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A Controllability approach to SDEs driven by degenerate noises and applications to networks of oscillators

Abstract

I will discuss an approach to proving existence and uniqueness of the stationary measure and exponential mixing for a class of SDEs driven by degenerate noises, which is applicable beyond the Gaussian case. It is inspired by works of S. Kuksin and A. Shirikyan and was carried out in the case of Poisson noises in a joint work with V. Nersesyan. There, in addition to mild assumptions on the driving process, the hypotheses for our main result are that the corresponding control system is dissipative, approximately controllable and solidly controllable. The solid controllability assumption is weaker than the well-known parabolic HÃ¶rmander condition and is only required from a single point to which the system is approximatelycontrollable.