

# Directed flow at forward and backward pseudorapidity in Au+Au collisions at $\sqrt{s_{NN}} = 27$ GeV at STAR

Xiaoyu Liu<sup>1</sup> (For the STAR Collaboration)

<sup>1</sup> The Ohio State University

1 The measurement of pseudorapidity ( $\eta$ ) dependence of directed flow ( $v_1$ ) can  
2 provide unique constraints on the three-dimensional initial conditions, shear  
3 viscosity over entropy density as well as its dependence on temperature and  
4 baryon chemical potential. In 2018, the Event Plane Detector (EPD,  $2.1 <$   
5  $|\eta| < 5.1$ ) was installed in STAR and used for the Beam Energy Scan phase-  
6 II (BES-II) data taking. The combination of EPD and high statistics BES-II  
7 data enables us to extend the  $v_1$  measurement to the forward and backward  
8 pseudorapidity regions. In this talk, we will discuss the techniques for measuring  
9  $v_1$  with a scintillator detector like EPD, present results of  $v_1$  in Au+Au collisions  
10 at  $\sqrt{s_{NN}} = 27$  GeV, and compare the results with the UrQMD model.