

1059-20-104

Sang-hyun Kim* (i@kim.sh), Department of Mathematics, 1 University Station C1200, Austin, TX 78759. *Surface Subgroups of Graph Products of Groups.*

A simple, but still charming collection of word-hyperbolic groups can be obtained by taking the double of a free group amalgamated along a root-free word. Wilton and I defined polygonal words in a free group, and proved that the double amalgamated along a polygonal word contains a surface group. The Tiling Conjecture asserts that any non-primitive word maps to a polygonal word by an automorphism of the free group. In this talk, I will prove that non-primitive geometric words are polygonal. As a by-product, we obtain a purely graph theoretic formulation of the Tiling Conjecture, and in particular, the decidability of polygonality. (Received February 19, 2010)