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Elliptic flow of light nuclei in Au+Au collisions at $\sqrt{s_{NN}}$ = 27 and 54.4 GeV

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High energy heavy-ion collisions provide an opportunity to study the production mechanism of light (anti)nuclei. There are two main possible models to explain the production mechanism - the thermal model and the coalescence model. The thermal model has been quite successful in explaining the yields of light (anti)nuclei produced in heavy-ion collisions. Thermal model suggests that the light (anti)nuclei are produced from a thermal source, where they are in equilibrium with other species present in the fireball. However, due to the small binding energies, the produced (anti)nuclei are not likely to survive in the high temperature conditions of the fireball. The coalescence model, on the other hand, predicts that light (anti)nuclei can be formed by the final state coalescence of nucleons. Studying the azimuthal anisotropy of light (anti)nuclei and comparing them with that of nucleons, therefore, will give insights into the production mechanism of light (anti)nuclei.

In this poster, we will present the energy and centrality dependence of elliptic flow (v_2) of d, t, and ^3He and their antiparticles in Au+Au collisions at $\sqrt{s_{NN}}$ = 27 and 54.4 GeV. Mass number and number of constituent quarks (NCQ) scalings will also be shown. The $v_2(p_T)$ of light (anti)nuclei will be compared with the coalescence and hydrodynamic models.

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