

The autocorrelation function is a basic tool for time series analysis. The classical estimation is very sensitive to outliers and can lead to misleading results. This thesis deals with robust estimations of the autocorrelation function, which is more resistant to the outliers than the classical estimation. There are presented following approaches: leaving out the outliers from the data, replacement the average with the median, data transformation, the estimation of another coefficient, robust estimation of the partial autocorrelation function or linear regression. The thesis describes the applicability of the presented methods, their advantages and disadvantages and necessary assumptions. All the approaches are compared in simulation study and applied to real financial data.