

1154-57-2529

James Belk, Justin Lanier, Dan Margalit and Rebecca R Winarski*

(rebecca.winarski@gmail.com). *Applying topology to polynomial recognition.*

Topological branched self-covers of \mathbb{C} 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 \mathbb{C} , we give an algorithm to determine if it is equivalent to a polynomial or obstructed. In the case that the map is equivalent to a polynomial, we 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 September 17, 2019)