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**Janet Fierson\*** (fierson@lasalle.edu), Dept. of Mathematics and Computer Science, La Salle University, 1900 W. Olney Ave., Philadelphia, PA 19141, and **Robert Scholle**. *Reconfiguration graphs of prime labelings*. Preliminary report.

Motivated by the application of reconfiguration graphs to the vertex coloring problem (for which the reconfiguration graphs are also known as coloring graphs), we investigate reconfiguration graphs as applied to prime labeling.

In a prime labeling of a graph  $G$  of order  $n$ , the vertices of  $G$  are labeled with distinct integers  $1, 2, \dots, n$  such that the labels of adjacent vertices are relatively prime. For a graph  $G$ , we consider all possible prime labelings and create the corresponding reconfiguration graph,  $R(G)$ , in the following way: For each prime labeling of  $G$ , create a distinct vertex in  $R(G)$ . Then, for each pair of vertices in  $R(G)$ , insert an edge if the corresponding prime labelings of  $G$  differ in exactly two vertex labels.

We present results on which graphs may and may not appear as reconfiguration graphs, and we also consider subgraphs of reconfiguration graphs. In addition, we discuss findings on properties of reconfiguration graphs such as order, girth, and connectedness. (Received September 26, 2017)