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**J. Bratz\*** (bratzj@lafayette.edu), Department of Mathematics, Easton, PA 18042, **P. Cahn**, Department of Mathematics, Northampton, MA 01063, **N. Haber**, Department of Mathematics, Providence, RI 02912, **E. McMahon**, Department of Mathematics, Easton, PA 18042, and **S. Tekansik**, Department of Mathematics, Grand Junction, CO 81501. *Color-Permuting Automorphisms of Cayley Graphs*. Preliminary report.

Given a group  $G$  with generators  $\Delta$ , it is well-known that the set of color-preserving automorphisms of the Cayley color digraph  $Cay_{\Delta}(G)$  is isomorphic to  $G$ . We are interested in subgroups of the full (digraph) automorphism group of the Cayley graph. We focus on the group of automorphisms that either preserve or permute colors and present results on its structure and size. (Received September 29, 2005)