

An algorithm on strong edge coloring of K_4 -minor free graphs

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The strong chromatic index $\chi'_s(G)$ of a graph G is the smallest integer k such that G has a proper edge k -colouring with the condition that any two edges at distance at most 2 receive distinct colours. It is known that $\chi'_s(G) \leq 3\Delta - 2$ for any K_4 -minor free graph G with $\Delta \geq 3$. In this paper, we give a polynomial algorithm in order $O(|E(G)|(n\Delta^4 + 2n\Delta^2 + 14\Delta^3))$ to strong color the edges of a K_4 -minor free graph with $3\Delta - 2$ colors where $\Delta \geq 3$.

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