

Méthodes topologiques en analyse non linéaire:développements récents -
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Limiting equilibrium in discontinuous games

In this work, we study the existence of an equilibrium in convex compact games where agents' payoff (or utility) functions are discontinuous. Such games fail in general to possess a Nash equilibrium. All the (numerous) works in this field aim to propose conditions (weaker than continuity) on player preference relations to guarantee the existence of a Nash equilibrium. Here, we explore another path. We introduce the concept of limiting equilibrium (or gentle equilibrium), weaker than Nash's concept, and we show that any convex compact game with arbitrary preference relations admits such an equilibrium. From this, we deduce the existence of a Nash equilibrium for robust games, which are similar to the point-secure games recently considered by Reny (2016).