

On a conjecture of Charles Tresser about surfaces diffeomorphisms in the boundary of chaos

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Abstract:

Inspired by his initial studies about the boundary of chaos for one-dimensional interval endomorphisms, C. Tresser conjectured that in the space of C^k orientation preserving embedding of the two disk which are area contracting, maps which belongs to the boundary of positive topological entropy exhibit a period doubling cascade.

In a joint work with S. Crovisier and C. Tresser we prove such conjecture assuming also that the embedding are in the boundary of Morse-Smale. We will relate our results with the problem of (topological) renormalization for two-dimensional diffeomorphisms and Sharkovskii's type results.