Summary: We consider the problem of augmenting a graph with $n$ vertices embedded in a metric space, by inserting one additional edge in order to minimize the diameter of the resulting graph. We present an algorithm for the cases when the input graph is a path that runs in $O(n \log^* n)$ time. We also present an algorithm that computes a $(1 + \varepsilon)$-approximation in $O(n + 1/\varepsilon^2)$ time for paths in $\mathbb{R}^d$, where $d$ is a constant.

For the entire collection see [Zbl 1316.68014].

MSC:

- 68U05 Computer graphics; computational geometry (digital and algorithmic aspects)
- 68R10 Graph theory (including graph drawing) in computer science
- 68W40 Analysis of algorithms

Full Text: DOI

References:


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