

## Beam energy and collision system dependence of charge separation using the $R(\Delta S)$ correlator

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A charge-sensitive correlator  $R(\Delta S)$  is used to detect and characterize charge separation associated with the Chiral Magnetic Effect (CME) in heavy-ion collisions. The correlator gives a concave-shaped response relative to the second-order event plane,  $\Psi_2$ , and a null response relative to the third-order plane,  $\Psi_3$ , for CME-driven charge separation- [1].

We will present and discuss  $R(\Delta S)$  measurements, relative to  $\Psi_2$  and  $\Psi_3$ , for collisions of Au+Au at  $\sqrt{s_{NN}}=200, 39, 27$  and  $19.6$  GeV, U+U at  $\sqrt{s_{NN}}=193$  GeV, and Cu+Au, Cu+Cu, d+Au and p+Au at  $\sqrt{s_{NN}}=200$  GeV. Measurements for a broad range of transverse momentum, pseudorapidity, and centrality intervals, will be presented and compared to results from the Anomalous Viscous Fluid Dynamics model [2].

[1] N. Magdy, S. Shi, J. Liao, N. Ajitanand, and R. A. Lacey, arXiv:1710.01717

[2] S. Shi, Y. Jiang, E. Lilleskov and J. Liao, arXiv:1711.02496

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