

## Event-by-event mean $p_T$ fluctuations in pp and PbPb collisions measured by the ALICE experiment at the LHC

*Tuesday, May 24, 2011 4:20 PM (20 minutes)*

Non-statistical event-by-event fluctuations of the mean transverse momentum of charged particles in pp and Pb-Pb collisions are studied using the ALICE experiment at the LHC. The analysis is performed at  $|\eta| < 0.8$  and  $0.15 < p_T < 2$ -GeV/c. Multiplicity dependent results are obtained for pp collisions at  $\sqrt{s} \sim 0.9, 2.76$  and 7-TeV. Pb-Pb collisions at  $\sqrt{s_{NN}} \sim 2.76$ -TeV are analysed in intervals of multiplicity and centrality, the latter in bins of 5%.

Little collision energy dependence is observed in pp collisions. The data indicate a common scaling behaviour with event multiplicity from pp to semi-central Pb-Pb collisions. In central Pb-Pb collisions, the results deviate from this trend, exhibiting a significant reduction of the fluctuation strength. The results are compared to measurements in Au-Au collisions at lower collision energies and to Monte Carlo simulations with PYTHIA and HIJING.

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**Session Classification:** Correlations and fluctuations

**Track Classification:** Correlations and fluctuations