Contribution ID: **22** Type: **not specified**

Particle transverse momentum distributions in p-p Collisions at √sNN = 0.9 TeV

Thursday, 14 December 2017 12:00 (15 minutes)

The mid-rapidity transverse momentum spectra of hadrons (p, K+, ks0, lambda, lambda-bar and cascade and the available rapidity distributions of the strange hadrons produced in p-p collisions at LHC energy √sNN = 0.9 TeV have been studied using a Unified Statistical Thermal Freeze-out Model (USTFM). The calculated results are found to be in good agreement with the experimental data.The theoretical fits of the transverse momentum spectra using the model calculations provide the thermal freeze-out conditions in terms of the temperature and collective flow parameters for different hadronic species. The study reveals the presence of a significant collective flow and a well defined temperature in the system thus indicating the formation of a thermally equilibrated hydrodynamic system in p-p collisions at LHC. Moreover, the fits to the available experimental rapidity distributions data of strange hadrons show the effect of almost complete transparency in p-p collisions at LHC.The model incorporates longitudinal as well as a transverse hydrodynamic flow. The contributions from heavier decay resonances have also been taken into account. We have also imposed the criteria of exact strangeness conservation in the system.

Primary authors: Dr BASHIR, Inam ul (Jamia Millia Islamia); Mr PARRA, Rameez Ahmad (Jamia Millia Islamia); Prof. UDDIN, Saeed (Jamia Millia Islamia)

Presenter: Mr PARRA, Rameez Ahmad (Jamia Millia Islamia)

Session Classification: WG5: High Multiplicities