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A Monte Carlo Investigation of Jet Shape Variables at RHIC Energies HAILEY PARIKH, Rutgers University — Relativistic heavy ion collisions result in the formation of the strongly cou- pled medium known as the quark-gluon plasma (QGP). Jets are a collection of high-momenta particles emitted by hard scattered quarks and gluons (also known as partons) in the early stages of the collision. Jets interact with the QGP as they traverse the medium in a phenomenon known as jet quenching. Observables such as jet mass, jet charge and jet shape, are used to study this phenomenon. In this study, we utilize proton-proton collision events simulated by Pythia Monte Carlo generators as a base study for future data analysis at RHIC energies. We explore the correlation between these jet shape observables for anti-kt jets with a resolution parameter of R=0.4.

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