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Estimates of the entropy via extensions of dynamical systems without increasing the entropy

Matúš Dirbák (Matej Bel University)

Given a compact metric space X and a dynamical property Λ , we consider the problem of finding the best lower bound of the topological entropy of those continuous maps $X \rightarrow X$ which have the property Λ . We present an approach to this problem based on theorems saying that for some properties Λ one can extend a map $f : X \rightarrow X$ with the property Λ to a skew product map $F : X \times \langle 0, 1 \rangle \rightarrow X \times \langle 0, 1 \rangle$ which has the property Λ and has the same topological entropy as the basis map f . We illustrate the usefulness of this approach by finding the mentioned best lower bounds of the topological entropy for some particular spaces X and dynamical properties Λ .