

Abstract Submitted
for the OSF20 Meeting of
The American Physical Society

Non-equilibrium attractor in high-temperature QCD plasmas

DEKRAYAT ALMAALOL, Kent State University, ALEKSI KURKELA, CERN, MICHAEL STRICKLAND, Kent State University, KENT STATE UNIVERSITY COLLABORATION, CERN COLLABORATION — We establish the existence of a far-from-equilibrium attractor in weakly-coupled gauge theory undergoing one-dimensional Bjorken expansion. We demonstrate that the resulting far-from-equilibrium evolution is insensitive to certain features of the initial condition, including both the initial momentum-space anisotropy and initial occupancy. We find that this insensitivity extends beyond the energy-momentum tensor to the detailed form of the one-particle distribution function. Based on our results, we assess different procedures for reconstructing the full one-particle distribution function from the energy-momentum tensor along the attractor and discuss implications for the freeze-out procedure used in the phenomenological analysis of ultra-relativistic nuclear collisions.

Dekrayat Almaalol
Kent State University

Date submitted: 04 Oct 2020

Electronic form version 1.4