



The automorphism group of Thompson's group F: subgroups and metric properties

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We describe some of the geometric properties of the automorphism group $\text{Aut}(F)$ of Thompson's group F . We give realizations of $\text{Aut}(F)$ geometrically via periodic tree pair diagrams, which lead to natural presentations and give effective methods for estimating the word length of elements. We study some natural subgroups of $\text{Aut}(F)$ and their metric properties. In particular, we show that the subgroup of inner automorphisms of F is at least quadratically distorted in $\text{Aut}(F)$, whereas other subgroups of $\text{Aut}(F)$ isomorphic to F are undistorted.

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