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Recent Performance of the PHENIX Forward Trigger Upgrade

MICHAEL DAUGHERITY, Abilene Christian University, PHENIX COLLABORATION — The Relativistic Heavy Ion Collider (RHIC) at Brookhaven National Laboratory is the world's only polarized proton-proton collider, and significant 500 GeV collision data taken over the past few years are enabling an exciting new W-boson physics program. Since W production is very sensitive to the spin-dependent sea-quark distributions, these measurements will provide new insight into the flavor separated spin structure of the proton. To take full advantage of this program, the PHENIX detector has undergone an extensive upgrade to significantly improve triggering on high-momentum muons produced by W decay at forward rapidity. The upgrade consists of new front-end electronics for the existing muon tracking chambers as well as new resistive plate chambers (RPCs) at two stations in each muon arm. The RPCs are based on a design established by CMS to provide a fast and efficient trigger over a very large area. The PHENIX Forward Upgrade Working Group was able to install and commission the final RPC stations for RHIC Run 12. This talk will review the current status and performance of the RPCs including the first data taken by the complete forward muon trigger.

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