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Typ: Talk

Measurements of Baryon-to-Meson Ratios in Jets in Au+Au and p+p Collisions at $\sqrt{s_{NN}} = 200$ GeV by STAR

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Measurements at RHIC and the LHC show strongly enhanced baryon-to-meson yield ratios at intermediate transverse momenta (p_T) in high-energy nuclear collisions compared to $p+p$ baseline. This enhancement is attributed to the following QGP effects: strong hydrodynamic flow and parton recombination. Jet probes have been used extensively to gain insights into QGP properties, with substantial modifications to jet yields and internal structures seen across multiple measurements. Despite apparent medium-induced changes to jet fragmentation patterns, LHC results indicate that in-jet particle production is significantly different from that of the QGP bulk. To explore this behavior at RHIC, we employ particle identification through time of flight and dE/dx information alongside jet-track correlations to measure in-jet particle production for $p_T < 5.0$ GeV/c. We present the first in-cone baryon-to-meson yield ratios associated with fully reconstructed jets from 200 GeV Au+Au and $p+p$ collisions using the STAR detector at RHIC.

Experiment/Theory

STAR

Affiliation

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Sitzung Einordnung: Parallel: Jets and their modification in QCD Matter

Track Klassifizierung: Jets and their modification in QCD matter