

High-Frequency Financial Econometrics using Matlab

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Location: Work Foundation, 21 Palmer St, Westminster,
London SW1H 0AD

Day 1

- 9:30 – 11:00

- The Interface, editor, comments, dot-dot-dot (...)
- help
- Matlab Syntax
- Decision rules and loops

11:00 – 11:20 : Coffee break

- 11:20 – 12:50

- Matlab Functions
- Matlab Plots
- Importing/exporting files
- Data Aggregation

12:50 – 14:00 : Lunch break

- 14:00 – 15:30

- Tick vs. TAQ Database
- Estimation of Intraday returns
- Stylized Facts
- Data Generating Process

15:30 – 15:50 : Coffee break

- 15:50 – 17:20

- Estimation of Realized Measures
- Jump-Robust Measures
- Market Microstructure Noise
- Noise-Robust Measures

Day 2

- 9:30 – 11:00

- Realized Jumps
- Jump Test Statistics
- Disentangling Significant Jumps
- Conditional Variance Models

11:00 – 11:20 : Coffee break

- 11:20 – 12:50

- Forecasting Conditional Variance Models
- Introduction/Estimation to the HAR Model
- Forecasting Techniques
- Comparison of Conditional Variance from Daily and High-frequency Measures

12:50 – 14:00 : Lunch break

- 14:00 – 16:00

- Value-at-Risk using high-frequency measures and Conditional Variances
- Realized Betas: Estimation and Forecasting
- Monte Carlo Simulation
- Heston Model
- Simulating a Heston Model
- Simulating Microstructure Noise
- Monte Carlo Study – BNS Test

References

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- [14] Cecilia Mancini. Non-parametric threshold estimation for models with stochastic diffusion coefficient and jumps. *Scandinavian Journal of Statistics*, 36(2):270–296, 2009.
- [15] Michael McAleer and Marcelo C Medeiros. Realized volatility: A review. *Econometric Reviews*, 27(1-3):10–45, 2008.