1146-57-503

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(winarski@umich.edu). Polynomials, branched covers, and trees. Preliminary report.

Topological branched self-covers of the sphere satisfying certain finiteness conditions arise naturally in the study of complex dynamics. They can be viewed as generalizations of mapping classes. Thurston proved that such a map is either equivalent to a polynomial or else has an obstructing invariant multicurve. For branched self-covers of the sphere known to be equivalent to polynomials, we give an algorithm to determine *which* polynomial it is equivalent to by adapting tools used to study mapping class groups. This is joint work with Jim Belk, Justin Lanier, and Dan Margalit. (Received January 29, 2019)