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Assembly and Quality Assurance Tests of Gas Gaps for the PHENIX Muon Trigger Upgrade DAVID BROXMEYER, Muhlenberg College, PHENIX COLLABORATION — The RHIC "spin" program investigates the spin of a proton by looking at collisions between polarized protons. W bosons are sometimes created in these collisions. The parity violating decay of W bosons can be used to identify the underlying quark-quark and quark-antiquark interaction. The PHENIX muon trigger upgrade will utilize resistive plate chambers (RPCs) to distinguish the muons that decay from W bosons from other muons. The RPCs use 95% Freon 134A, 4.5% isobutene, and 0.5% sulfur hexafluoride (SF_6). In order for these gas gaps to be used, checks are performed on the gaps. The gas gaps must contain no leaks. Approximately 10kV are placed across the 2mm gaps and therefore the gaps require spacers to insure that there is uniform separation between the surfaces. Popped spacer tests are performed to insure that the spacers are properly attached.

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