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Measurements of jet fragmentation and the angular distributions of charged particles within and around jets in pp and Pb+Pb with ATLAS

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Highly energetic jets produced in ultra-relativistic nuclear collisions are considered to be direct probes to study the properties of the hot and dense QCD matter created in these collisions. The measurement of the fragmentation functions of jets into charged particles in Pb+Pb collisions is sensitive to the strength and mechanism of jet quenching. In this talk, we present the latest measurement of the internal structure of jets and the angular distributions of charged particles within and around jets performed with the ATLAS detector. Fragmentation functions in Pb+Pb collisions and distributions of the transverse momentum of charged particles are compared to the same quantities measured in pp collisions at the same collision energy. Measurements are presented as a function of collision centrality, jet transverse momentum, and jet rapidity at $\sqrt{s_{\mathrm{NN}}}$ of 2.76 and 5.02 TeV. Furthermore, a new measurement of the angular distributions of charged-particles with respect to jet axis extended to distances outside the jet radius of $R = 0.4$ is presented.

Content type

Experiment

Collaboration

ATLAS

Centralised submission by Collaboration

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