Contribution ID: **36**   Type: **not specified**

Functional renormalisation group for cosmic large-scale structure formation

Tuesday, 26 July 2022 17:15 (20 minutes)

The formation of cosmic large-scale structures can be described with a statistical field theory for the dynamics of dark matter. The functional renormalisation group is on the one hand studied using the underlying symmetries of the theory and in particular using an extended version of Galilean invariance. The corresponding generalised Ward identities allow to close and solve the flow equations for two-point correlation functions and relate to the so-called 'sweeping effect' known in fluid turbulence. On the other hand the flow equations are solved using an ansatz that corresponds to time-local effective dynamics for dark matter and can be understood as a vertex and derivative expansion of the effective action.

Presenter: ERSCHFELD, Alaric