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## Coalitional ZP-Equilibrium in Games and its Existence (Conference Paper)

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## Abstract

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We introduce a solution concept for games in normal form with undetermined parameters, coalitional ZP-equilibrium, based on the notions of Z-equilibrium of [Zhukovskii and Chikrii [1994] Linear quadratic differential games, Kiev, Naoukova Doumka] and ZS-equilibrium of [Larbani and Lebbah [1999] A concept of equilibrium for a game under uncertainty. *Europ. J. Oper. Res.* 117, 145-156]. For each coalition structure, ZP-equilibrium ensures both the stability of the partition and equilibrium of coalitional strategies (in Pareto sense). We show that under some quasiconcavity conditions on payoff functions, the coalitional ZP-equilibrium exists in compact, convex and continuous normal form games involving undetermined parameters. © 2015 World Scientific Publishing Company.

## Author keywords

coalitional ZP-equilibrium Multiobjective mathematical programming Normal form game undetermined parameter

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