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**Emily Shinkle\*** ([emilyss2@illinois.edu](mailto:emilyss2@illinois.edu)). *Finite Rigid Sets for Simplicial Complexes Associated to Surfaces.*

The arc complex and flip graph are simplicial complexes associated to a given surface, each describing combinatorial information about the surface. These complexes were used by Harer in his study of homological properties of the mapping class group, and have connections to Penner's decorated Teichmüller theory and Fomin-Shapiro-Thurston's theory of cluster algebras, among others. Irmak-McCarthy, Korkmaz-Papadopoulos, and Aramayona-Koberda-Parlier have shown correspondences between simplicial maps of these complexes and homeomorphisms of the associated surface. The complexes are infinite, but I show that these results can be extended for simplicial maps of certain finite subcomplexes, which we call finite rigid sets. (Received August 14, 2020)