

喷注物理实验综述

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The energy loss of jets (jet quenching) is one of the most important signatures of the deconfined state of quarks and gluons (Quark-Gluon Plasma) created in Pb–Pb collisions at the LHC. The measurement of jets recoiling from a trigger hadron uniquely enables the exploration of medium-induced modification of jet production. Jet deflection via multiple soft scatterings with the medium constituents may result in a broadening of the overall azimuthal correlation between the trigger hadron and the recoiling jet. In addition, the tail of this azimuthal correlation is sensitive to single-hard Molière scatterings off quasi-particles in the medium. The overall yield and R -dependence of the recoil jets of also offers important information about jet energy loss and intra-jet broadening.

This contribution presents a measurement of charged jets recoiling from a trigger hadron in pp and Pb–Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02$ TeV. Techniques are employed which allow for a precise data-driven subtraction of the large uncorrelated background contaminating the measurement in Pb–Pb collisions, enabling the exploration of medium-induced modification of jet production and acoplanarity over a wide phase space, including the low jet p_{T} region for large jet resolution parameter R .

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