A characterization of the sets of equilibrium payoffs of finite games

Guillaume VIGERAL
Université Paris-Dauphine, France

Yannick Viossat
Université Paris-Dauphine, France

It is well known that the set of equilibrium payoff of any finite N-player game is a nonempty semialgebraic and compact subset of R^N. We show that for $N \geq 3$ the converse is true : any nonempty semialgebraic and compact subset of R^N is the set of equilibrium payoffs of some finite N-player game. The proof is constructive. We also explain how this implies that some problems on finite games are undecidable.

Références