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The ridges in pp, pPb and PbPb at CMS

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Long-range near-side dihadron correlations have been extensively studied at RHIC and LHC over the past decade in heavy ion collisions. The ridge revealed the collective behavior of particles produced in such collisions. This behavior mainly comes from hydrodynamic properties of the hot medium created, the so-called Quark and Gluon Plasma. Surprisingly, a few years ago, similar features were discovered in high multiplicity events in a small system such as p-p and p-A. Even if the latter one has already revealed its collective properties, the nature of the ridge in p-p collisions remains unknown. Studying the Ridge in small systems is also a good probe to improve our knowledge of initial conditions and its fluctuations. A deeper look into 7 TeV p-p data using CMS detector allowed us to have a better idea about the possible origin of long-range correlations. Furthermore, in light of 13 TeV p-p data this year, we will provide more constraints on potential hydrodynamic properties in small systems. In this poster, results on long-range near-side dihadron correlations are shown at different energies and for different colliding systems using CMS detector. The potential origin of the Ridge in p-p collisions will be discussed.

On behalf of collaboration:

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