ABSTRACT:

S. Boyer

Slope detection in 3-manifolds.

In this talk we describe how to detect slopes on the boundary of knot manifolds using either foliations, group orderings, or Heegaard Floer theory. It is conjectured that each of these methods yields the same family of detected slopes and we will discuss supporting evidencefor the conjecture as well as open problems. This work is closely related to the conjectured equivalence of the following three properties of a closed, connected, orientable, irreducible 3-manifold W:

(i) W admits a co-oriented taut foliation;

(ii) W has a left-orderable fundamental group;

(iii) W is a Heegaard-Floer L-space.