

Intermittency analysis in relativistic heavy-ion collisions

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Large density fluctuations near the QCD critical point have been suggested to exhibit power-law behaviors, which can be probed by intermittency analysis in heavy-ion collisions.

This talk will cover the latest experimental findings on intermittency from NA61/SHINE and NA49 at SPS, as well as the STAR Collaboration at RHIC. The experimental studies reveal that the signal of critical fluctuations related to intermittency is very weak and thus could be easily obscured by the overwhelming background noise in the data. By using a point cloud neural network integrated with topological machine learning, we can effectively distinguish weak signal events from this noise, enabling precise determination of the intermittency index of the data samples.

Lastly, I will highlight potential avenues for future research.

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