

Abstract Submitted
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Design and Testing of a Cosmic Ray Muon Detector HANA WEINSTEIN, Kennesaw State Univ — The Society of Physics Students at Kennesaw State University is working on designing portable cosmic ray muon detectors. The detectors consist of a series of small parallel-plate capacitors which operate at low voltage to detect ionization currents in ambient air, in order to be robust enough for a variety of outdoor muography applications. The detectors have been tested in the laboratory and are able to observe the direct ionization currents from 0.9 microcurie alpha and beta sources without any additional amplification. In addition to laboratory testing the detectors have been simulated in GEANT4 to ensure a better understanding of the signal and help increase the sensitivity. Amplification and noise reduction are also being added to the detector to increase its sensitivity to be able to observe cosmic ray muons. This presentation will highlight the design, testing and results of the development of the detector.

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