Coloring $(4K_1, C_4, C_6)$-free graphs

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A graph is *even-hole-free* if it contains no induced cycles of even length. Even-hole-free graphs can be recognized in polynomial time, and furthermore, the Maximum Clique problem can be solved in polynomial time for such graphs. However, the time complexity of the Vertex Coloring problem is open for this class. The time complexity of Vertex Coloring is also open for graphs of stability number at most three. In this talk, we consider the intersection of these two classes: even-hole-free graphs of stability number at most three, or equivalently, $(4K_1, C_4, C_6)$-free graphs. We show that such graphs can be recognized and colored in cubic time.