

عنوان مقاله:

A new algorithm to solve the minimum cost flow problem

محل انتشار:

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خلاصه مقاله:

In this paper, we present a new approach to solve the minimum cost flow problem using the out-of-kilter idea. Our algorithm uses Minty's Lemma to transform all the out-of-kilter arcs into in-kilter arcs. This algorithm gives a geometrical explanation to the optimality concept. For a network with n nodes and m arcs, the algorithm performs $O(\log(nU))$ phases and runs in $O(m(m+n \log n) \log(nU))$ time (where U is the largest absolute arc bound), which is $O(m(m+n \log n) \log n)$ under the similarity assumption [1]. This time is the running time of the algorithm in [2] which is the best strongly polynomial-time algorithms to solve this problem.

کلمات کلیدی:

operations research; optimization; network flows; minimum cost flow; algorithms

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