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N-N, PT-N and PT-PT correlations and fluctuations quantified by strongly intensive quantities for nucleus-nucleus collisions measured by the NA61/SHINE experiment at SPS energies

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The NA61/SHINE experiment aims to discover the critical point of strongly interacting matter and study the properties of the onset of deconfinement. For these goals a scan of the two dimensional phase diagram (T-μB) is being performed at the SPS by measurements of hadron production in proton-nucleus and nucleus-nucleus interactions as a function of collision energy and system size.

In this contribution preliminary results on pseudorapidity dependences of transverse momentum and multiplicity fluctuations expressed in terms of strongly intensive quantities from the Be+Be and Ar+Sc energy scan will be presented. It will be shown how non-trivial effects evolve from the poissonian-like fluctuations for small pseudorapidity intervals with expansion of the analyzed acceptance. These fluctuations are expected to be sensitive to the existence of the critical point. The results will be compared to the predictions of the EPOS model.

List of tracks

Fluctuation in initial conditions, collective flow and correlations

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Session Classification: Charge fluctuations, correlations and balance functions