

**Abstract:** Repeated games and stochastic games are classical models of multi-player dynamic games. We examine these games with so-called general payoff functions: the payoff of each player is a bounded and Borel-measurable function of the infinite play of the game. These general payoff functions encompass the classical payoff functions used in the literature. As a Nash equilibrium does not always exist in these games, we are interested in the question whether these games admit a Nash  $\varepsilon$ -equilibrium for every error-term  $\varepsilon > 0$ . We answer this question in the affirmative in various classes of games.

Based on recent papers with Galit Ashkenazi-Golan, Arkadi Predtetchinski, and Eilon Solan