

Dynamics and eigenvalues of the induced maps in the homology group in dimension zero

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Let X be a compact, metric and totally disconnect space and let $f: X \rightarrow X$ be a continuous map. We relate the eigenvalues of $f_*: \check{H}_0(X; \mathbb{C}) \rightarrow \check{H}_0(X; \mathbb{C})$ to dynamical properties of f , roughly showing that if the dynamics of f is complicated then every complex number of modulus different from 0, 1 is an eigenvalue of f_* . More specifically, we will see that if there exists a complex number of modulus different from 0, 1 that is not an eigenvalue, then the ω -limit of every point in X is either a periodic orbit or an adding machine.