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Mesurement of Heavy flavored jet modification and heavy flavor jet tagging in CMS

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The energy loss of jets in heavy-ion collisions is expected to depend on the flavor of the fragmenting parton. Thus, measurements of jet quenching as a function of flavor place powerful constraints on the thermodynamical and transport properties of the hot and dense medium. Measurements of the nuclear modification factors of the heavy-flavor-tagged jets (both from charm and bottom quarks) in both PbPb and pPb collisions can quantify such energy loss effects. Specifically, pPb measurements provide crucial insights into the behavior of the cold nuclear matter effect, which is required to fully understand the hot and dense medium effects on jets in PbPb collisions. In this talk, we present the b-jet spectra and measurements of the nuclear modification factors in both PbPb and pPb as a function of transverse momentum and pseudorapidity, using the high statistics pp, pPb and PbPb data taken in 2011 and 2013. Finally, we also will present a proposal for c-jet tagging methodology to be used for the upcoming high-statistics heavy-ion run in late 2015 at the LHC.

On behalf of collaboration:

CMS

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