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Time decay of Fokker-Planck equations with confining drift

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Abstract

The convergence to equilibrium of Fokker-Planck equations with confining drift is a classical issue, starting with the basic model of the Ornstein-Uhlenbeck process. We introduce a new approach to obtain estimates on the time decay rate, which applies to both local and nonlocal diffusions [**?**]. This is based on duality arguments and oscillation estimates for transport-diffusion equations. The motivation and application of these results stem from the study of long time behavior and turnpike properties of solutions in mean field game theory [**?**].

References

[1] Jakobsen, Espen R.; Porretta, Alessio, *Long time behavior of mean field games with fractional diffusions*, in preparation.

[2] Porretta Alessio, *Time decay of Fokker-Planck equations with confining drift*, in preparation.

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