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Measurements of jet quenching via hadron+jet correlations in Pb-Pb and high-particle multiplicity pp collisions with ALICE

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Interactions of high- p_T partons with quark-gluon plasma (QGP) result in jet quenching, which is manifest by the suppression of high- p_T jet yields and the modification of jet substructure and di-jet acoplanarity distributions. Several jet quenching phenomena can be measured precisely over a wide range of jet p_T using semi-inclusive distributions of charged jets recoiling from a high- p_T trigger hadron, which incorporate data-driven suppression of the large uncorrelated background produced in heavy-ion collisions.

In this talk we report semi-inclusive measurements of hadron-jet acoplanarity in Pb-Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV and high-particle multiplicity pp collisions at $\sqrt{s} = 13$ TeV. In the Pb-Pb system, where QGP formation is established, narrowing of the acoplanarity is observed relative to a reference distribution from pp collisions. In contrast, pp events with high-particle multiplicity exhibit a broadening of the acoplanarity relative minimum bias events. In this case, however, qualitatively similar features are also seen in pp collisions generated by the PYTHIA 8, which does not include jet quenching or other QGP effects. We will discuss the current status of these analyses, and prospects to understand the origin of these striking phenomena.

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