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Qihang Lin* (qihang-lin@uiowa.edu), 21 East Market Street, PBB S301, Iowa City, IA 52245,
and **Xi Chen** (xichen@cs.cmu.edu). *An approximated dynamic programming approach for
optimal trade execution problem with a simplified limit order book model.* Preliminary report.

In the optimal trade execution problem, we consider selling a large risky asset before a deadline with a control to the transaction cost. We characterize the price dynamic and the market impacts of transactions using a simplified model of limit order book. We propose an approximated dynamic programming approach to solve the associated Markov decision problem. The performance of the resulting trading strategy is evaluated based on real limit order book data. (Received December 22, 2013)