

# INTENSITY ESTIMATION FOR A COMPOUND POISSON DRIVEN DIFFERENTIAL MODEL

J. C. S. de Miranda

Institute of Mathematics and Statistics

University of São Paulo

## **Resumo/Abstract:**

We propose three estimators of the intensity of the Poisson process  $\mathbf{N}$  that appears in the following compound Poisson driven differential model:  $\frac{dX}{dt} + \alpha(t)X = \sum_{i=1}^{\mathbf{N}(0,t)} Y_i$ . Inference is done under three different informational settings: under knowledge of complete trajectories, of single evaluations of trajectories at a fixed time and of single evaluations of trajectories at different times plus the knowledge of the initial condition. Under regularity conditions, these three estimators are proven to be unbiased, consistent and asymptotically normal.