

Abstract Submitted
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Jet-Track Correlation Analysis of Monte Carlo Simulated Data for the CMS Experiment WILLIAM TABB, OLGA EVDOKIMOV, Univ of Illinois - Chicago — Collisions of ultra-relativistic heavy ion beams delivered at the Large Hadron Collider (LHC) and the Relativistic Heavy Ion Collider (RHIC) are used to study the properties of a special form of nuclear matter, termed Quark Gluon Plasma (QGP). Among the experimental tools actively employed to explore the QGP properties, are jets – collimated streams of particles produced from hard-scattered partons in the initial state of the collision. The hot and dense medium produced in heavy ion collisions interacts strongly with the partons traversing it, resulting in energy loss and modifications to the momentum distributions of the forming jets. A development of the jet-track correlation analysis was performed and tested with Monte Carlo (MC) data samples simulating jet data for the CMS experiment at LHC, allowing study of several jet-related properties in order to better understand the medium effects on penetrating probes.

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