1151-20-107   **Casey Donoven*** (`cdonoven@binghamton.edu`). *Groups of automata acting on dendrites.*

Automata (finite state machines) can be used to construct homeomorphisms of Cantor space, C_n, the space of infinite sequences over an n letter alphabet. The group of homeomorphisms of C_n induced by automata is known as the rational group, R_n. I will introduce subgroups of R_n acting on special quotients of Cantor space. These quotients are known as invariant factors and generalize self-similar sets and other fractals. I will focus on invariant factors that are dendrites, with examples that include the unit interval and Julia sets. One important technique in this study is the realization of invariant factors as inverse limits of graphs, with automata that act naturally on these graphs. (Received August 12, 2019)