Contribution ID: **226** Type: **Oral**

Higher-order strongly intensive quantities for rapidity correlations in string models

Wednesday 2 July 2025 13:10 (20 minutes)

The strongly intensive observables [1] were intensively studied in the model with quark-gluon strings acting as sources in case of multiplicities in two acceptance windows separated in rapidity [2,3]. It was shown to be an excellent probe of string fragmentation features as well as a signal of collectivity achieved by a number of strings. Namely, in this case, through the weight factors the observable becomes dependent on collision conditions and, strictly speaking, cannot be considered anymore as a strongly intensive variable. In this talk a way to get around this drawback is discussed. Moreover, recently the procedure that allows us to construct new strongly intensive observables using higher-order moments was proposed [4]. In this talk we apply this procedure for joint multiplicity fluctuations.For comparison, the results of the calculation of the considered observable with the Monte Carlo event generators are also presented.
The authors acknowledge Saint-Petersburg State University for a research project 103821868.

`References`

[1] M.I. Gorenstein, M. Gazdzicki, Phys. Rev. C 84, 014904 (2011).
[2] E. Andronov, Theor. Math. Phys. 185, 1383 (2015).
[3] E. Andronov, V. Vechernin, Eur. Phys. J. A 55, 14 (2019).
[4] W. Broniowski, A. Olszewski, Phys. Rev. C 95, 064910 (2017).

Primary author: ANDRONOV, Evgeny (Saint Petersburg State University)

Presenter: ANDRONOV, Evgeny (Saint Petersburg State University)

Session Classification: 4. Relativistic nuclear physics, high-energy and elementary particle physics: Theory

Track Classification: Section 4. Relativistic nuclear physics, high-energy and elementary particle physics.