# A Bibliography on Network Flow Problems

2nd edition

Marinus Veldhorst

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The class of network flow problems can be divided into many subclasses, e.g., maximum flow problems, minimum cost flow problems, flows with losses and gains, multicommodity flows, multiterminal flows (analysis and synthesis). Even within a subclass problems may vary in such a way that different algorithms are necessary to find the solution for different sort of problems. For example, capacity constraints may be nonnegative integral or real numbers, and can be upper or lower bounds on the amount of flow through edges; cost functions of edges may be integral or real valued functions and can be linear or nonlinear in the amount of flow through the edges. For special networks (e.g. planar networks) specific algorithms has been designed in order to obtain solutions more efficiently.

Hence, if one wants to compile a bibliography on network flow that is not too extensive, one must make a selection from an overwhelming number of publications in this research area. In this bibliography we compiled results that to our opinion are interesting from the viewpoint of algorithms, especially combinatorial algorithms. We concentrated on the maximum flow and the minimum cost flow problems with integral capacities and linear cost functions with integral coefficients. We intended to be complete in these two areas as far as results published after 1982 are concerned. Results that are not published in regular journals or proceedings of conferences, are only included either when we consider them important from an historic point of view or when they constitute the current state of the art.

For the other varieties and subclasses of the network flow problem we are certainly not complete, but nevertheless we hope to give a rather broad entrance to the scientific literature on these problems.

Since the publication of the first version of this bibliography (cf. Algorithms Review 1 (1990), pp. 97–117), many new results on network flow have been published, and a number of technical reports and conference papers have appeared in regular journals. Moreover, a number of already published papers has been found. Compared with the first version, no entries are left out from this bibliography.

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