Perturbation theory for systems with multiple stationary regimes

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I will consider deterministic and stochastic perturbations of dynamical systems and stochastic processes with multiple invariant measures. Long-time evolution of the perturbed system will be described as a motion on the cone of the invariant measures of the non-perturbed system.

Quasilinear parabolic equations with a small parameter in the higher derivatives [3], perturbations of non-linear oscillators [6], [1], and of the Landau– Lifshitz equation for magnetization [2], linear elliptic PDE's with a small parameter [4], [5], [6] will be considered as examples.

References

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