

Existence of Pure Strategy Equilibria in Multi-unit Private Value Auction Games

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ABSTRACT

This paper proves the existence of a Nash equilibrium for a general class of multi-unit auctions. The seller offers k identical units of goods and sets the minimum accepted bid. Bidders have atomless valuation distributions and they submit up to k bids. The class of games investigated includes uniform-price, pay-your-bid, all-pay and Vickrey auctions as special cases. For this class, the existence of a measurable strategy space and weakly increasing pure strategy space Nash equilibrium is proven. The essential properties of the equilibrium are discussed.