

1096-03-1472 **Stephen Flood*** (stephen.flood@uconn.edu). *Long Graph Decompositions*. Preliminary report. The theory of simplicial graph decompositions studies the infinite graphs that can be built from a sequence of irreducible subgraphs which are attached together at complete subgraphs. Our focus will be on the minimum length of these decompositions.

A result of Diestel says that every countable simplicial tree decomposition can be rearranged to have length at most ω . We show that no such ordinal bound can be found for the lengths of non-tree decompositions. More generally, we show that for each ordinal σ , there is a decomposable graph whose shortest simplicial decomposition has length exactly σ . (Received September 15, 2013)