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The production and Testing of High Voltage Cables for Resistive Plate Chambers in the PHENIX Detector ETHAN ALLEN — The Pioneering High Energy Nuclear Interaction eXperiment (PHENIX) is located on the Relativistic Heavy Ion Collider (RHIC) ring at Brookhaven National Laboratory. One of the primary goals of PHENIX is to study the spin structure of the proton. The creation of a fast muon trigger will allow scientists to measure high momentum muons at forward rapidity to sample the rare leptons from W decay at the highest luminosities. To achieve this, Resistive Plate Chambers (RPCs) and new front-end electronics will be installed to select the high P_T muons from the low P_T muon background. This upgrade will enhance our ability to collect and analyze muons that decay from W-bosons produced in polarized proton-proton collisions at $\sqrt{s}$ = 500 GeV. This poster will focus on the production and testing of high voltage cables for RPC modules. The HV cables are used to distribute high voltage to create a potential difference between two resistive plates in order to amplify the ionization electrons after a charged particle passes through the gaps. The RPCs require 10 kV for efficient operation, which is much higher than in most applications. Over 200 cables are required to complete this upgrade.

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