

## Volume dependence of baryon number cumulants and their ratios

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It is well known that finite volume effects have marginal influence on the chiral condensate at zero temperature and chemical potential. However, in hot and dense medium, higher order cumulants of baryon number, including skewness and kurtosis, are expected to be more sensitive.

We explore the influence of finite volume effects on baryon number fluctuations in a non-perturbative chiral model. In a finite volume there are only apparent critical points, about which we compute the ratio of the fourth to the second order cumulant of quark number fluctuations. When the volume is sufficiently small the system has two apparent critical points; as the system size decreases, the location of the apparent critical point can move to higher temperature and lower chemical potential.

In this talk, we demonstrate the dependence of the higher order baryon number cumulants on volume.

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