Contribution ID: **118** Type: **Poster**

Parton splitting scales of reclustered large-radius jets in high-energy nuclear collisions

Tuesday 25 April 2023 17:40 (20 minutes)

We carry out the first theoretical investigation on yields and the hardest parton splitting of large-radius jets reclustered from small radius ($R = 0.2$) anti-k_t jets in Pb+Pb collisions, and confront them with the recent ATLAS measurements.
The Linear Boltzmann Transport (LBT) model is employed for jet propagation and jet-induced medium excitation in the hot-dense medium. We demonstrate that, the large-radius jet production as a function of the splitting scale $\sqrt{d_{12}}$ of the hardest parton splitting is overall suppressed in Pb+Pb relative to p+p collisions due to the reduction of jets yields. A detailed analyses show that the alterations of jet substructures in Pb+Pb also make significant contribution to the splitting scale $\sqrt{d_{12}}$ dependence of the nuclear modification factor R_{AA}. Numerical results for the medium modifications of the jet splitting angle ΔR_{12} and the splitting fraction z are also presented.

Theory / experiment

Theory

Group or collaboration name

Primary author: Dr ZHANG, Shan-Liang (Central China Normal University)

Co-authors: ZHANG, Ben-Wei (Central China Normal University); YANG, Mengquan (Central China Normal University)

Presenter: YANG, Mengquan (Central China Normal University)

Session Classification: Poster Session

Track Classification: Jets and medium response