Constant slope maps on tame graphs

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Abstract

I will present some of our recent results with Jozef Bobok, Pavel Pyrih, Samuel Roth, and Benjamin Vejnar [1]. We consider countably Markov mixing maps on so-called *tame graphs* and study the question when a given map is conjugate to a map of *constant slope* λ.

We give a necessary condition and a sufficient condition based on existence of a positive λ-eigenvector of the transition matrix corresponding to the Markov map. Under our sufficient condition, we in fact construct a compatible *inner metric* ϱ on the given tame graph G such that the given map f has constant slope λ with respect to ϱ. We also show that the resulting inner metric tame graph (G, ϱ) may be realized as a countably affine graph in $\mathbb{R}^3$.

[1] Adam Bartoš, Jozef Bobok, Pavel Pyrih, Samuel Roth, Benjamin Vejnar. *Constant slope, entropy and horseshoes for a map on a tame graph.* Preprint, arXiv:1805.01255.