

## **Detector effects and systematic uncertainties in the directed flow measurement with spectator neutrons in ALICE at LHC.**

Directed flow serves as one of the key observable to understand the properties of the hot and dense matter produced in ion-ion collisions. We report on systematics and detector effects study in the directed flow measurement using the reaction plane estimate provided by the sideways deflection of neutral spectators measured with the help of ALICE Zero Degree Calorimeter detectors.

Effects from variation in the beam crossing parameters on the reaction plane resolution are studied via cross correlations between spectator deflection in the plane transverse to the beam direction.

Systematic uncertainties of the measured signal are assessed by comparing results from different flow measurement techniques, such as the scalar product and the event plane methods.

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