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**Tim Susse\*** (tsusse2@unl.edu), **Susan Hermiller** and **Mark Brittenham**. *Geometry of the word problem in closed 3-manifold groups*. Preliminary report.

Given a finite presentation of a group, the word problem asks whether there is an algorithm that determines whether a given word over the generators is equal to the identity. While not all finitely presented groups have solvable word problems, many classes of groups have uniform algorithms for solving the problem. In this talk we will discuss autostackability, a property which rephrases the word problem in dynamical terms, where paths in the Cayley graph flow towards a unique normal form in a way that is computable by a finite state automaton. Such a structure gives a solution to the word problem. In this talk we will discuss examples of autostackable structures, focusing on hyperbolic and relatively hyperbolic groups. We will also discuss closure properties of the class and prove that every closed 3-manifold group is autostackable. (Received February 22, 2016)