

# **"Statistical Inference for Ergodic Point Processes and Application to Limit Order Book"**

**Simon Clinet**

## **Abstract**

We construct a general procedure for the Quasi Likelihood Analysis applied to a multivariate point process on the real half line in an ergodic framework. When a particular family of laws of large numbers applies to the parametrized stochastic intensity of the model, we establish the consistency, the asymptotic normality and the convergence of moments of both the Quasi Maximum Likelihood estimator and the Quasi Bayesian estimator. We finally illustrate our results by showing how they can be applied to various Limit Order Book models such as the fundamental cases of Markovian models and exponential Hawkes process-based models.