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Art Duval* (artduval@math.utep.edu), Department of Mathematical Sciences, 500 W. University Ave., El Paso, TX 79968-0514, and **Caroline Klivans** and **Jeremy Martin**. *The Critical group of a simplicial complex.*

In previous work, we had extended the concept of a spanning tree from graphs to simplicial complexes. We now do the same for the critical group of a graph, sometimes called the “sandpile group”, related to the “chip-firing” game. As in the graphical case, the critical group of a simplicial complex (if its codimension 1 skeleton has a suitably nice spanning tree) can be computed directly from the reduced Laplacian, and its order is given by a weighted count of the simplicial spanning trees. (Received August 29, 2010)