Inclusive Jet Measurements in Pb-Pb Collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV with ALICE using Machine Learning Techniques[1] HANNAH BOSSI, Yale University, ALICE COLLABORATION — Jets in relativistic heavy-ion collisions interact with the Quark-Gluon Plasma, leading to effects such as a suppression of jet yields and modification of internal jet structure that are used to measure the properties of the QGP. Measurements of the jet spectra and jet yield suppression will be presented for inclusive charged-particle jets and inclusive full jets (containing both charged and neutral particles) in Pb–Pb and pp collisions at $\sqrt{s_{\mathrm{NN}}} = 5.02$ TeV recorded with the ALICE detector. These measurements use a machine learning based background correction that has been shown to reduce residual fluctuations. Reduced fluctuations may allow for measurements at lower transverse momenta and larger jet radii (R) than before with ALICE. In this method, machine learning techniques are used to correct the jet transverse momentum using jet parameters, such as information about the constituents of the jet. Studies that investigate and estimate the fragmentation bias of this machine learning approach will also be presented. The R-dependence of the jet yield suppression will be shown and compared to models. These data could help disentangle competing mechanisms of jet energy loss and recovery of that energy due to the response of the medium.

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