

Abstract Submitted
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Measurement of the suppression of large-radius jets and its dependence on substructure in Pb+Pb and pp collisions with ATLAS¹
WENKAI ZOU, Columbia Univ, ATLAS COLLABORATION — Measurements of the jet substructure in Pb+Pb collisions provide insight into the mechanism of jet quenching in the hot and dense QCD medium created in these collisions, over a wide range of energy scales. This talk presents the ATLAS measurement of the suppression of yields of $R = 0.2$ small-radius jets and re-clustered $R = 1.0$ large-radius jets. The yield suppression measurement based on the large-radius jets is performed with dependence on the jet substructure, characterized by the angular correlation and splitting scale of their sub-jets produced in the earliest splitting. This measurement utilizes the large Pb+Pb data sample at the center-of-mass energy of 5.02 TeV recorded in 2018 and is compared to the result from 2017 pp collisions at the same collision energy. This study of the suppression of yields of small- R jets and re-clustered large- R jets brings new information about the interaction of the parton shower with the medium and tests the sensitivity of the jet quenching to the color coherence effects.

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