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## Affects of criticality on the light nuclei yields and the hard probes

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The existence and the location of the critical end point (CEP) on the QCD phase diagram remains a puzzle. Probing the critical phenomena and locating the CEP are the key goals of the beam energy scan (BES) experiments. When approaching the CEP, the long-range correlation is established, and hence leads to a large fluctuation of the conserved charges. In this presentation, we show, based on the coalescence model and the Landau-Ginzberg theory, that the light nuclei yields and their ratios are enhanced as a consequence of the long-range correlation, which make them ideal probes of criticality [1]. The behavior of the hard probes in the vicinity of the CEP is studied as well [2]. These observables provide us new perspectives for seeking the CEP in the heavy-ion collisions.

Refs.

[1] K. Sun, F. Li and C.M. Ko, "Effects of QCD critical point on light nuclei production", Phys.Lett.B 816 (2021) 136258

[2] F. Li and S. Cao, in preparation

**Authors:** KO, Che-Ming; LI, Feng (Lanzhou University); SUN, KAIJIA

**Presenter:** LI, Feng (Lanzhou University)

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