

“Noise-induced stability”

Abstract:

It is known that there are certain ODEs which are explosive, but turn into non-explosive SDEs by adding white noise. In this case the Markov process associated to the SDE often admits an invariant probability measure. This phenomenon is called noise-induced stability. We investigate whether the additive noise can induce a stronger concept of stability, namely the existence of a random attractor. We present two examples which answer this question differently and sketch the main ideas of the proofs. Joint work with M. Scheutzow.