

11th International Conference on Hard and Electromagnetic Probes of High-Energy Nuclear Collisions



Beitrag ID: 229

Typ: Talk

Condensation and early time dynamics in QCD plasmas

Dienstag, 28. März 2023 09:40 (20 Minuten)

High energy nuclear collisions produce far-from-equilibrium matter with a high density of gluons at early times. We identify for the first time two local order parameters for condensation, which can occur as a consequence of the large density of gluons. We demonstrate that an initial over-occupation of gluons can lead to the formation of a macroscopic zero mode towards low momenta that scales proportionally with the volume of the system—this defines a gauge invariant condensate. The formation of a condensate at early times has intriguing implications for early time dynamics in heavy ion collisions.

Experiment/Theory

Theory/Phenomenology

Affiliation

ITP, Universität Heidelberg

Hauptautoren: DE BRUIN, Lillian (ITP, Universität Heidelberg); Prof. BERGES, Jürgen (ITP, Universität Heidelberg); Prof. PAWLOWSKI, Jan (ITP, Universität Heidelberg); Dr. BOGUSLAVSKI, Kirill (TU Wien); BUTLER, Tara (ITP, Universität Heidelberg)

Vortragende(r): DE BRUIN, Lillian (ITP, Universität Heidelberg)

Sitzung Einordnung: Parallel: Early-Time Dynamics & nPDFs

Track Klassifizierung: Early time dynamics and nuclear PDFs