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v_n measurement in Au+Au collisions at $\sqrt{s_{NN}} = 27$ GeV with the Event Plane Detector from STAR XIAOYU LIU, the Ohio State University, STAR COLLABORATION COLLABORATION — The measurement of pseudorapidity (η) dependence of v_n at lower collision energies can provide unique constraints on the three-dimensional initial conditions, baryon transport, shear viscosity over entropy density as well as its dependence on temperature and baryon chemical potential. The combination of the Event Plane Detector (EPD, $2.1 < |\eta| < 5.1$) installed in the year 2018, STAR time projection chamber (TPC, $|\eta| < 1$) and high statistics Beam Energy Scan phase-II data enables us to perform precise measurements of $v_n(\eta)$. In this presentation, we will show the directed flow ($v_1(\eta)$) and elliptic flow ($v_2(\eta)$) of charged hadrons measured over ten units of pseudorapidity using $\sqrt{s_{NN}} = 27$ GeV Au+Au data taken in 2018 and the comparisons to hydrodynamic model predictions. We observed a sign change of $v_1(\eta)$ at $\eta = Y_{beam}$ and longitudinal scaling of v_1 with $|\eta| - Y_{beam}$ when compared with earlier measurements from the PHOBOS collaboration. We will also present the transverse momentum (p_T) dependence of v_1 at midrapidity.

Xiaoyu Liu
the Ohio State University

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