

# Estimating network loads in service networks

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## Abstract

Nowadays, the estimation of the load of service networks becomes more and more important. Service networks comprise here postal, transportation and communication networks. The cost of the measurement depends both on the place in the network, and on the amount to be measured. E.g. for postal services automatization provides an efficient facility for counting the letters. Hence, it is possible to estimate the daily loads of the deliverers. In such a network the nodes mark the operations of a flow process, the edges represent the flow directions.

The problem is how to plan the traffic measurement in the network with minimal cost, if we know the cost of measurement at the nodes. In case of a given output node, we are looking for those nodes, which influence the traffic of the output node. We want to ensure a set precision for the output node values in terms of uncertainty intervals. Our aim is to achieve the result with the smallest measurement cost. Therefore, the network's evaluation is made with the help of the interval arithmetic.

In this talk we consider some solution algorithms and compare them on generated networks.

*Keywords:* transportation networks, traffic flow

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