## Quark Matter 2023



Contribution ID: 758

Type: Poster

## Probing viscous effects with identified particles in pp, p—Pb and Pb—Pb collisions

Tuesday 5 September 2023 17:30 (2h 10m)

Two-particle transverse momentum correlator  $G_2$  was measured based on data collected from Pb–Pb collisions at  $\sqrt{s_{\rm NN}} = 2.76$  TeV. The evolution of the longitudinal width of the  $G_2$  correlator vs. collision centrality nominally provides information about the specific shear viscosity,  $\eta/s$ , of the medium formed in the collisions. The  $G_2$  correlator was also measured in pp and p–Pb collisions at  $\sqrt{s} = 7$  TeV and  $\sqrt{s_{\rm NN}} = 5.02$  TeV, respectively, to investigate the presence of viscous effects in these smaller systems. No longitudinal broadening was observed. These smaller systems are either too small or too short-lived to manifest viscous effects based on the  $G_2$  observable.

In this contribution, identified charged particles  $G_2$  in pp, p–Pb, and Pb–Pb collisions at the same nucleonnucleon collision energy ( $\sqrt{s_{\text{NN}}} = 5.02$  TeV) in different multiplicity classes measured with the ALICE detector are presented. The results shed light on potential mass-ordering effects and system size dependence, leaving aside collision energy dependent effects.

## Category

Experiment

## **Collaboration (if applicable)**

ALICE

Primary author: BASU, Sumit (Lund University (SE))

Presenter: BASU, Sumit (Lund University (SE))

Session Classification: Poster Session

Track Classification: Collective Dynamics