

Hyperbolic geometry of compression bodies

Jessica Purcell, Brigham Young University

Every 3-manifold admits a Heegaard splitting into handlebodies and/or compression bodies, and recent results in 3-manifold topology imply that in many important cases, the hyperbolic geometry of a 3-manifold is closely related to hyperbolic structures on components of a Heegaard splitting. In this talk, we will discuss ongoing work to determine information on hyperbolic structures on compression bodies. A major part of this project has been the visualization of such structures via computer. We will discuss our computer visualization, as well as several open questions motivated by it, and applications of our results to geodesics in finite volume hyperbolic 3-manifolds. Parts of this work are joint with Marc Lackenby, and parts with Stephan Burton.