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## New results on the parton mass and color-charge dependence of jet quenching with ATLAS

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The suppression of jets in heavy-ion collisions provides a powerful method to probe the dynamics of the hot, dense plasma formed in these collisions at the LHC.

Jet quenching in heavy-ion collisions is expected to depend on the mass of the fragmenting parton as well as its QCD color charge.

For light quarks and gluons, energy loss via gluon bremsstrahlung, which is sensitive to the QCD color factor, is expected to dominate. In the case of heavy-quark-initiated jets, the radiative energy loss is expected to be suppressed by the dead cone effect and collisional energy loss may play a more important role.

In this talk, we report two new measurements by the ATLAS detector at the LHC in 5.02 TeV Pb+Pb collisions. First, we present a measurement of photon-tagged jets which exploits the known difference in the fraction of quark-/gluon-initiated jets with and without the photon tag. Second, we present a measurement of  $b$ -tagged jets, identified through the semileptonic decays of  $B$ -hadrons into muons.

The RAA values for photon-tagged jets and  $b$ -jets are compared to those for inclusive jets, allowing for the extraction of the color charge and mass dependence of parton energy loss. The results are compared to a variety of theoretical calculations.

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