# Evaluation games in fuzzy logics

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The idea of a connection between game theory and logic can be traced back to the 1950s (Paul Lorenzen's dialogue games). Nevertheless the current boom in game semantics began in the 1980s with the work of Jaakko Hintikka and his followers. They introduced and developed the system of independent friendly (IF) logics, the semantics of which extends evaluation games for classical logic using the concept of a game of imperfect information. Since then game semantics has been extensively studied and a number of logics (e.g. intuitionistic, modal, linear) have received a game theoretical interpretation. In fuzzy logic games have only quite recently gained attention; most of the studies concentrate (to our knowledge) on propositional logic, mainly within the framework of dialogue games or Ulam games.

In our paper we introduce an evaluation game for Lukasiewicz predicate logic and prove its basic properties; then we present several variants. Finally we show that it is possible to generalize this concept to a broader class of logics, in particular to an arbitrary fuzzy logic.