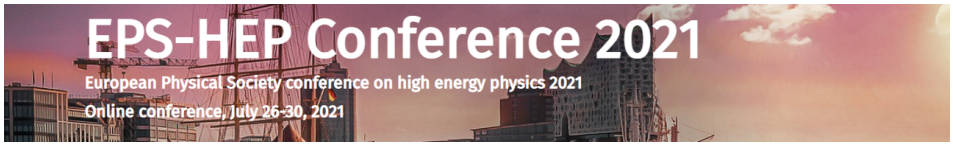

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Jet substructure measurements in heavy-ion collisions with ALICE

Monday 26 July 2021 15:00 (15 minutes)

Jet substructure measurements, based on the distribution of constituents within a jet, are able to probe specific regions of QCD radiation phase space for jet showers in vacuum. This powerful capability provides new opportunities to study the dynamics of jet quenching in heavy-ion collisions and to help reveal the microstructure of the quark-gluon plasma. The ALICE experiment is particularly well-suited for jet substructure measurements in heavy-ion collisions, due to its high-precision tracking system and focus on low transverse momentum jets. In this talk, we report several new jet substructure measurements in Pb-Pb collisions at $\sqrt{s_{\rm NN}} = 5.02$ TeV by the ALICE Collaboration. These include the first fully corrected measurements of the groomed jet momentum fraction, z_g, and the groomed jet radius, $\theta_g \equiv R_g/R$, as well as the N-subjettiness distribution and the fragmentation distribution of reclustered subjets. The measurements will be compared to theoretical calculations and provide new constraints on the physics underlying jet quenching.

First author

ALICE CC Chairs

Email

alice-cc-chairs@cern.ch

Collaboration / Activity

ALICE

Primary authors: MULLIGAN, James; COLLABORATION, ALICE

Presenter: MULLIGAN, James

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