

Fluctuations in nonequilibrium fluids

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Systems far from equilibrium are of fundamental and technological interest. From the scientific point of view, they pose both challenges as well as manifold possibilities and insights. In this talk, I will focus on two recent examples which demonstrate that fluctuations in out of equilibrium systems can be fundamentally different from equilibrium counterparts. The first example concerns the appearance of long range correlations in fluids after sudden changes of thermodynamic control parameters. The second example describes experimentally observed fluctuations of an overdamped harmonic oscillator, subjected to a non-equilibrium bath: Under certain circumstances, it shows underdamped modes, despite inertial effects being negligible.

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**MPIDS, Prandtl lecture hall, AI building,
Am Faßberg 11, Göttingen**

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