Abstract Submitted
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Ising model behavior in coupled, one-dimensional ecological oscillators[1] SABA KARIMEDDINY, Univ of Mass - Amherst, ANDREW NO-BLE, Univ. of California - Davis, JONATHAN MACHTA, Univ of Mass - Amherst, Santa Fe Institute, ALAN HASTINGS, Univ. of California - Davis — The emergent behavior of coupled populations provides important insight into the persistence and extinction-risk of metapopulations. We study a one-dimensional system of noisy, coupled, logistic maps and demonstrate that there is a correspondence between the behavior of the linear chain of coupled noisy logistic maps – a dynamical system – with that of the one-dimensional Ising model – a thermodynamic system. This correspondence becomes exact at the zero temperature critical point.

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