Contribution ID: **40** Type: **Parallel Session**

Characterizing hydrodynamical fluctuations in heavy-ion collisions from effective field theory approach

Tuesday 8 August 2017 14:00 (30 minutes)

Recently, an effective field theory for fluctuating dissipative hydrodynamics has been developed in 1511.03646 and 1701.07817. We apply this theory to investigate hydrodynamic fluctuations on the Bjorken expanding quark-gluon plasma (QGP). In particular, we explore effects due to nonlinear interactions among hydrodynamical variables and noises which are systematically incorporated in the present framework but are not fully captured in conventional approaches. Finally, we discuss its application to model bulk evolution of QCD matter near the critical point.

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Session Classification: Parallel 1

Track Classification: Parallel Session