

Redundant coalitions for the core

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The various solutions of transferable utility games take into account the cooperative possibilities of all coalitions of players in one way or another. Although their definitions formally involve each of the exponentially many coalitional values, many of the excess-based solutions are actually determined by a smaller family of coalitions. Disregarding redundant coalitions can make the analysis and computation of solutions significantly easier.

In the talk we focus on the core, and identify smaller (in some cases the smallest) families of coalitions which completely determine the core. We present several old and some new results, and demonstrate the usefulness of such simplification possibilities on various classes of games related to optimization problems.