QM23 Poster Abstract

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Searching for signatures of thermalized jet energy with the STAR experiment at RHIC

In a heavy-ion collision, jets are formed early in the evolution of the collision and traverse through the quark-gluon plasma (QGP). Since the QGP is nearly opaque to color-charged probes, jets will interact with the QGP and lose energy through various quenching processes. The fate of this "lost" energy is an unresolved question whose answer will help inform the description of the medium's transport coefficients. A proposed scenario is that the quenched energy is thermalized into the medium. This would induce a velocity gradient about the jet axis which in turn generates a vortical structure. To observe this possible vortical structure, the polarization of Λ hyperons with respect to the jet axis, which can be determined through its parity violating decay, is measured. This poster will show progresses towards performing this measurement in heavy-ion collisions with the STAR detector.