

Abstract Submitted  
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**Charge-asymmetry dependence of kaon elliptic flow in Au+Au collisions at  $\sqrt{s_{NN}} = 27$  GeV from STAR**<sup>1</sup> KEENAN CABRERA, Oregon State University / UCLA, STAR COLLABORATION — Theory predicts that a chiral magnetic wave (CMW) at finite baryon density can induce a charge-asymmetry dependence of elliptic flow ( $v_2$ ) of particles produced in heavy-ion collisions [1]. In the case of pions, STAR has observed that  $v_2(\pi^-) - v_2(\pi^+)$  exhibits a linear dependence on charge asymmetry with a positive slope in Au+Au collisions from 27 to 200 GeV [2]. This is consistent with the CMW picture. At lower collision energies, it was found that the charge-asymmetry integrated  $v_2$  for negative pions is higher while for kaons, the positive charge is favored. Therefore, an observation of the same positive linear dependence of kaon  $v_2$  difference on charge asymmetry will provide a further test on the CMW predictions in heavy-ion collisions. In this work, we will present the status of our kaon elliptic flow measurements as a function of charge asymmetry for Au+Au collisions at  $\sqrt{s_{NN}} = 27$  GeV.

[1] Y. Burnier, D. Kharzeev, J. Liao, and H. Yee, Phys.Rev.Lett. 107 (2011) 052303.

[2] L. Adamczyk et al [STAR Collaboration], Phys.Rev.Lett. 114 (2015) 252302.

[3] L. Adamczyk et al [STAR Collaboration], Phys.Rev.Lett. 110 (2013) 142301.

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