

Abstract Submitted
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Characterization of NE-110 Plastic Scintillator as a Cosmic Ray Veto Detector¹ MIKAYLA SEEGER, Drake University, ARTEMIS SPYROU, ANNA SIMON, STEPHEN QUINN, NSCL, Michigan State University, ANNE KYNER, Roanoke College, SUN TEAM — Explosive astrophysical environments cause the nuclear reactions that fuel the synthesis of many isotopes seen in the universe. The reaction rates and cross sections of these reactions involved in stellar nucleosynthesis can be measured with devices like the SuN (Summing NaI(Tl)) detector, a 4π gamma-summing detector recently acquired by the Nuclear Astrophysics group at the National Superconducting Cyclotron Laboratory. The NE-110 plastic scintillator is being developed as cosmic ray veto for SuN when studying (p, γ) and (α , γ) reactions. The present work was focused on characterizing the veto detector using a Cesium Iodide detector and standard gamma ray sources ^{127}Cs , ^{60}Co , and ^{22}Na . The results were compared to GEANT4 simulations developed for this particular experimental setup.

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