Topology of the basin of attraction of surface endomorphisms.

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Let $f : M \to M$ be a branched covering, i.e. an inner (open and isolated) map of a surface M. A map is open if the image of an open set is open. A map is isolated if the pre-image of a point consists of isolated points.

Let (A, R) be a (topological) attractor-repeller pair of f, where attractor A is a connected component of the set of chain-recurrent points of f.

Consider the basin of attraction of A. Topological classification of such basins of attraction is presented. It is shown that it is non-compact surface such that its set of ends is either contains 2 points or is cantor set.

References

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