
HEEJOUNG KIM, University of Illinois at Urbana-Champaign
End-periodic homeomorphisms and volumes of mapping tori

The Mapping class group $Map(S)$ of a finite type surface S has been studied and generally well understood. In particular, there is the Nielsen-Thurston classification of elements of $Map(S)$. One of the types of elements is called a pseudo-Anosov homeomorphism, which can be characterized by the hyperbolicity of the manifold associated with an element called a mapping torus. For a pseudo-Anosov element $f \in Map(S)$, Brock and Agol gave the upper bound for the volume of the mapping torus of f . Motivated by their results, we consider an end-periodic homeomorphism f for a certain infinite type surface S and the volume $V(f)$ of the convex core of the mapping torus of f . We give an upper bound on $V(f)$ in terms of the asymptotic translation length of f on the pants graph. This is a joint work with Elizabeth Field, Christopher Leininger, and Marissa Loving.