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Topological Sequence Entropy and Chaos of Star Maps*

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Abstract: Let $\mathbb{X}_n = \{z \in \mathbb{C} \colon z^n \in [0,1]\}$, $n \in \mathbb{N}$, and let $f \colon \mathbb{X}_n \to \mathbb{X}_n$ be a continuous map such that $f(0) = 0$. In this paper we prove that f is chaotic in the sense of Li–Yorke iff there is a strictly increasing sequence of positive integers A such that the topological sequence entropy of f relative to A is positive.

Keywords: *Star maps; Li–Yorke chaos; topological sequence entropy.*

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