

The aim of this thesis is the prediction of insurance events under the condition that the data related to the occurrence of the events is truncated. The nature of the truncation lies in the fact that in the present we observe only those events that were already reported to the insurance company. Occurrences and reporting are modeled by a two-dimensional non-homogeneous Poisson process. The intensity of occurrences is derived from Kingman's Displacement theorem and is computed as a convolution of the intensity of reporting and the density of the delay in between occurrences and reporting. The estimations of the parametric function of the intensity of reporting and the distribution are performed using the maximum likelihood method. In addition, theoretical background concerning counting processes primarily directed to the Poisson processes is discussed in this thesis.