

Optimization problems for control of distributed resources

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Abstract

We consider a two-level optimization problem of resource allocation in communication networks, which is based on profit maximization of the network subject to capacity constraints. The cost function of the upper level problem involves a sum of non-differentiable functions whose values are computed algorithmically. The corresponding solution methods utilize duality theory and decomposition technique for optimization problems. © 2009 American Institute of Physics.

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Keywords

decomposition, duality, non-differentiable functions, optimization, Resource allocation