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Mathematics > Dynamical Systems

## Lowering topological entropy over subsets revisited

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Let (X, T) be a topological dynamical system. Denote by (T, K) and  $h^B (T, K)$  the covering entropy and dimensional entropy of  $K\subseteq X$ , respectively. (X, T) is called D-{\it lowerable} (resp. {\it lowerable}) if for each  $0\e h\e h (T, X)$  there is a subset (resp. closed subset)  $K_h$ with  $h^B (T, K_h) = h$  (resp.  $h (T, K_h) = h$ ); is called D-{\it hereditarily lowerable} (resp. {\it hereditarily lowerable}) if each Souslin subset (resp. closed subset) is D-lowerable (resp. lowerable). In this paper it is proved that each topological dynamical system is not only lowerable but also Dlowerable, and each asymptotically h-expansive system is D-hereditarily lowerable. A minimal system which is lowerable and not hereditarily lowerable is demonstrated.

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