(Anti-)Deuteron directed flow v_1 in Au+Au Collisions at $\sqrt{s_{NN}}$ =14.6, 17.3 and 19.6 GeV from STAR

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Study of light nuclei flow in heavy-ion collisions, that inform on their production mechanism and the underlying collision dynamics, is of particular interest for both theoretical and experimental efforts. From previous measurements by the STAR, there is a hint that the deuteron directed flow v_1 slope shows an opposite sign compared to that of the proton, which is in confilict with the nucleon coalescence picture.

In this poster, we will show new precision measurements of v_1 for deuterons and anti-deuterons in Au+Au collisions at $\sqrt{s_{NN}}$ =14.6, 17.3 and 19.6 GeV by the STAR experiment at RHIC from the Beam Energy Scan Phase - II. The rapidity and transverse momentum dependence of v_1 will be presented and compared with those of protons and anti-protons. These results will also be discussed within the framework of nucleon coalescence.