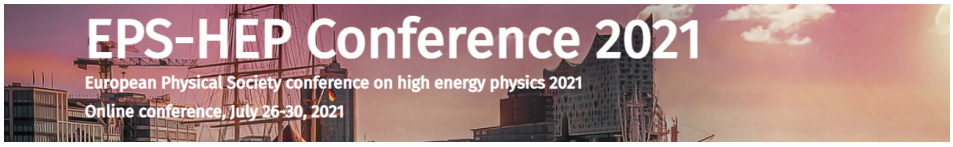

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Factorial cumulants from global baryon number conservation

Many effective models of strong interactions predict the first-order phase transition between the hadronic matter and quark-gluon plasma. One of the main approaches to search for it is based on the study of fluctuations of e.g. net-baryon number, net-charge, or net-strangeness number measured in relativistic heavy-ion collisions. Such fluctuations are often quantified by cumulants or factorial cumulants, which represent the integrated genuine multi-particle correlation functions and have certain advantages over regular cumulants. It is important to study the contribution from effects that may be misinterpreted as fluctuations related to the first-order phase transition. In this talk, the proton, antiproton, and mixed proton-antiproton factorial cumulants originating from the global baryon number conservation will be presented. Our results can be directly tested in experiments. Then, the factorial cumulants from the global baryon number conservation convoluted with short-range correlations will be discussed.

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Collaboration / Activity

Theory of heavy-ion physics

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