



Contribution ID: 433

Type: Poster

## Event-by-event fluctuations of mean transverse momentum in Pb–Pb, Xe–Xe and pp collisions with ALICE

Wednesday, 6 April 2022 17:42 (4 minutes)

Event-by-event fluctuations of the mean transverse momentum,  $\langle p_T \rangle$ , of charged particles produced in Pb–Pb and Xe–Xe collisions at  $\sqrt{s_{NN}} = 5.02$  TeV and  $\sqrt{s_{NN}} = 5.44$  TeV, respectively, and pp collisions at  $\sqrt{s} = 5.02$  TeV are studied as a function of the charged-particle multiplicity using the ALICE detector at the LHC. Dynamical fluctuations are observed in all the three collision systems which indicates correlated particle emission. The peripheral A–A data exhibit a similar multiplicity dependence as that observed in pp. The central Pb–Pb and Xe–Xe collisions show a significant reduction of the fluctuation and are in quantitative agreement with previous measurements in Au–Au and Pb–Pb collisions at lower energies. The fluctuation has also been investigated for different transverse sphericity classes in pp collisions to understand the contribution from an underlying event.

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**Session Classification:** Poster Session 1 T07\_2

**Track Classification:** Correlations and fluctuations