Lopsided approximation for solving Equilibrium Problems

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Abstract

In this talk, a review of a new approach for studying equilibrium problems is presented. Particularly, the set of solutions of a multiagent equilibrium problem is characterized as the optimal points of an associated mathematical programming problem, corresponding to the max-inf optimization family. Given this setting, an approximation scheme is proposed through the application of the lopsided convergence theory. Finally, in order to provide a computational tool for numerical solutions, a constructive algorithm is discussed, based on a proposed application of the theory previously developed.

The family of the problems that can be modeled under this setting is appealingly large, ranging from Microeconomics up to Engineering applications. Three examples for this solution technique are presented: 1) a general equilibrium model for an exchange economy with uncertainty [1]; 2) a general equilibrium model with financial markets [3]; and 3) an infrastructure planning for fast EV-charging station problems [2]

References

