

Approximation algorithms for the design of SDH/SONET networks

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Abstract

In this paper, a graph partitioning problem that arises in the design of SONET/SDH networks is defined and formalized. Approximation algorithms with performance guarantees are presented. To solve this problem efficiently in practice, fast greedy algorithms and a tabu-search method are proposed and analyzed by means of an experimental study.

Key words: Graph partitioning, approximations, heuristics, tabu, SONET/SDH networks.