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Identified charged pion, kaon, and proton production in pp and Pb-Pb collisions at LHC energies measured with ALICE

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\begin{center}

{\large \bf Identified charged pion, kaon, and proton production in pp and Pb-Pb collisions at LHC energies measured with ALICE}

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ALICE has unique capabilities among the LHC experiments for particle identification (PID) at mid-rapidity ($|y| < 1$) over a wide range of transverse momentum (p_{T}). For p_{T} from 100 MeV/c up to 3-4 GeV/c (anti)protons, charged pions and kaons can be separated on a track-by-track basis through the measurement of the specific energy loss, dE/dx, and the time of flight. The identification of protons can be extended up to 6 GeV/c by the Cherenkov detector. For $3 < p_{\text{T}} < 20$~GeV/c, statistical PID can be done thanks to the relativistic rise of the dE/dx in the TPC. In this talk, the spectra for charged pions, kaons, and (anti)protons from pp (at $\sqrt{s} = 2.76$ and 7 TeV) and Pb-Pb (at $\sqrt{s_{\text{NN}}} = 2.76$ TeV) collisions will be presented.

The results from pp collisions are important both as a baseline for Pb-Pb measurements and for our understanding of the hadronization process with a focus here on jet fragmentation. \\ Low p_{T} results in Pb-Pb collisions provide information regarding bulk production and collective flow, and will be discussed in the context of the statistical model and hydrodynamic calculations. The intermediate p_{T} region is interesting due to the anomalous large peak in the proton to pion ratio that can be an indication for new hadronization processes in Pb-Pb such as recombination. Finally, high p_{T} results provide insight into jet quenching via the nuclear modification factor, R_{AA}.

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