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Energy and multiplicity dependence of identified particle production in small systems with ALICE at the LHC

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One of the key results of the LHC Run 1 was the observation of an enhanced production
of strange particles in high multiplicity pp and p-Pb collisions at 7 and 5.02 TeV, respectively.
In addition, the multiplicity dependent results on particle production in pp collisions allowed the discovery of collective-like behavior in small systems at the LHC.
In order to provide further insights into the origin of these new phenomena, new measurements of the multiplicity dependence of the transverse momentum (p_{T}) distributions of inclusive and identified charged particles from Run 2 at the top LHC energy will be presented.
The p_{T} spectra are measured at mid-rapidity and over a broad transverse momentum range, providing important input to study particle production mechanisms in the soft and hard regime of QCD. In particular, a power law fit of the distributions for $p_{\mathrm{T}} > 4$ GeV/c is performed to study the hard component of particle spectra.
Furthermore, experimental results on multiplicity-dependent strangeness production have been extended in multiplicity reach and the strangeness enhancement is investigated by measuring the evolution with multiplicity of single-strange and multi-strange baryon production relative to non-strange particles. Recent measurements of mesonic and baryonic resonances in small
collision systems are also investigated in pp and p-Pb collisions to study how hadronic scattering processes affect measured resonance yields, as well as the interplay between canonical suppression and strangeness enhancement. Energy and
system-type invariance will be discussed and an extensive comparison with statistical hadronization and QCD-inspired models will be presented.

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