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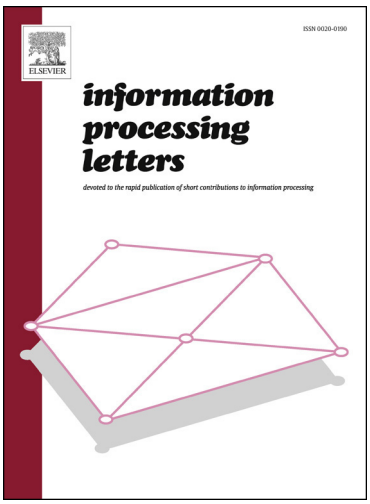

Approximation Algorithms for Constructing Specific Subgraphs with Minimum Number of Length-bounded Stock Pieces

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Highlights

- We consider the problem of constructing a specific subgraph with minimum number of length-bounded stock pieces.
- The objective is to minimize the number of stock pieces of length L to construct all edges in such a specific subgraphs.
- It is the first time to consider this model in the real literature.
- We design two (asymptotic) approximation algorithms with constant ratios to solve this problem.
- In addition, we present a 3/2-approximation algorithm and an APTAS to solve the problem of constructing spanning tree with minimum number of length-bounded stock pieces.