
Algorithms to deal with information uncertainty with point estimation of network flows

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The paper considers the algorithms to deal with errors in initial information in network structure systems and problems of their optimization. We support the study with the sample problem on maximum flow and show how to employ the algorithms.

Keywords: linear programming, algorithms to deal with uncertainty, network structure, measurement errors, the optimal solution.

REFERENCES

- [1] Greshilov A.A. *Matematicheskie metody priniatiya resheniy* [Mathematical methods of decision-making]. Moscow, Bauman MSTU Publ., 2006, 584 p.
- [2] Yensen P., Barnes D. *Potokovoe programmirovaniye* [Flow programming]. [in Russian]. Moscow, Radio i svyaz' Publ., 1984, 392 p.
- [3] Bard Y. *Nelineinoe otsenivanie parametrov* [Nonlinear parameter estimation]. Moscow, Statistika Publ., 1979, 349 p.
- [4] Uspensky A.B., Fedorov V.V. *Vychislitel'nye aspekty MNK pri analize i planirovaniyu regressionnykh eksperimentov* [Computational aspects of MLS in the analysis and design of regression experiments]. Moscow, Bauman MSTU Publ., 1975, 168 p.
- [5] Gleser L.J. *Statist. Anal. Meas. Error Models and Appl., Proc. AMS-IMS-SIAM*, 1990, pp. 99–114.
- [6] Fedorov V.V. *Teoriya optimal'nogo eksperimenta* [Theory of optimal experiment]. Moscow, Nauka Publ., 1971, 312 p.
- [7] Schater D.W. *Statist. Anal. Meas. Error Models and Appl., Proc. AMS-IMS-SIAM*, 1990, pp. 129–138.
- [8] Fuller W.A. *Measurement error models*. New York ect., Wiley, 1987, 440 p.

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