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Kaon Isospin Fluctuations in Pb-Pb Collisions at $\sqrt{s_{NN}} = 2.76$ TeV with ALICE at the LHC

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The first measurements of event-by-event correlated fluctuations of neutral and charged kaons are reported in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, which are proposed to be related to isospin fluctuations in the kaon sector. These dynamic fluctuations affect the mechanism of correlated productions of neutral and charged kaons in heavy ion collisions. In this work we have used the robust statistical observable, ν_{dyn} , to study the dynamical fluctuations in strangeness sector using charged and neutral kaons. A statistically significant signal of dynamical fluctuations is observed in the data which is underestimated by HIJING and AMPT model predictions, when moments of neutral and charged kaons are calculated as a function of centrality. We observed that $K_s^0 - K^\pm$ fluctuations is not dominated by the correlation from particle decay like $K^+ - K^-$.

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