Heuristics for Central Tree Problem

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Abstract

We address the central spanning tree problem. The problem consists in finding a spanning tree that minimizes the so-called robust deviation, i.e. deviation from a maximally distant tree. The distance between two trees is measured by means of symmetric difference of their edge sets. The problem is known to be NP-hard. We attack the problem with a hybrid heuristic consisting of: 1) a constrictive greedy heuristic to get a good initial solution and 2) fast local search improvement. We illustrate computationally efficiency of the proposed approach.