

1106-37-2586

Jonathan Meddaugh* (jonathan_meddaugh@baylor.edu), Department of Mathematics, Baylor University, One Bear Place #97328, Waco, TX 76798, and **Brian Raines**. *Shadowing, ω -limit sets and internal chain transitivity.*

A function f on a compact metric space X exhibits shadowing provided that for every $\epsilon > 0$ there exists a $\delta > 0$ such that for every sequence $\langle x_i \rangle$ in X satisfying $d(x_{i+1}, f(x_i)) < \delta$ there exists a point z in X with $d(x_i, f^i(z)) < \epsilon$. In other words, approximate orbits are themselves approximated by true orbits.

In this talk we will discuss the the shadowing property in the context of characterizing ω -limit sets for f . Specifically, we show that if f has shadowing, the closure of the collection of ω -limit sets of f is exactly the set of internally chain transitive sets. As a consequence, we have a characterization of the collection of ω -limit sets in a variety of classes of maps, including maps on the interval, maps on finite graphs, and maps on certain quadratic Julia sets. (Received September 16, 2014)