

Investigating jet modification in heavy-ion collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ and $2.76 \mathrm{TeV}$ with ALICE

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The LHC heavy-ion physics programme aims at investigating the fundamental properties of nuclear matter under extreme conditions of energy density and temperature, where a transition to a Quark-Gluon Plasma (QGP) is expected. Jets, the sprays of hadrons resulting from the fragmentation of high-energy partons, are one of the most powerful probes for QGP transport properties, due to the substantial energy loss of partons while traversing the medium. The modification of jets is confirmed by several experimental observables, such as yield, fragmentation pattern and structure of jets.

In this presentation, charged jet nuclear modification factors at $\sqrt{s_{\mathrm{NN}}} = 5.02 \mathrm{TeV}$ with different jet resolution from 0.2 to 0.4, which are measured down to few ten GeV/c thanks to optimal tracking capabilities of ALICE detector at low momentum, are compared to that at $2.76 \mathrm{TeV}$. These results will be discussed with the recent results of jet measurements in pp, p-Pb and Pb-Pb collisions for the comprehensive understanding of jet modification at LHC.

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