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Preliminary Results from the AlCap Experiment[1] JOHN QUIRK, Boston University, ALCAP COLLABORATION — Observation of neutrinoless muon-to-electron conversion in the presence of a nucleus would be unambiguous evidence of physics Beyond the Standard Model. Two experiments, COMET at J-PARC and Mu2e at Fermilab, will search for this process in the next few years. These experiments will provide upper-limits on this branching ratio up to 10,000 times better than previously published. COMET/Mu2e developed a joint venture, the AlCap Experiment, to measure particle emission spectra from muonic interactions in a number of materials. As a major source of background hits in COMET/Mu2e detectors, AlCap measured the charged particle and neutron spectra following nuclear capture on the candidate target materials aluminum and titanium. Additionally, COMET/Mu2e are exploring schemes for determining the number of muon stops via AlCaps measurement of the photon spectra following both atomic and nuclear capture. In late 2015, AlCap collected data in its third run at the Paul Scherrer Institut in Switzerland. Preliminary results will be presented of the proton emission spectrum.

[1]DOE

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