Learning and Stability in Large Repeated Games of Incomplete Information

Ehud Kalai
Eran Shmaya

Northwestern University
April 18, 2013

ABSTRACT

In equilibrium of large (many players) Bayesian games, stability properties fail when player types are interdependent. But when the game is played repeatedly, the players "learn to be independent" and stability is restored.

To have a more robust and manageable analysis of such games, we develop a new equilibrium concept called compressed equilibrium. Compressed equilibrium is significantly easier to compute, is independent of the number of players and repetitions of the game, and it becomes an epsilon Nash equilibrium as the number of players increases.