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K0sK0s correlations in 7 TeV proton+proton collisions from the ALICE experiment at the LHC

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Identical neutral kaon pair correlations are measured in 7 TeV proton+proton collisions in the ALICE experiment. Neutral kaons are identified from their decay into π+π- pairs. K0sK0s correlation functions are formed in 4 multiplicity x 4 kT bins. The kaon source parameters Rinv and λ are extracted from these correlation functions by fitting a Gaussian*PYTHIA model to them, the Gaussian describing the Bose effect and PYTHIA accounting for the non-flat baseline found in proton+proton collisions. PYTHIA with the Perugia-0 tune is seen to describe well the dependence of the baseline shape of the K0sK0s correlation function on multiplicity-kT bin in the Qinv fitting range used of 0-1 GeV. Corrections to source parameters from the Lednicky model for the a0/f0 resonance are made and found to be large. K0sK0s correlations show a systematic increase in Rinv for increasing multiplicity bin and decreasing Rinv for increasing kT bin as seen in ππ correlations in the proton+proton system, as well as seen in heavy-ion collisions. Also, K0sK0s correlations are observed to more or less "smoothly"extend this ππ Rinv behavior for the proton+proton system to ˜3 times higher kT than the kT range measured in ππ correlations.

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