

On the calibration of local Lévy type asset price models*Philipp Mayer* (TU Graz)

THU/E3.1 11:30–11:50

Exponential Lévy models are known to be capable of reproducing observed implied volatility surfaces well for one maturity, but to have some problems when a whole range of maturities shall be fitted. One way to overcome this drawback and to introduce more flexibility in the model is by allowing for a state and time dependent time change of the driving stochastic process. Applying this procedure for example in the classic model of Black and Scholes leads to the well-known local volatility model.

In this talk we will discuss besides some properties of localized Lévy models, as e.g. the smoothness of the marginal densities, the calibration of these models. In particular we will present a generalized Dupire formula for the market implied time change and some possible regularization techniques for the (ill-posed) inverse problem.