

Editorial

In the last issue of AUCO's second volume we present a collection of papers focused on various theoretical, applied and technical topics of game theory.

An interesting exercise of game-theoretical analysis is provided by Holler (Hamburg) and Klose-Ullmann (Munich) in "*Wallenstein's power problem and its consequences*" for Schiller's dramatic poem, *Wallenstein*, demonstrating the potential of game theory in the investigation of literary works. The authors indirectly indicate the possibilities of game theory applications in the analyses of historical events and decision-making situations and inspire new areas for game theory application.

Two characterizations of convex games, known within the literature of cooperative games are extended on interval data games in the paper "*Some characterizations of convex interval games*" by Branzei (Iași), Tijs (Tilburg) and Alparslan Gök (Ankara). By using the notion of marginal interval games, the convexity of an interval game turns out to be equivalent to the superadditivity of each marginal interval game. Moreover, the convexity of an interval game turns out to also be equivalent to the exactness of each interval subgame. An application for the special class of big boss games is provided.

Stackelberg models of hierarchical oligopoly markets with a homogenous product are studied in the paper "*How hierarchical structures impact on competition*" by Galegov and Garnaev (Saint Petersburg). The authors extend the classical solution in the closed form of the Stackelberg model for more general hierarchical structures composed by firms arranged into groups of different hierarchical levels.

Interfaces between game theoretical concepts and operations research techniques are studied in Kasperski's (Wrocław) paper "*Making robust decisions in discrete optimization problems as a game against nature*." For the discrete optimization problem with random costs of its elements (assumed to belong to one of k intervals specified for the element) the author presents a minmax formulation and a minmax regret formulation and its transformation into a standard mixed integer programming problem.

In the Bergantiños (Vigo) and Vidal-Puga (Pontevedra) paper "*On some properties of cost allocation rules in minimum cost spanning tree problems*," different properties that are defined in the literature of cost allocation in minimum cost spanning tree problems are investigated. Such game-theoretical problems can be applied to some economic situations, say, where several towns may draw power from a common power plant and hence have to share the cost of the distribution network.

The final paper included in our review is by Hrubý (Brno) and was entitled "*Algorithmic approaches to game-theoretical modeling and simulation*," dealing with the computer support of game-theoretical modeling and simulation of market competitive situations. The situations are thematically focused mostly on models of commodity markets and the proposed methodology covers the whole modeling process, including the primary specification of a problem, the development of an abstract model, the design of a simulation model, the specification of a state space of the problem and the

simulation itself. The algorithmic implementation of the computer processing of large strategic games is provided.

While the first paper was selected from standard submissions, earlier versions of the last five papers appearing in this issue have been presented at the 4th Spain, Italy, and Netherlands Meeting on Game Theory (SING4) in Wroclaw (June 26–28, 2008) and were accepted for publication after a demanding peer-reviewing process and revision. This special issue was co-edited by Andrey Garnaev from Saint Petersburg University. He and 17 reviewers from eight countries deserve our thanks for their efforts that allowed us to present this collection in a relatively short time.

The next Spain, Italy, and Netherlands Meeting on Game Theory (SING5) jointly organized by the VU University Amsterdam (VU), University of Amsterdam (UvA), Center for Mathematics and Computer Science (CWI) and the Tinbergen Institute (TI) will take place in Amsterdam on July 1–3, 2009.

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