

Abstract Submitted  
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**Signal Detection Electronics for a Multi-Wire Proportional Chamber** JACOB BARRON, Kennesaw State Univ — The Society of Physics Students (SPS) at Kennesaw State University is building a Multi-Wire Proportional Chamber (MWPC) as a tool to detect cosmic ray muons, measure muon flux, and do muon tomography. In order for the multi-wire chamber to function properly, the anode wires must be at a high DC voltage. To detect the output signal with an amplifier a capacitor is used to uncouple the high dc voltage from the rest of the circuitry so the high voltage will not damage the electronics and that current can only pass through in conjunction with a muon passing through. Current passes through the amplifier and then the circuit passes the detection of the muon on to the data collection system. The main purpose of the amplifier is to magnify the current received to levels common electronics can detect and record. 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.

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