Directed Flow of Λ, $^{3}_{\Lambda}$H, and $^{4}_{\Lambda}$H in Au+Au collisions at $\sqrt{s_{NN}}$ = 3.2, 3.5, and 3.9 GeV at RHIC

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Studying hyper-nuclei production and their collectivity can shed light on their production mechanism as well as the hyperon-nucleon interactions under finite pressure. This is a unique opportunity for heavy-ion collisions at high baryon density region where hypernuclei production rate increases.

In this poster, we will present v_1 of the hyper-nuclei (Λ, $^{3}_{\Lambda}$H, $^{4}_{\Lambda}$H) from mid-central Au+Au collisions at $\sqrt{s_{NN}}$ = 3.2, 3.5, and 3.9 GeV, collected by the STAR experiment with the fixed-target mode during the second phase of the RHIC beam energy scan program. The rapidity dependence of the hyper-nuclei directed flow (v_1) is studied in mid-central collisions. The extracted v_1 slopes of the hyper-nuclei are positive and decrease gradually as the collision energy increases. The results will be compared with models using the framework of hadronic transport and a coalescence after-burner.