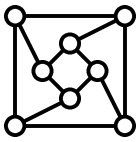

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COMPLEXITY OF APPROXIMATION FOR 3-EDGE-COLORING OF CUBIC GRAPHS

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The problem to find a 4-edge-coloring of a 3-regular graph is solvable in polynomial time but an analogous problem for 3-edge-coloring is NP-hard. To make the gap more precise, we study complexity of approximation algorithms for invariants measuring how far is a 3-regular graph from having a 3-edge-coloring. We show that it is an NP-hard problem to approximate such invariants with an error $O(n^{1-\epsilon})$, where n denotes the order of the graph and $0 < \epsilon < 1$ is a constant.