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The Muon Tracker Front End Electronics for the PHENIX Muon Trigger Upgrade[1] DAVID BROXMEYER, Muhlenberg College, PHENIX COLLABORATION — The RHIC spin program at Brookhaven National Laboratory is designed to determine the spin of the constituents of the nucleon by using the collision of polarized protons. An elegant technique for determining the angular momentum of different flavors of quarks and anti-quarks is to use the parity violating decay of W bosons into high transverse momentum muons. PHENIX is engaged in an upgrade to its muon trigger to help select events that contain these high transverse momentum muons. This upgrade consists of four new stations of Resistive Plate Chambers (RPCs) and an upgrade to the front end electronics of the existing muon tracking system. A portion of the signal from the muon tracker will now be split off for use in the new trigger. The current electronics allow excellent position resolution in the offline analysis, but not very good timing resolution for the trigger. The front end electronics that are fed by the split signal will allow a rough determination of position and excellent timing information. The status of the RPC installation and new front end electronics will be described.

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