
GENEVIEVE WALSH, University of Quebec at Montreal and Tufts University
Commensurability classes of two-bridge knot complements

Two 3-manifolds are said to be commensurable if they have a common finite-sheeted cover. Commensurability classes are a reasonable way to organize hyperbolic 3-manifolds. For example, if a manifold is virtually fibered or virtually Haken, then so is every manifold in its commensurability class. However, the general problem of determining if two hyperbolic 3-manifolds are commensurable is difficult. We show that a hyperbolic 2-bridge knot complement is the unique knot complement (in S^3) in its commensurability class. The proof relies heavily on facts particular to 2-bridge knots.

There are commensurability classes that contain more than one hyperbolic knot complement. For example, this can happen if one of the knots admits a lens space surgery. We speculate on the general case.

This is joint work with Alan Reid.