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Measurement of strange particle femtoscopic correlations at the CMS experiment

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Particle correlations have been traditionally employed in the study of the collective phenomena observed in hadronic and heavy ion collisions by using azimuthal distributions, while quantum statistical effects and final-state interactions can be accessed by femtoscopic measurements. Femtoscopic correlations of identified hadrons are measured with data recorded by the CMS experiment at the LHC over a broad multiplicity range and different pair transverse momenta. In this talk, results on the femtoscopic correlations of strange particles (K^0_S, Λ and $\bar{\Lambda}$) are reported for proton-lead (pPb) collisions at $\sqrt{s_{NN}} = 8.16$ TeV and lead-lead (PbPb) collisions at $\sqrt{s_{NN}} = 5.02$ TeV using LHC Run 2 data collected by the CMS experiment. The strong interaction scattering parameters, scattering length and effective range, are extracted using the Lednick\'y-Lyuboshitz model for both pPb and PbPb collisions, and compared with other experimental and theoretical results. The measurements are performed in several multiplicity and centrality bins and as a function of of the pair average momentum.

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