

Exponential stability of slowly decaying solutions to Fokker-Planck equations

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Abstract:

We present new results of stability and exponential convergence to equilibrium for solutions to kinetic Fokker-Planck equations with weak decay at infinity and weak regularity, in Lebesgue, negative Sobolev or Wasserstein distances. This relies on the combination of classical functional inequalities, hypoelliptic estimates, hypocoercive estimates, and crucially a new method for changing the functional space of semigroup decay estimates. Joint work with Mischler.