

1021-57-156

Richard Evans (revans@math.auckland.ac.nz) and **John Holt*** (j.holt@massey.ac.nz).

Bounds on the geometry of torus cusps.

Let M be a hyperbolizable 3-manifold with incompressible boundary. Suppose γ is a simple closed curve in ∂M and T is a torus in ∂M so that γ is not homotopic into T in ∂M but is homotopic into T in M .

Let $AH(M)$ denote the space of isometry classes of marked hyperbolic 3-manifolds homotopy equivalent to M . A hyperbolic structure on the interior of M induces a complex structure on T . We call the modulus of T the modulus of the annulus $T \setminus \gamma$ (so that γ is implicit in the definition of the modulus of T). We show that the modulus of T is bounded in $AH(M)$.

This has applications to the study of the topology of $AH(M)$. (Received September 03, 2006)