

Kolloquium Mathematische Physik

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Floquet Theory for Markov Processes

Motivated by applications from biology and physics we discuss Markov jump processes in finite state spaces with transition rates that depend periodically on time. Our main result provides conditions under which such processes are attracted by periodically varying probability distributions. The elementary proof is based on the analysis of a special class of systems of ordinary differential equations with topological fixed-point arguments being used in the non-linear case. The presentation reports on a recent paper with Lars Gr \ddot{a} ne (Bayreuth) and Michael Margaliot (Tel Aviv) <http://dx.doi.org/10.1098/rsos.172157>.

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