

Sensitive dependence of geometric Gibbs measures of one-dimensional maps

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Abstract:

For some classical lattice systems, it is known that Gibbs measures can behave chaotically as the temperature drops to zero. For geometric Gibbs measures of one-dimensional maps, we exhibit a phenomenon sensitive dependence: An arbitrarily small perturbation of the map can produce significant changes in the low-temperature behavior of its geometric Gibbs measures. Rather surprisingly, this is a robust phenomenon: In the space of quadratic-like maps, it holds on a submanifold of codimension 2. One of the key mechanisms behind these examples is a low-temperature analog of that used by Hofbauer and Keller to exhibit a quadratic map whose physical measure is a Dirac mass at a repelling fixed point.

This is a joint work with Daniel Coronel.