
RACHEL KUSKE, UBC

Transients + instabilities + noise = structure?

Transient or unstable behavior is often ignored in considering long time dynamics in the deterministic world. However, stochastic effects can change the picture dramatically, so that the transients can dominate the long range behavior. Coherence resonance is one relatively simple example of this transformation, and we consider others such as noise-driven synchronization in networks, disease dynamics in vaccinated populations, and amplitude-driven phase dynamics. The questions that arise in these contexts illustrate the influence of multiple time scales, cooperation of both discrete and continuous aspects in the dynamics, and the remnants of underlying bifurcation structure visible through the noise.