

Abstract Submitted  
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**Multi-Wire Proportional Chamber Demonstration** MICHAEL REYNOLDS, Kennesaw State Univ — The Society of Physics Students (SPS) at Kennesaw State University is building a series of Multi-Wire Proportional Chambers as a tool to detect cosmic ray muons, measure muon flux, and do muon tomography. We will stack four chambers perpendicular to each other allowing us to calculate muon trajectory for the purposes of muography, which is our intended final goal. Chamber construction is simple and efficient, consisting of a wire array between two cathode planes. The wire array is under high voltage while the cathodes are grounded to create a potential gap inside the chamber. The array has alternating field-shaping and anode wires serving to further isolate the anode wires from each other for better resolution. In order for the multi-wire chamber to function properly, the anode wires must be at a high DC voltage. Current passes through the amplifier and then the circuit passes the detection of the muon on to the data collection system. The SPS is designing and building these detectors from the ground up using existing literature as reference. The goal is to develop stable hands-free devices and electronics that can detect exactly which wire muons passed through and send the information to a data collection system.

Michael Reynolds  
Kennesaw State Univ

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