Abstract

Procedures for statistical control of random processes are well known. What we miss, is the comparison of such procedures. In the beginning, we will introduce the linear regression model which will be our assumption throughout the whole thesis. Then we will explain three most common violations of the model whereas two of them will be studied closely. In practice, two fundamental approaches are employed: offline and online approach. The offline methods are performed ex-post. We will propose procedures leaning on the assumption of normality, but robust procedures as well. Online methods (so called sequential) are based on a different principle. The most common are Shewhart's and CUSUM method. Finally, the last fifth chapter will be dedicated to comparison of these methods. Our main interests are to detect as fast as possible but also not before the time of change. The approaches will be compared from these aspects.