

arXiv.org > math > arXiv:1107.3424

Mathematics > Dynamical Systems

A numerical study of infinitely renormalizable area-preserving maps

Denis Gaidashev, Tomas Johnson

(Submitted on 18 Jul 2011)

It has been shown in (Gaidashev et al, 2010) and (Gaidashev et al, 2011) that infinitely renormalizable area-preserving maps admit invariant Cantor sets with a maximal Lyapunov exponent equal to zero. Furthermore, the dynamics on these Cantor sets for any two infinitely renormalizable maps is conjugated by a transformation that extends to a differentiable function whose derivative is Holder continuous of exponent alpha>0.

In this paper we investigate numerically the specific value of alpha. We also present numerical evidence that the normalized derivative cocycle with the base dynamics in the Cantor set is ergodic. Finally, we compute renormalization eigenvalues to a high accuracy to support a conjecture that the renormalization spectrum is real.

Subjects:	Dynamical Systems (math.DS); Numerical Analysis (math.NA)
MSC classes:	37J10, 37E20, 37J20, 37M99
Journal reference:	Dynamical Systems 27(3):283-301 (2012)
DOI:	10.1080/14689367.2012.673559
Cite as:	arXiv:1107.3424 [math.DS]
	(or arXiv:1107.3424v1 [math.DS] for this version)

Submission history

From: Denis Gaidashev [view email] [v1] Mon, 18 Jul 2011 13:03:39 GMT (63kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.

We gratefully acknowledge supp the Simons Fo and me<u>mber ins</u>

Search or Article-id

(<u>Help</u> | <u>Advance</u> All papers

Download:

- PDF
- PostScript
- Other formats

Current browse cont math.DS

< prev | next >

new | recent | 1107

Change to browse b

math math.NA

References & Citatio

NASA ADS

Bookmark(what is this?)