

Abstract Submitted  
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**Characterization of muon and gamma radiations at the PTOLEMY site** SUSANNAH BETTS, Wesleyan University, CHARLES GENTILE, Princeton Plasma Physics Laboratory, CHRIS TULLY, Princeton University, SANDRA ZAPATA, United States Navy, CHRIS TULLY COLLABORATION — PTOLEMY is an experimental project at Princeton Plasma Physics Laboratory designed to determine the present day number density of relic neutrinos through measurement of electrons produced from neutrino capture on tritium. The weak interaction cross section for relic neutrino interactions necessitates high sensitivity measurements that could be influenced by high energy particles, like muons and gamma ray photons, which induce nuclear transitions and secondary electrons. Muons produced from the collision of cosmic rays with atmospheric nuclei are a significant source of background radiation at and below Earth's surface. The muon flux is measured by the coincidence of minimum ionization radiation loss in two plastic scintillator paddles. The spectrum of gamma ray photons is measured using sodium iodide based scintillators. These measurements will provide a characterization of the background and rates at the PTOLEMY site.

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