1003-92-1395 **Aaron A. King*** (`aking3@utk.edu`), Ecology & Evolutionary Biology, 569 Dabney Hall, University of Tennessee, Knoxville, TN 37996. *Discrete-state biological dynamics: Stochastic models and deterministic skeletons.* Preliminary report.

It is frequently useful to analyze a stochastic dynamical system via its "deterministic skeleton". In particular, though the dynamics of stochastic models are often strikingly different from their deterministic counterparts, one can nevertheless frequently explain these dynamics by reference to transients or unstable invariant sets in a deterministic skeleton. While recipes exist for adding noise to a deterministic model, the inverse procedure—of "subtracting" the noise from a stochastic model—is not well-defined. The upshot is that there can be multiple deterministic skeletons corresponding to a given stochastic model. Although in cases of interest the differences among these may be small, they can have surprising consequences. I will illustrate this point using a simple model of a spatial host-parasitoid interaction. (Received October 05, 2004)