATRiNA is envisioned to measure several reactions relevant for nuclear structure and nuclear astrophysics studies. In this work, we provide preliminary results on the characterization of the detectors using neutrons coming from a  $^{252}\text{Cf}$  source and from a series of in-beam experiments using the  $^7\text{Li}(p,n)$  reaction.

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