Contribution ID: **202** Type: **Contributed talk**

Measurement of azimuthal anisotropy at high p_{T} using subevent cumulants in pPb collisions at CMS

Wednesday, 10 July 2024 15:20 (20 minutes)

Measurements at the LHC have provided evidence for collective behavior in high-multiplicity proton-proton (pp) and proton-lead (pPb) collisions through multiparticle correlation techniques. To investigate detailed properties of this collectivity, a comprehensive study of differential Fourier coefficients (v_n) in particle transverse momentum (p_{T}) and event multiplicity is presented in pPb collisions recorded by the CMS experiment at a nucleon-nucleon center-of-mass energy $\sqrt{s_{\mathrm{NN}}} = 8.16$ TeV. In particular, new measurements of p_{T}-differential multiparticle cumulants using the subevent cumulant method in distinct subevent regions are presented. Relative to past CMS measurements, the new study probes an extended phase space region up to a high particle p_{T}, putting the observation of nonzero high-p_{T} v_2 in a small-sized medium into stringent tests.

session

G. Heavy Ion Physics

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Session Classification: G. Heavy Ion Physics