

Abstract Submitted  
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**Gamma-Jet Analysis in Heavy Ion Collisions with the STAR Detector** MARTIN CODRINGTON, Texas A&M University, STAR COLLABORATION — One of the most intriguing results from RHIC experiments thus far is the observed suppression of hadrons at high transverse momentum, which is attributed to final state medium-induced energy loss of hard scattered partons. To quantify the energy loss and the response of the medium to the deposited energy and momentum, a probe is needed that has negligible interaction with the medium itself, and thereby can provide a calibration of the momentum scale of the underlying process. One such probe is a prompt photon (i.e. produced from the initial hard-scattering process). Studying correlations of a prompt photon with a jet ( $\gamma$ +Jet) should allow one to study the attenuation and modification of a jet with well-defined energy quantitatively and thus promises to provide a wealth of information about the energy-loss process. There is, however, a large background of photons from the decay of neutral mesons (mainly the  $\pi^0$ ). Ideally, a large fraction of these decay photons are rejected before a correlation study is undertaken. In the STAR experiment, this can be done using the transverse shower profile measured in the Shower Maximum Detector (SMD) of the Barrel Electromagnetic Calorimeter (BEMC). The latest results of this analysis will be presented.

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