Computable dynamic trading equilibria in continuous double auctions

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Abstract:

Trading optimally in a Continuous Double Auction (CDA) is difficult, due to the nearly countless options available to traders. Analytical models simplify the setup to cope with such a complexity. We present some models of CDAs for which approximate equilibrium trading strategies can be computed and analyzed. We model the CDA as a stochastic sequential game, numerically (and simultaneously) solving for the best strategy for each type of trader. We show that the optimization procedures we use are robust to the "curse of dimensionality" and obtain time-dependent or state-contingent optimal strategies with some realistic components.