

Mike Todd: *Equilibrium States for Interval Maps*

Abstract:

Given a transitive C^2 interval map (I, f) and a potential function $\phi : I \rightarrow \mathbb{R}$, we consider equilibrium states with respect to this potential among the class of all ergodic invariant measures with positive Lyapunov exponent. In particular, we prove the existence and uniqueness of equilibrium states for the potential $\phi_t : x \mapsto -t \log |Df(x)|$ for t in a one-sided neighbourhood of 1 whenever f satisfies a polynomial growth condition on the derivative along critical orbits. The method is to find suitable inducing schemes, to find Gibbs measures there, and to project these measures back to (I, f) . Uniqueness follows from the fact that given two candidate equilibrium states, we can find an inducing scheme which both measures lift to, and then compare the measures there. This is joint work with Henk Bruin.