

Femtoscopic measurement of proton source in pp collisions at $\sqrt{s} = 900$ GeV with ALICE.

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The study of nucleon pairs momentum correlations can provide input for describing the formation of light nuclei, such as deuterons, through the coalescence of protons and neutrons into bound states. The femtoscopy technique is applied to measure the correlation in momentum among protons emitted after the hadronization phase of a hadronic collision. The spatial properties of the proton-emitting source are extracted, and the measured source size can be used as an input parameter for the coalescence modelling. This contribution shows new results of proton-proton correlations measured in pp collisions at $\sqrt{s} = 900$ GeV, using data collected by the upgraded ALICE experiment during the Run 3 of the LHC. These measurements contribute to the characterization of the proton-emitting source size in small collision systems for different collision energies, providing an insight into the microscopic description of the strong nuclear force and of the physical processes occurring in hadronic collisions.

Alternate track

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