



Equilibrium States for Pre-image Pressure

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Received: October 14, 2009; Revised: October 14, 2010

Abstract: In this paper equilibrium states for pre-image pressure are considered. We study the ergodic decomposition of Cheng–Newhouse metric pre-image entropy. Moreover, for a topological dynamical system (X, T) with finite topological pre-image entropy and upper semi-continuous metric pre-image entropy function $h_{\{pre, \bullet\}}(T)$, we obtain a way to describe a kind of continuous dependence of equilibrium states, and show that all functions with unique equilibrium state is dense in $C(X)$. Last, we also discuss the uniformity of equilibrium states for pre-image pressure.

Keywords: *pre-image pressure, equilibrium states, metric pre-image entropy.*

Mathematics Subject Classification (2000): Primary: 37A35, 37B40; Secondary: 47A35, 54H20.