Abstract Submitted
for the DNP19 Meeting of
The American Physical Society

Measurement of π^0-Hadron Correlations in Pb-Pb Collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV with ALICE[1] MICHAEL OLIVER, Yale University, ALICE COLLABORATION — In heavy ion collisions at sufficiently high energies, it has been observed that jets (collimated sprays of mostly hadronic particles originating from a quark or gluon) appear to interact with a quark-gluon plasma, losing energy and transferring momentum to the medium. Such jets are typically created back-to-back, an arrangement called a dijet, but are sometimes created opposite a high energy photon, which can pass through a quark-gluon plasma unhindered. Measuring correlations between high momentum neutral pions and associated hadrons allows measurements of the dijet arrangement with high statistical precision and also can be used to calculate a background for measurements of the photon-jet arrangement. In ALICE, we can measure both high energy photons and high momentum π^0's with the Electromagnetic Calorimeter and correlate them with charged hadrons measured with ALICE's Inner Tracking System and Time Projection Chamber. The environment of the heavy ion collision produces unique challenges to such an analysis, particularly for identifying the π^0's and disentangling the component of jet-like correlations from the effects of collective flow. We present progress towards and results from a measurement of π^0-hadron correlations in this collision system.

[1]This material is based upon work supported by the U.S. Department of Energy, Office of Science, Office of Nuclear Physics under Award Number DE-SC004168

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Date submitted: 28 Jun 2019 Electronic form version 1.4