Contribution ID: **5** Type: **Oral**

Relativistic second-order spin hydrodynamics from Zubarev's non-equilibrium statistical operator

Sunday, 26 October 2025 16:55 (20 minutes)

We present a new derivation of relativistic canonical-like second-order spin hydrodynamics from Zubarev's non-equilibrium statistical operator. We obtain relaxation equations for dissipative fluxes, including the shear stress tensor, bulk viscous pressure, charge-diffusion currents, rotational stress tensor, boost heat vector, and spin tensor-related dissipative current. Furthermore, we express all transport coefficients represented by two-point or three-point correlations in terms of retarded Green's functions.

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Session Classification: Parallel III

Track Classification: 新的理论方法 (new theoretical methods)