



Contribution ID: 102

Type: **Tutorial courses**

Threeway out of equilibrium many body dynamics

Monday, 13 April 2026 14:00 (1h 30m)

These three lectures will focus on three manners to fall out of equilibrium, and on the many-body effects that arise from the nonequilibrium nature of the dynamics. We will begin with systems harboring a macroscopic current (leading to long range correlations). Then we shall stop by systems that should be relaxing towards equilibrium, but that fail to do so for reasons that are still under investigation. And the final lecture will concern systems with no macroscopic current that are nevertheless maintained out of equilibrium by a constant input of energy that drives the individual motion of the particles.

1. Out of equilibrium with a macroscopic current: Driven Systems
 - Macroscopic Fluctuation Theory
 - The possibility of phase transitions in one dimension
2. Out of equilibrium, but lost on the way to equilibrium: Glasses
 - Mode-coupling approach
 - Infinite-dimensional insight
3. Out of equilibrium, because that's life: Active Matter
 - From one particle to many
 - Field theories for active matter

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Session Classification: Tutorial courses

Track Classification: Statistical Physics