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Constraining global initial geometry with directed flow

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Hydrodynamic simulations together with models for the fluctuating initial conditions lead to a good description of experimental data on all flow harmonics. To complement these analyses which allow to constrain initial fluctuations, one can use rapidity-odd directed flow to unravel the global initial geometry. We discuss what properties of the tilt of the initial state is necessary to reproduce data on $v_1(y)$ and $v_1(b)$. We argue that skewness (asymmetry in the transverse overlap region) of the initial state is needed to reproduce data on $v_1(pt)$. We conclude by computing tilt and skewness of various initial conditions and showing which are consistent with data on rapidity-odd directed flow.

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