

Guy Bunin : Dynamics of many interacting species

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Abstract: In nature, organisms of different species interact, which may cause their population sizes to vary in time. As ecosystems often contain many species, the dynamics of high-diversity ecosystems is of primary interest in ecology.

I will review research on how statistical physics can contribute to our understanding of these dynamics. First, I'll introduce some of the canonical models in the field and popular theoretical frameworks. Then, present the resulting dynamical phases, and end with recent work about unique properties of many-variable chaos in these systems.