



## PROBABILITY SEMINAR

# Asymptotic Efficiency of the Maximum Likelihood Estimator of the Generalized Ornstein-Uhlenbeck Process

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Time: 14:15 Horas

MAT Mini-auditorium

**Abstract.** In this seminar we will discuss about the quality of a family of estimators through the study of asymptotic efficiency in Hájek-Le Cam Convolution Theorem sense. The Locally Asymptotically Normal condition of a family of probability measures, the ergodicity of the process and the Central Limit Theorem for  $N$ -dimensional martingales are important tools for this problem.

Inspired in Mai[3], Gloter, Loukianova and Mai[1] and Tran[4], we will discuss applications of this theory in the quality's study of the Maximum Likelihood Estimator of the Generalized Ornstein-Uhlenbeck process.

## References

- [1] Gloter, Arnaud; Loukianova, Dasha; Mai, Hilmar (2018) Jump filtering and efficient drift estimation for Lévy-driven SDEs. *Ann. Statist.* 46, no. 4, pp.1445-1480.
- [2] Ibragimov, I.A.; Has'minskii, R.Z. (1981) Statistical estimation. Asymptotic theory. *Springer*.
- [3] Mai, Hilmar (2014) Efficient maximum likelihood estimation for Lévy-driven Ornstein-Uhlenbeck processes. *Bernoulli* 20(2), pp.919-957.
- [4] Tran, Ngoc Khue (2017) LAN property for an ergodic Ornstein-Uhlenbeck process with Poisson jumps *Communications in Statistics. Theory and Methods*, v.46, no.16, pp. 7942-7968.