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Collective flow in high-multiplicity proton-proton collisions

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We present an evidence of strong radial flow in high-multiplicity pp collisions. We analyze the CMS data on the inclusive spectra of the charged pions, kaons and protons in the LHC $\sqrt{s} = 7$ TeV collisions. For $\langle N_{tracks} \rangle \geq 75$ we demonstrate the consistency of the hydrodynamic description with the (idealized) Gubser flow. Using a one parameter fit of the model to experimental data, we obtain the initial fireball size to be of the order of 1 fm. At smaller multiplicities, the fit cannot be performed which shows a limitation of the hydrodynamic approach and provides us with falsifiability of our theory.

On behalf of collaboration:

NONE

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