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Coloring graphs without small forbidden subgraphs

Given a set L of graphs, a graph G is L -free if G does not contain any graph in L as an induced subgraph. There has been keen interest in coloring graphs, in polynomial time, whose forbidden list L contains graphs with four vertices. The state of the art on this problem identifies three outstanding classes: $L = (4K_1, \text{claw})$, $L = (4K_1, \text{claw}, \text{co-diamond})$, and $L = (4K_1, C_4)$. We will discuss these three open problems in our talk.