1145-VP-2960 **Janet Fierson*** (fierson@lasalle.edu), Dept. of Mathematics and Computer Science, La Salle University, 1900 W. Olney Ave., Philadelphia, PA 19141, and **Yitbarek Demesie**.

Reconfiguration graphs under constraints and variations. Preliminary report.

In reconfiguration, one feasible solution of a problem is transformed into another through a series of applications of a reconfiguration rule, with each application of the rule producing an intermediate feasible solution. The reconfiguration graph has as its vertices all feasible solutions to the underlying problem. If the solution represented by one vertex may be transformed into the solution represented by another vertex through a single application of the reconfiguration rule, an edge exists between the vertices.

We consider graph problems to which reconfiguration has been applied and implement two types of changes: constraints on solutions to the underlying problem and variations on the reconfiguration rule. The first type of change necessarily leads to a vertex set for the reconfiguration graph that is a subset of the original vertex set. The second type of change affects the edges of the reconfiguration graph. When considered in isolation and in combination, these changes can greatly affect the characteristics of the resulting reconfiguration graphs. In particular, we examine differences in properties such as order, girth, and connectedness, as well as which graphs may appear as reconfiguration graphs themselves or as subgraphs of such graphs. (Received September 25, 2018)