Contribution ID: **85** Contribution code: **S05-HEP-111** Type: **Oral presentation**

Shaping the quark-gluon plasma using measurements of anisotropic flow in Pb–Pb and Xe–Xe collisions with ALICE

Tuesday, 30 August 2022 14:00 (15 minutes)

Measurements of azimuthal anisotropic flow provide valuable information on the properties of the quark-gluon plasma created in relativistic collisions of heavy ions. In addition, strong fluctuations of the anisotropic flow allow for an efficient selection of the events corresponding to a specific initial geometry. This selection technique, Event Shape Engineering, has been used to measure the elliptic and triangular flow of inclusive and identified particles (π, K, p, K^0_S, Λ, Ξ) in Pb–Pb collisions at $\sqrt{s_\mathrm{NN}} = 5.02$ TeV recorded by the ALICE detector. The measurements are reported for a wide range of particle transverse momenta, p_T, within the pseudorapidity region $|\eta| < 0.8$. The effect of the event-shape selection is within uncertainties independent of particle species up to $p_\mathrm{T} \sim 8$ GeV/c, and the origin of this observation is discussed. Strong constraints on the initial conditions of a collision and hydrodynamic medium response are placed comparing these results to those from Xe–Xe collisions at $\sqrt{s_\mathrm{NN}} = 5.44$ TeV.

Primary authors: RISTEA, Catalin (Institute of Space Science, Bucharest, Romania); FOR THE ALICE COLLABORATION

Presenter: RISTEA, Catalin (Institute of Space Science, Bucharest, Romania)

Session Classification: S05 High Energy Physics (Particles and Fields)

Track Classification: Scientific Sections: S05 High Energy Physics (Particles and Fields)