

Noise-induced switching in systems with distributed delays

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In this talk I will introduce a general stochastic system with delayed feedback, which is represented by the general distribution, and discuss how to calculate the escape rates from the basin of attraction of the stable steady state. A variational approach is used to calculate the path, which optimises the probability of escape in the case of the general distribution kernel and a Gaussian noise. Furthermore, I will show how the choice of the distribution kernel influences the escape times, in particular, for the cases of two-peak and uniform delay distributions. Analytical results are compared to direct numerical simulations, and the agreement is excellent.