

Seminar of Probability and Stochastic Process

Thursday, 4th December, from 10h15

[GC A1 416](#), EPFL, Ecublens

[Dr. Ryan Donnelly](#)

EPFL

Volume Imbalance and Algorithmic Trading

Abstract:

Shortcomings of continuous and non-speculative microstructure models are noted with motivation provided by data from the NASDAQ. The influence of volume order imbalance on limit order book dynamics is incorporated into a model which allows the agent to adjust their strategy based on observable quantities. The predictive power of order imbalance allows the agent to decide when they should trade more aggressively to take advantage of beneficial price movements, and when they should trade more conservatively to protect against adverse selection effects. High imbalance results in a stronger inclination to place limit buy orders with the opposite effect on limit sell orders. The additional value of being able to more accurately observe the imbalance process is also investigated through a simulation procedure.

Date of last change: Tue, 2 Dec 2014 10:08:37, by Carlo Ciccarella



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