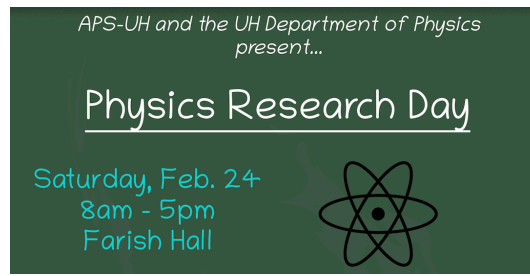


UH Physics Research Day - 2024



Contribution ID: 42

Type: **Talk**

Elliptic flow measurement in Xe-Xe collisions at $\sqrt{s_{NN}}=5.44\text{TeV}$

Tuesday 30 January 2024 14:00 (15 minutes)

In heavy-ion collisions at relativistic energies that Large Hadron Collider (LHC) achieves, a hot and dense medium called quark-gluon plasma (QGP) is created. Intriguingly, the collective motion of produced particles forms an almond shape, that is thought to be the signature of QGP formation. Colliding Xe-Xe nuclei in ALICE experiment at the LHC we can determine the initial state of the collision by measuring the flow parameter v_2 . In this talk, we present how to measure the elliptic flow coefficient v_2 in Xe-Xe collisions using direct calculations from Q-cumulant method. The centrality dependence of v_2 shows that is increasing from ultra central to mid peripheral collisions because of the initial geometry of the system. For higher order multi-particle cumulants $v_2\{m\}$ we observe the suppression of non flow effects, as well as, the fact that the system is driven by flow fluctuations.

Research Advisor

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Academic year

3rd year

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