1077-05-193   **Ryan Held***, School of Mathematical Sciences, Rochester Institute of Technology, Rochester, NY 14623, and **Lauren Stemler**, Dept. of Mathematics, Statistics, and CS, 118 Valentine Hall, 23 Romoda Drive, St. Lawrence University, Canton, NY 13617. *Representations of Graphs modulo N*.

According to Erdos and Evans a graph G has a representation modulo $N > 1$ if all its vertices can be assigned distinct labels from the set $\{0, 1, 2, ..., N - 1\}$ such that two vertices in G are adjacent if and only if the difference of their labels is relatively prime to N . Among all possible representation numbers of a graph G, we focus on the smallest N that satisfies these conditions for a graph G, named the representation number of G. Another closely related concept that is of great interest is a representation of G with least number of prime factors. The smallest number of prime factors in a representation of G is referred as the Prague dimension of G. In this paper, we discuss the representation number and the Prague dimension of a complete graph minus a wheel, multiple disjoint wheels of the same size, and multiple disjoint wheels of different sizes. The representation number and new results for wheels and broken wheels are also discussed. (Received August 10, 2011)