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Thermal Model Description of Collisions of Small Systems

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Abstract content ** ** (Max 300 words) **
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Recently, two experimental observations have attracted high interest: 1. The maxima in the excitation function of the K^+/π^+ and Λ/π^+ ratios around $\sqrt{s_{NN}} = 8$ GeV, while no maximum is seen in the K^-/π^- ratio. 2. A continuous evolution of the ratios (multi-)strange-over- π as a function of the multiplicity in pp, p-Pb and Pb-Pb collisions at LHC energies.

Prediction within the thermal-statistical model of particle ratios from the lowest up to LHC energies and from pp up to central heavy-ion collisions will be given. It will be shown why maxima occur, how they evolve when studying smaller systems (E.g. the maximum of the K^+/π^+ ratio will hardly be visible in pp, while the maximum in the Λ/π ratio is expected to remain also in pp).

Using the strangeness canonical ensemble, the key parameter is the strangeness correlation volume. It turns out that this quantity also plays a dominating role in describing the variation of the particle ratios from pp to Pb-Pb collisions at LHC energies.

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