

Kolloquium „Statistische Methoden in der empirischen Forschung“

Wann: 08. Januar 2013, 17:00 – 18:30 Uhr

Wo: Landwirtschaftlich-Gärtnerische Fakultät der HU, Hörsaal 2, 2. Etage,
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Dynamic Intensity Models -- Properties and Applications

In this talk, we discuss different types of dynamic intensity models. One class of models is based on dynamic parameterizations of the intensity function. Here, the intensity is modelled in continuous time but is updated at each occurrence of a new point. Updating the process according to an autoregressive structure yields the class of autoregressive conditional intensity models.

Alternatively, specifying the intensity in terms of the backward recurrence time to all previous points leads to the class of self-exciting processes. An important special is the class of Hawkes processes.

Moreover, we illustrate how to dynamically extend the class of semiparametric proportional hazard models. The basic idea is to specify a dynamic process for the integrated hazard function. As the latter is unknown, we propose an observation driven latent dynamic which yields to a semiparametric autoregressive conditional proportional hazard model. We show its probabilistic properties and discuss extensions in various directions. Finally, we illustrate applications of the presented approaches by modelling activity on financial markets and constructing volatility estimators.