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Mean transverse momentum fluctuations with string percolation model at LHC energies

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Initial state effects in Heavy Ion Collisions play an important role in the quark-gluon plasma formation. Moreover, recent experimental studies have shown that these initial state effects become more relevant in small collision systems where the characterization of medium formed is still an open question. We present predictions of the initial state effects on the small collision systems for the mean transverse momentum fluctuations in for pp, pA, OO and pO at LHC energies, as a function of the number of particles produced in the framework of the String Percolation Model Percolation Color Sources and PYTHIA. Where, similarly to nuclei collisions, signatures of a collective medium are observed and strongly suggest quark-gluon plasma formation at small collision systems by observing a change in slope in the region of high multiplicity events.

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