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Effect of Rope hadronisation on Strangness enhancement in pp collisions at the LHC

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The p-p collisions at high multiplicity at LHC show small scale collective effects similar to that observed in heavy ion collisions such as enhanced production of strange and multi-strange hadrons, long range azimuthal correlations, etc. The observation of strangeness enhancement in p-p collisions at 7 TeV and 13 TeV as measured by ALICE experiment is explored using Pythia8 event generator within the framework of microscopic rope hadronization model which assumes the formation of ropes due to overlapping of strings in high multiplicity environment. The spectral shape and its hardening with multiplicity is well described by the model. The mechanism of formation of ropes also described the observed experimental strangeness enhancement for higher multiplicity classes in p-p collisions at 7 TeV and 13 TeV. The enhancement with multiplicity is further investigated by studying the mean pT (< pT >) and the integrated yields (< dN/dy >) of strange and multi-strange hadrons and comparing the predictions to the mea- sured data at LHC for 7 TeV and 13 TeV.

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