

Abstract Submitted
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RPC Detector Research and Development for PHENIX AUSTIN BASYE, Abilene Christian University, PHENIX COLLABORATION — PHENIX, an experiment located on the RHIC ring at Brookhaven National Laboratory, is currently studying heavy ion collisions and polarized proton-proton collisions. To increase the effectiveness of the existing detector systems, Resistive Plate Chambers (RPCs) have been proposed for a level 1 trigger upgrade for the Muon Spectrometer Arms. These RPCs will improve W boson reconstructions from single high Pt muons by rejecting a large low Pt muon event background. This background will become larger as RHIC begins 500 GeV proton-proton collisions at higher luminosities. RPCs are currently being installed at all the major experiments at LHC, and it is from CMS, principally, that we have patterned the bulk of our design proposals. Based upon simulations, significant progress has been made to model signal pad layout, the mechanical structure and acceptance, and overcome design obstacles related to read-out and gas gap design.

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