

Abstract Submitted  
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**Non-collective component in  $v_2$  and how to detect it**<sup>1</sup> JINFENG LIAO, LBNL — Current RHIC data on elliptic flow  $v_2$  as a function of  $p_T$  display distinctive patterns at low and high  $p_T$  due to different sources of particle yield: the hydrodynamic collective flow dominating the low  $p_T$  and the non-collective hard processes dominating the high  $p_T$ . The intermediate region where  $v_2$  shows nontrivial structure is yet not well understood. We emphasize the non-collective source which can also contribute to the observed  $v_2$  at low to intermediate  $p_T$ . We further show that the backward-forward elliptic anisotropy correlation provides an experimentally accessible observable which distinguishes between collective and non-collective contributions to the observed  $v_2$ . The measurement of this observable will reveal valuable information on the interpolation pattern at intermediate  $p_T$  between the low- $p_T$  collective flow regime and the high- $p_T$  (semi)-hard processes regime. We also argue that the shift of dominance between the collective and non-collective sources is an alternative explanation to the dropping  $v_2$  at intermediate  $p_T$  which may have important impact on quantifying the shear viscosity from  $v_2$  data. Reference: Jinfeng Liao & Volker Koch, arXiv: 0902.2377.

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