

Abstract Submitted
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Measuring Rate Capability of a Bakelite-Trigger RPC Coated with Linseed Oil LEAH GOLDBERG, Illinois Wesleyan University, PHENIX COLLABORATION — The PHENIX experiment at the Relativistic Heavy Ion Collider at Brookhaven National Laboratory intends to study proton spin structure through the detection of high p_T muons produced from W-Boson decay. Such measurements will require an upgrade of the first level muon trigger using Resistive Plate Chambers (RPCs). RPCs are gas detectors in which high voltage is applied across two resistive electrodes (bakelite plates) spaced 2 mm apart. The resistivity of the electrodes and possible coatings on the surface of the electrodes determine the rate capability of RPCs. We tested the performance of a double gap RPC in avalanche mode under gamma radiation from an Fe55 source. In this paper we present the rate capability of a bakelite RPC with a coating of linseed oil applied to the bakelite electrode surfaces.

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