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Characterization of dominance relations in finite coalitional games. (English) Zbl 1233.91014

Summary: D. C. McGarvey [“A theorem on the construction of voting paradoxes”, Econometrica 21, No. 4, 608–610 (1953)] has shown that any irreflexive and anti-symmetric relation can be obtained as a relation induced by majority rule. We address the analogous issue for dominance relations of finite cooperative games with non-transferable utility (coalitional NTU games). We find any irreflexive relation over a finite set can be obtained as the dominance relation of some finite coalitional NTU game. We also show that any such dominance relation is induced by a non-cooperative game through $\beta$-effectivity. Dominance relations obtainable through $\alpha$-effectivity, however, have to comply with a more restrictive condition, which we refer to as the edge-mapping property.

MSC:
91A12 Cooperative games
91B08 Individual preferences
91A10 Noncooperative games

Keywords:
cooperative game theory; non-transferable utility; dominance

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References:


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