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Exploring potential jet modification in small collision systems with two particle correlations at PHENIX

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Flow results in small systems at RHIC and the LHC indicate QGP droplets are formed in these collision systems. Measurements of jet R_{pA} on the other hand are consistent with no modification to the jets produced. However, non-zero v_n values for high momentum particles, which in A+A collisions are attributed to path-length dependent energy loss, have been observed in small systems. To further probe possible modification to jet particles, PHENIX measures the relative modification of the near and away-side jet particles in π^0 -hadron correlations in 200 GeV d+Au and 3He+Au collisions. Modifications similar to the high p_T suppression and low momentum enhancement of associated particles observed in A+A collisions have been observed in d+Au collisions. These surprising results have now also been seen in 3He+Au data. These PHENIX measurements and possible interpretations of these intriguing results will be presented.

Collaboration (if applicable)

PHENIX

Track

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