

Shadowing Property for Discontinuous Piecewise Linear Maps

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The shadowing property was introduced by Anosov, and it is deeply related with the stability of dynamical systems. In 1988, Coven, Kan and Yorke provided necessary and sufficient conditions for a tent map to have the shadowing property. Chen, in 1991, generalized this result for continuous piecewise linear maps.

In this work we address the shadowing property for discontinuous piecewise linear maps. We study the points where such maps are not monotone, or discontinuous, and prove that the shadowing property for these applications are completely determined by the dynamic of these points. This result generalizes Chen's.