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Identified particle production in $\sqrt{s_{NN}}=2.76$ TeV pp and Pb-Pb collisions with ALICE at the LHC

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ALICE has unique capabilities among the LHC experiments for particle identification (PID) at mid-rapidity over a wide range of transverse momentum (p_T). For p_T between ~ 100 MeV/ c up to 3-4 GeV/ c (anti)protons, charged pions and kaons can be separated through the measurement of the specific energy loss (dE/dx) in gas (silicon) with TPC (ITS) and time of flight (TOF). The identification can be extended to higher p_T by using a Cherenkov detector (HMPID). For $3 < p_T < 20$ GeV/ c , statistical PID is possible thanks to the relativistic rise of the dE/dx in the TPC.

In this talk results on the transverse momentum distributions ($\sim 0.3 < p_T < 20$ GeV/ c) of charged pions, kaons and (anti) protons, measured in pp and Pb – Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, will be presented. The evolution of the particle ratios and the nuclear modification factor with the collision centrality will be presented. The comparison of the results with recombination and hydrodynamic models will be shown.

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