Psuedothermalization of the quark-gluon plasma DEKRAYAT ALMAALOL, MICHAEL STRICKLAND, Kent State Univ - Kent, ALEKSI KURKELA, CERN — We demonstrate that, within high-temperature pure gauge quantum chromodynamics, there exists a forward attractor for a large set of moments of the one-particle distribution function. Our results are obtained within the high-temperature effective kinetic theory approach which includes both elastic ($2 \leftrightarrow 2$) and inelastic ($2 \leftrightarrow 1$) contributions to the collisional kernel. We present results obtained using two different initial conditions corresponding to momentum-anisotropic thermal and over-occupied gaussian one-particle distribution functions. We compare the results obtained for the scaled moments of the one-particle distribution function with the attractor for kinetic theory in relaxation time approximation and two different versions of viscous hydrodynamics obtained using relaxation times that are momentum independent and momentum dependent. Our results indicate that the pseudothermal attractor which emerges in effective kinetic theory is different from both the relaxation time approximation attractor and both versions of viscous hydrodynamics.

Dekrayat Almaalol
Kent State Univ - Kent