
Affine processes on positive semidefinite matricesFRI/E3.1
17:40–18:00

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Motivated by applications in mathematical Finance and in particular by multivariate stochastic volatility models, we study affine processes on S_d^+ , the cone of positive semidefinite symmetric matrices. A complete characterization of this class of Markov processes is provided through a detailed parameter specification of the infinitesimal generator. The derivation of these necessary and sufficient conditions on the parameters relies on stochastic invariance results for closed convex cones. It is further shown that stochastically continuous affine processes on S_d^+ are automatically regular and admit the Feller property. The subclass of processes without diffusion component is characterized by infinite divisibility.

This talk is based on a joint article with Damir Filipović, Eberhard Mayerhofer and Josef Teichmann [1].

- [1] C. CUCHIERO, D. FILIPOVIĆ, E. MAYERHOFER AND J. TEICHMANN : *Affine processes on positive semidefinite matrices*. Preprint 2009.