Khanin, K. M. [Khanin, Konstantin M.] (RS-AOS-L)
Universal estimates for critical circle mappings.

In this paper, universal estimates for circle diffeomorphisms of class $C^k$ with an inflexion point of degree $m$ odd with $3 \leq m \leq k$ are obtained. To do this, a thermodynamic formalism (already considered by the author [in *Chaos/Xaoc (Woods Hole, MA, 1989)*, 71–77, Amer. Inst. Phys., New York, 1990; MR1123514]) is amplified and developed into universal estimates. It is based on the study of pieces of finite length of the orbit of the critical point with increasing lengths. From this thermodynamic formalism, in addition to the universal estimates for the asymptotic behavior of the renormalized maps, certain applications to statistical mechanics and ergodic properties of the maps under consideration are obtained.

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