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Bestvina—Handel for topological polynomials.

Thurston proved that a branched cover of the plane to itself is either equivalent to a polynomial (that is: conjugate via a mapping class) or has a topological obstruction. This theorem is an analogy of the Nielsen—Thurston classification of mapping class groups. We adapt Bestvina—Handel’s algorithm for classifying mapping classes to higher degree maps of the (punctured) complex plane to itself. Our work gives a proof of a combinatorial version of Thurston’s theorem. This is joint work with Jim Belk and Dan Margalit. (Received January 18, 2021)