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Measuring Bremsstrahlung Photons in $\sqrt{s} = 200\mathrm{GeV}$ p-p Collisions

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According to recent pQCD calculations, the bremsstrahlung photon cross-section makes up a significant portion of the total direct photon cross-section in p-p collisions. In heavy ion collisions, modification of the bremsstrahlung photon production can provide information about the evolution of jets as they propagate through the medium. Measuring the cross-section in both p-p and Au-Au collisions will provide an important test of both pQCD predictions and predictions for the nuclear modification factor.

Bremsstrahlung photons can be measured directly by selecting photons associated with a jet through hadron-photon correlations. Most of the photons correlated with jets come from the π^0 and other hadronic decays and must be tagged and subtracted from the inclusive correlations. Using this method we can obtain a measure of the bremsstrahlung photon contribution to investigate medium-induced modifications to the jet fragmentation function. We present studies of this methodology and discuss its potential for application to recent PHENIX data.