

Abstract Submitted
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A Systematic Study of RPC Spacer Bond Strength for PHENIX

JOSEPH KISH, Abilene Christian University, PHENIX COLLABORATION — The Pioneering High Energy Nuclear Interaction eXperiment at Brookhaven National Laboratory is currently undergoing a forward muon trigger upgrade by incorporating large Resistive Plate Chamber tracking stations. The upgrade will make it possible to determine the spin contributions of sea and valence quarks to the spin of the proton. Many aspects of the PHENIX RPC design were borrowed from the Compact Muon Solenoid experiment at CERN. Unfortunately, approximately 5% of CMS gas gaps had gas leaks or failed spacer integrity testing. In order to address the problem of spacer failure, a systematic study of spacer-epoxy-Bakelite bond strength was conducted. Several tests were performed in order to determine the relationship, if any, between various surface treatments, curing temperature, spacer geometry and bond strength. The methods, results and improvements will be discussed.

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