

Trajectorial hypocoercivity and application to control theory

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We are concerned in this talk with the exponential stabilisation (spectral gap) for linear kinetic equations with degenerate thermalisation, i.e. when the collision operator vanishes on parts of the spatial domain. The method covers both scattering and Fokker-Planck type operators, and deals with external potential and boundary conditions, but in these talk we present only its core argument and restrict ourselves to the kinetic Fokker-Planck in the periodic torus with unit velocities and a thermalisation degeneracy.

This is a joint work with Helge Dietert, Harsha Hutridurga and Clément Mouhot