A new solution of core for interval-valued cooperative game

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In this paper, we give a further discussion on the core solution for cooperative games with fuzzy payoffs. Some notions and results from classical games are extended to fuzzy cooperative games. Using an example, we point out that the theorem about the nonempty of I-core proposed in 2008 was not sufficient. Furthermore, the equivalence relation between balanced game and nonempty core, which plays an important role in classic games, doesn't exist in interval-valued cooperative games. After all, the nonempty of I-core is proved under the convex situation. It perfects the theory of fuzzy core for interval-valued cooperative game.

Keywords: Cooperative game, interval-valued, core, balanced game