

## Reconfiguration for Vertex Set Parameters

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Reconfiguration has been studied for many graph problems, including independent set, dominating set and variants of zero forcing. In these cases, a solution to the problem is a subset of the vertices with the given property. The parameter  $X$  is the minimum or maximum cardinality of a set with the corresponding property  $x$ . We defined a universal framework for studying token addition and removal (TAR) reconfiguration for parameters for which solutions are subsets of the vertex set with the given property. For a given parameter  $X$  and a graph  $G$ , the  $X$ -TAR reconfiguration graph for  $G$  has sets with property  $x$  as vertices. Two vertices in the  $X$ -TAR graph are connected by an edge if one can be transformed into the other by adding or removing a single vertex. We extend previous work on vertex set parameters by finding the essential properties needed by a parameter  $X$  to ensure strong connections between the properties of the  $X$ -TAR reconfiguration graph and the underlying graph. This allows previous  $X$ -set parameter results to apply to vertex cover, independence number and irredundance, among other parameters.

Keywords: format, size, information content