

Whitehead's algorithm, Heegaard splittings, and virtual geometricity

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A geometric presentation of a group is the kind of presentation which comes from a Heegaard splitting of a 3-manifold. In particular, only 3-manifold groups have geometric presentations. On the other hand, every finitely presented group has a "virtually geometric" presentation. Inspired by some experiments using Berge's program Heegaard, I showed a few years ago that not every one-relator presentation is virtually geometric. Shortly after that, Cashen gave a characterization of virtual geometricity. I'll talk about these results, and possibly some more recent ones.