HYPERBOLICITY OF RENORMALIZATION FOR DISSIPATIVE GAP MAPPINGS

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A gap mapping is a discontinuous interval mapping with two strictly increasing branches that have a gap between their ranges. They are one-dimensional dynamics systems, which arise in the study of certain higher dimensional flows, for example the Lorenz flow and the Cherry flow. Here we prove hyperbolicity of renormalization acting on C^3 dissipative gap mappings, and show that the topological conjugacy classes of infinitely renormalizable gap mappings are C^1 manifolds.

Joint work with: Trevor Clark.