

Minerva Foundation Lectures

Spring 2011

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ETH Zürich

“Affine Processes: Theory & Applications”

Lecture I: ‘Introduction and some motivating examples’**Tues, April 19, 4:10pm, Room 312 Math**

- We introduce the class of affine processes and several well-known examples like the Heston model, or the CIR model. Basic methodology of pricing and hedging is shown.

Lecture II: ‘Canonical State space - modelling stochastic variance’**Wed, April 20, 4:10pm, Room 312 Math**

- The theory on the state space $\mathbb{R}_{\geq 0}^m \times \mathbb{R}^n$ is outlined together with several models for stochastic variance.

Lecture III: ‘Matrix valued processes - modelling stochastic covariance’**Mon, April 25, 4:10pm, Room 312 Math**

- The theory of matrix valued affine processes, which generalizes Wishart processes, is outlined together with several models of stochastic covariance.

Lecture IV: ‘Affine processes in interest rate theory’**Thurs, April 28, 4:10pm, Room 717 Hamilton**

- The affine Libor market model and several affine factor models are introduced and discussed.

Lecture V: ‘Pricing, Hedging and Calibration’**Fri, April 29, 2:30pm, Room 312 Math**

- Issues in pricing, hedging and calibration of affine models are discussed and demonstrated with several examples.