Parameterized Algorithms in Smooth 4-Regular Hamiltonian Graphs

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Abstract
Smooth 4-regular hamiltonian graphs are generalizations of cycle plus triangles graphs. It has been shown that both the independent set and 3-colorability problems are NP-Complete in this class of graphs. In this paper we show that these problems are fixed parameter tractable if we choose the number of inner cycles as parameter.

Keywords.
Algorithm parameterized complexity graph coloring independent set