The Evolution of Bidding Behavior in Private-Values Auctions and Double Auctions*

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Abstract

In environments with diffuse uncertainty, in which agents do not have information about the others' types, we study bidding behavior in auctions and double auctions. Our dynamic process is based on a strong component of inertia but with a small probability, the bids are modified in the direction of ex-post regrets. We apply stochastic stability to identify essentially a unique bid that will be used by each type in the long run. In the first-price auction, bidding half of one's valuation is stable. The stable bid in the k-double auction is a toughening of the linear equilibrium strategy. If we add a friction in changing one's bid, then truth-telling behavior is also obtained in both the first-price and k-double auctions. Intuitively, the stable bid minimizes the maximal regret.

Keywords: First-Price Auction; k-Double Auction; Stochastic Stability; Ex-post Regret; Minimax-regret.

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