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Identified charged hadron production at the LHC with the ALICE experiment

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Identified particle spectra are a basic observable to understand the behaviour of the matter created in high-energy heavy-ion collisions. The transverse momentum distributions of identified hadrons contain informations about the transverse expansion of the system and constrain the freeze-out properties of the matter created. The ALICE experiment has very good particle identification capabilities over a broad p_T -range. Particles are identified using the energy loss signal in the Inner Tracking System and Time Projection Chamber detectors, complemented with the information from the Time of Flight detector to identify hadrons up to $p_T \sim 5$ GeV/c. In this contribution the results for identified pions, kaons and protons in pp collisions at 0.9 and 7 TeV center-of-mass energy and heavy-ion collisions at 2.76 TeV center-of-mass energy will be presented. These results are compared with other identified particle measurements obtained by the ALICE experiment, and discussed in terms of the thermal and hydrodynamical pictures. The status of extensions of this analysis, with the study of identified particles as a function of event-by-event flow in Pb-Pb collisions and as a function of multiplicity in pp collisions, will also be discussed.

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