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Recent results on femtoscopic correlations with the CMS experiment

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The study of femtoscopic correlations in high-energy collisions is a powerful tool to investigate the space-time structure of the particle emitting region formed in such collisions, as well as to probe interactions that the involved particles may suffer after being emitted. This talk presents an overview of recent results on the two-particle femtoscopic correlations measurements using charged particles and identified hadrons in pp, pPb, and PbPb collisions at LHC energies. In general, the femtoscopic parameters are obtained assuming a Gaussian or an exponential shape to describe the emitting source distribution. In some cases, however, the generalized Gaussian, i.e., the symmetric alpha-stable Lévy distribution, is favored to describe the source. Some of the measurements allow to extract the parameters of the strong interaction felt by hadrons using their femtoscopic correlations. The studies are performed in a wide range of the pair average transverse momentum (or average transverse mass) and charged particle multiplicities. In addition, prospects for future physics results using the CMS experiment are also discussed.

In-person participation

No

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