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## Substructures of heavy flavor jets in $pp$ and Pb+Pb collisions at $\sqrt{s} = 5.02\text{ TeV}$

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Groomed jet substructure measurements, the momentum splitting fraction  $z_g$  and the groomed jet radius  $R_g$ , for inclusive,  $D^0$ -tagged and  $B^0$ -tagged jets in  $pp$  and central Pb+Pb collisions at  $\sqrt{s} = 5.02\text{ TeV}$  are investigated. Theoretical results for light-quark initiated and gluon initiated jets are provided as references though experimentally indistinguishable for now. Charged jets are constrained in a relative low transverse momentum interval  $15 \leq p_T^{\text{jet ch}} < 30\text{ GeV}/c$  where the QCD emissions are sensitive to mass effects. The mass hierarchy manifests in  $z_g$  distributions in both parton showering and jet quenching indicating steeper splitting functions of heavier partons. The flavour differences induced by Casimir factors do not contribute to  $z_g$  distributions. Balanced splittings are suppressed due to jet quenching effects. The competition between flavor effects and mass effects to emission-angle distributions is directly observed for the first time. In both  $pp$  and Pb+Pb collisions, the mass hierarchy in  $R_g$  of inclusive,  $D^0$ -tagged and  $B^0$ -tagged jets is broken due to contributions from gluon-initiated jets.  $R_g$  shift to more broaden distributions due to medium-induced modifications.

### Experiment/Theory

Theory/Phenomenology

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**Vortragende:** ZHANG, Qing (Central China Normal University); DAI, Wei (China university of Geosciences)

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