

## Distance-2 coloring of graphs via vertex elimination schemes

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The distance between any two vertices  $x$  and  $y$  in a graph  $G$ , denoted by  $dist_G(x, y)$ , is the length of a shortest path connecting them in  $G$ . The distance-2 coloring of a graph  $G$  is a coloring of its vertices such that any distinct two vertices  $x$  and  $y$  with  $dist_G(x, y) \leq 2$  receive different colors. The distance-2 chromatic number  $\chi_2(G)$  of  $G$  is the least integer  $k$  such that  $G$  admits a distance-2 coloring with  $k$ -colors. In this talk, we discuss upper bounds on the distance-2 coloring of various classes of graphs admitting a special vertex elimination ordering.

Keywords: distance-2 coloring, square of graphs, vertex ordering.