

1173-57-152

**Jonathan C Johnson\*** ([jonathan.johnson10@okstate.edu](mailto:jonathan.johnson10@okstate.edu)), 401 Mathematical Sciences, Oklahoma State University, Stillwater, OK 74078. *Bi-Orderability and Branched L-Space Knots*. Preliminary report.

The orderability of 3-manifold groups has become a topic of interest in the last couple of decades. For example, the L-space conjecture posits a surprising relationship between the left-orderability of the fundamental group of a rational homology sphere, the foliations of that manifold, and the manifold's Heegaard Floer homology. However, the fundamental groups of 3-manifolds with positive first Betti number are always left-orderable. In particular, knot groups are left-orderable. In this situation, bi-orderability is more illuminating. In this talk, I will discuss a couple of results on the bi-orderability of knot groups, and how these results are related to properties of the cyclic branched covers of a knot. (Received September 19, 2021)