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Thermal Model Description of Collisions of Small Systems

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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-pi as a function of the multiplicity in pp, p-Pb and Pb-Pb collisions at LHC energies.

Predictions 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 depending on the involved species.
Their evolution will also be discussed for smaller systems in the framework of a strangeness canonical ensemble. (E.g. the maximum of the K^+/π^+ ratio will hardly be visible in pp, while the maximum in the Lambda/pi ratio is expected to remain also in pp).

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

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