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Automorphisms of the fine curve graph

The fine curve graph of a surface was introduced by Bowden, Hensel and Webb. Its vertices are essential simple closed curves in the surface and the edges are pairs of disjoint curves. We show that the group of automorphisms of the fine curve graph is isomorphic to the group of homeomorphisms of the surface, which shows that the fine curve graph is a combinatorial tool for studying the group of homeomorphisms of a surface. This theorem is analogous to the seminal result of Ivanov that the group of automorphisms of the (classical) curve graph is isomorphic to the extended mapping class group of the corresponding surface. This work is joint with Adele Long, Dan Margalit, Anna Pham, and Claudia Yao.