

1116-20-713

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We introduce a class of automorphisms of rooted d -regular trees, arising from affine actions on their boundaries viewed as infinite dimensional vector spaces. This class includes, in particular, many examples of self-similar realizations of lamplighter groups. We show that for a regular binary tree this class coincides with the normalizer of the group of all spherically homogeneous automorphisms of this tree; automorphisms whose states coincide at all vertices of each level. We study in detail a nontrivial example of an automaton group that contains an index two subgroup with elements from this class and show that it is isomorphic to the index 2 extension of the rank 2 lamplighter group $\mathbb{Z}_2^2 \wr \mathbb{Z}$. (Received September 10, 2015)