

About the homological discrete Conley index of isolated invariant acyclic continua

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Abstract:

The non existence of minimal homeomorphisms in a punctured two-dimensional sphere can be explained by using the discrete Conley index. In a joint work with Luis Hernandez-Corbato and Francisco Ruiz del Portal, we state some general properties of the discrete homological Conley index of an acyclic continuum (e.g. a cellular set or a fixed point) that is invariant by a homeomorphism of \mathbb{R}^d and locally maximal. In case where $d=3$ and f is orientation reversing, we deduce that its Lefschetz index is smaller than 2 . As a corollary, we prove that there are no minimal orientation-reversing homeomorphisms in \mathbb{R}^3 .