Contribution ID: **145** Type: **Poster Presentation**

Studies of large-R jets and their substructure in Pb+Pb and pp collisions with ATLAS

Monday, 4 November 2019 17:40 (20 minutes)

Measurements of the jet substructure in Pb+Pb collisions provide information on the jet quenching in the quark-gluon plasma (QGP) created in these collisions, over a wide range of energy scales. This poster presents ATLAS measurement of the suppression of yields of large-radius jets and its dependence on the jet substructure, characterized by the presence of sub-jets and their angular correlations. This measurement is performed using the large Pb+Pb data sample at the center-of-mass energy of 5.02 TeV recorded in 2018 and compared to the result from pp collisions at the same collision energy. Studies of the suppression of inclusive yields of large-R jets probe the angular redistribution of energy in the parton shower and medium response when compared to existing measurements of suppression of smaller jets. Further, this measurement might provide new information about the scales at which jet constituents lose energy coherently or as independent color charges.

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Session Classification: Poster Session

Track Classification: Jet modifications and medium response