

**Д.Г. Ильинский, S. Izmalkov, A. Savvateev**  
**N-player games of death**

Consider the infinite horizon battle among arbitrary number of players where on each stage, each one chooses the opponent to aim at. Players' marksmanship, as well as payoffs, are arbitrary. No discounting, and the game ends when at most one player is alive or when all shoot in the air simultaneously. We compute various scenarios in 3-player truels for this modification of the standard model that were described in the literature. One main difference is that we allow the "bullets" to be divisible between the opponents. This may suit better some economic phenomena that truels and battles with more than three players may model. We provide comments on the original model with "indivisible bullets" whenever applicable. We did not do any limiting assumptions. We dispensed with the pure strategy assumption from the start, and, as a result, were able to obtain some interesting observations.