

Abstract Submitted  
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**Background estimation of cosmic-ray induced neutrons in Chooz site water veto tank for possible future Ricochet Deployment** JAMES SILVA, Massachusetts Institute of Technology — The Ricochet experiment seeks to measure Coherent (neutral-current) Elastic Neutrino-Nucleus Scattering ( $CE\nu NS$ ) using metallic superconducting and germanium semi-conducting detectors with sub-keV thresholds placed near a neutrino source such as the Chooz Nuclear Reactor Complex. In this poster, we present an estimate of the flux of cosmic-ray induced neutrons, which represent an important background in any ( $CE\nu NS$ ) search, based on reconstructed cosmic ray data from the Chooz Site. We have simulated a possible Ricochet deployment at the Chooz site in GEANT4 focusing on the spallation neutrons generated when cosmic rays interact with the water tank veto that would surround our detector. We further simulate and discuss the effectiveness of various shielding configurations for optimizing the background levels for a future Ricochet deployment.

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