

## Superadditivity in General Fuzzy Coalition Games.

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*Abstract:* The superadditivity and related concepts belong to the fundamental ones in the coalition game theory. Their definition in general coalition games (games without side-payments) is based on the set theoretical approaches. It means that in the case of fuzzy coalition games the set theoretical model can be modified into the fuzzy set theoretical one. In this paper, the coalition games without side-payments and with fuzzy expectations of the pay-offs of players are considered and it is shown that for such games the properties of superadditivity, subadditivity and additivity turn into fuzzy properties. Their relations to their deterministic counterparts are shown and some results regarding their formal structure are derived.

*Keywords:*

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