

Abstract Submitted
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Time of Flight System for the PHENIX high-pt Detector Upgrade HUGO VALLE, Vanderbilt University, PHENIX COLLABORATION — The PHENIX experiment has observed enhanced proton/pion ratios in central Au+Au collisions as compared to the expectation from parton fragmentation. The measurements have been done using the scintillator based Time-of-Flight (TOF) detector in the PHENIX East arm, which allowed π/K and K/p separation up to $p_t = 2.5$ and 4 GeV/c respectively. Particle identification (PID) to higher p_t (> 8 GeV/c) is needed to better characterize the hadron production mechanism at intermediate and high- p_t and differentiate between competing theoretical descriptions. The PHENIX detector is being upgraded with a high- p_t PID system. A cost-effective TOF system based on Multi-gap Resistive Plate chambers (MRPC) is being implemented as part of this upgrade. The MRPC-TOF will provide high-resolution timing measurement in the PHENIX West arm. It will supplement the PID provided by the Aerogel and Ring Imaging Cerenkov Counters, and the goal is to provide seamless particle identification in the range $0.2 < p_T < 9$ GeV/c. Three different prototypes were installed and operated during RUN5 of RHIC. The details on the MRPC design, the electronics chain and the first results obtained in $\sqrt{s_{NN}}=200$ GeV Cu+Cu collisions will be presented.

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