

[Tardos, Éva](#)

**A strongly polynomial algorithm to solve combinatorial linear programs.** (English)

[Zbl 0626.90053](#)

[Oper. Res.](#) 34, 250-256 (1986).

A polynomial linear programming algorithm that solves  $\max\{cx : x \geq 0, Ax = b\}$  is proposed. The algorithm consists of the elementary arithmetic operations only, and the number of those operations depends only on the size of the entries (being, in fact, rational numbers) in the constraint matrix  $A$ . On the other hand the complexity of the algorithm is independent of the size of the entries in  $c$  and of those in  $b$ . The algorithm can be applied to solve the minimum cost flow and the multicommodity flow problems.

Reviewer: [W.Stanczak](#)

**MSC:**

- [90C05](#) Linear programming
- [68Q25](#) Analysis of algorithms and problem complexity
- [90C27](#) Combinatorial optimization
- [90C06](#) Large-scale problems in mathematical programming
- [65K05](#) Numerical mathematical programming methods

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[polynomial linear programming algorithm](#); [minimum cost flow](#); [multicommodity flow problems](#)

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