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Production and azimuthal anisotropy of muons from heavy flavor decays in small and large systems with ATLAS

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Heavy flavor production and collectivity in A+A collisions provide insight into the energy loss mechanism and transport properties of heavy quarks in the QGP medium. In this talk, ATLAS measurements on nuclear modification factor and v_2 and v_3 flow coefficients of muons from heavy flavor decays in Pb+Pb collisions are presented as a function of muon p_T and centralities. Muons with charm and bottom origins are separated based on the transverse impact parameter with respect to the primary collision vertex. To better understand the origin of collectivity in small systems, azimuthal anisotropy of muons from heavy flavor decays is also measured in p +Pb and pp collisions. A template fit method is used in small system to subtract non-flow contributions using simultaneous fit to low and high charged-particle multiplicity samples. The extracted v_2 coefficients are presented as a function of muon p_T and event charged-particle multiplicity.

Collaboration (if applicable)

ATLAS

Track

Heavy Flavor and Quarkonia

Contribution type

Contributed Talk

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