

Volumes and random walks on mapping class groups

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Abstract: Every orientation preserving diffeomorphism of a closed orientable surface defines, via the mapping torus construction, a closed orientable 3-manifold. Therefore, adopting a 3-dimensional point of view, we can attach to the diffeomorphism topological and geometric invariants of 3-manifolds. In this talk, we will focus on the simplicial volume of the mapping torus. The goal is to discuss its growth behaviour in families of random diffeomorphisms, that is, arising from random walks on the mapping class group of the surface. As it turns out, the simplicial volumes of random mapping tori obey to a law of large numbers.