

1154-D5-2761 **Ashlee Keolaulani Kalauli*** (akalauli@math.ucsb.edu). *Solving the Word Problem for Euclidean Artin Groups*. Preliminary report.

A finitely presented group G has a solvable word problem if there exists an algorithm to decide if a product of generators and their inverses represents the identity. In 1926, Artin showed that braid groups–Spherical Artin groups–have such an algorithm. The computation time of this algorithm, however, was exponential in the length of the word. In this talk, we will discuss how Frank Garside’s solution provides a more efficient algorithm for solving the word problem for braid groups. Though Euclidean Artin groups are not Garside groups, we discuss how to modify Garside’s solution to produce a new solution to the word problem for the Euclidean Artin group \tilde{A}_2 . (Received September 17, 2019)