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Fixed parameter complexity of distance constrained labeling and uniform channel assignment problems. (extended abstract). (English) [Zbl 06622020](#)

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Summary: We study computational complexity of the class of distance-constrained graph labeling problems from the fixed parameter tractability point of view. The parameters studied are neighborhood diversity and clique width.

We rephrase the distance constrained graph labeling problem as a specific uniform variant of the CHANNEL ASSIGNMENT problem and show that this problem is fixed parameter tractable when parameterized by the neighborhood diversity together with the largest weight. Consequently, every $L(p_1, p_2, \dots, p_k)$ -LABELING problem is FPT when parameterized by the neighborhood diversity, the maximum p_i and k .

Finally, we show that the uniform variant of the CHANNEL ASSIGNMENT problem becomes NP-complete when generalized to graphs of bounded clique width.

For the entire collection see [\[Zbl 1342.68014\]](#).

MSC:

[68Rxx](#) Discrete mathematics in relation to computer science

Full Text: [DOI](#)

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