

Abstract Submitted  
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**Response of many species systems to perturbation**<sup>1</sup> SHADI ES-MAEILI, MICHEL PLEIMLING, Virginia Tech — We study the responses of predator-prey systems to a transient perturbation. We focus our attention on many species systems evolving on a two-dimensional lattice. Of interest are the two transitions: 1) into a new steady state while the perturbation is in effect, and 2) back to the original steady state after the perturbation has been removed. Using Monte Carlo simulations we monitor these transitions via the space-time correlation function and the derived correlation length. The perturbation we consider in this study is realized as a change in the interaction scheme. This perturbation mimics changes in the species' predation preferences as a result of changes in environmental conditions.

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