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Angela K. Barnhill* (abarnhill@math.ohio-state.edu), Department of Mathematics, The Ohio State University, 231 W. 18th Ave., Columbus, OH 43210. *Actions and decompositions of Coxeter groups.*

We study certain actions of Coxeter groups by analyzing the combinatorics of fixed sets. As an application, we classify actions of Coxeter groups on one dimensional CAT(0) spaces in terms of decompositions as graphs of special subgroups. This generalizes a result of Mihalik-Tschantz for the case of actions on simplicial trees. (Received August 16, 2005)