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Henry Wilton* (henry.wilton@math.utexas.edu). *Computing solutions to systems of equations over free and hyperbolic groups.*

Limit groups are the group-theoretic analogue of irreducible varieties. I will describe an algorithm to enumerate limit groups, and explain how it follows that one can compute a description of the set of solutions to a system of equations over a free group. Another consequence is an algorithm to determine if a given presentation, together with a solution to the word problem, represents a free group. If there is time I will describe some progress in the attempt to extend this work to hyperbolic groups. This is joint work with Daniel Groves. (Received February 04, 2008)