Contribution ID: **683** Type: **Parallel session talk**

Femtoscopy using Lévy-type source at NA61/SHINE

Saturday, 20 July 2024 16:45 (17 minutes)

In recent years, research studies in high-energy physics have confirmed the creation of strongly interacting quark-gluon plasma (sQGP) in ultra-relativistic nucleus-nucleus collisions. NA61/SHINE at CERN SPS investigates hadronic matter properties by varying collision energy (ranging from 5 GeV to 17 GeV) and systems (such as p+p, p+Pb, Be+Be, Ar+Sc, Xe+La, Pb+Pb). Utilizing femtoscopic correlations, we can unveil the space-time structure of the hadron emitting source.

Our focus is on femtoscopic correlations in small to intermediate systems, comparing measurements with symmetric Lévy source calculations to explore Lévy source parameters' relation to average pair transverse mass. Of particular significance is the Lévy exponent α, which characterizes the source's shape and may hold connections to the critical exponent η near the critical point. Therefore, by measuring α, we aim to understand and measure the location of the critical endpoint on the QCD phase diagram.

Alternate track

I read the instructions above

Yes

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