

Abstract Submitted
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Search for Conical Flow in Ultra-Relativistic Heavy-Ion Collisions at RHIC MARK HORNER, Lawrence Berkeley National Laboratory, STAR COLLABORATION — An extremely dense, strongly coupled medium, created in ultra-relativistic heavy-ion collisions at RHIC, is responsible for the suppression of the yield of high p_T particles in central Au+Au collisions with respect to scaled p+p collisions. This suppression has been interpreted as due to the energy loss of hard scattered partons in the dense medium. Since these partons propagate through the created matter much faster than the expected speed of sound in the medium, the resulting disturbances created by the energy deposition may produce in-medium conical flow, similar to a Mach cone. The resulting shock wave may give rise to increased particle production at well-defined angles with respect to the parton direction, which can be experimentally assessed via two-particle correlations. We present STAR results on the measurements of azimuthal correlations of charged hadrons with high p_T trigger particles and study the results as a function of the associated hadron p_T .

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