

## ABSTRACT

Bachelor thesis: 159 p., 62 fig., 15tabl., 2 appendixes, 15 sources.

Object of research: non-linear non-stationary processes in economy and finance exchange are time series.

Objective: building mathematical models of selected exchange processes; Evaluation of forecasts; development of software to perform computational experiments.

Method of research: mathematical models and methods of analysis processes in economy and finance.

An information system for analytical modeling and forecasting processes in economy and finance is based on autoregressive moving average. The project results are selected prediction of stock prices using both: developed my own software and existing commercial products for statistical processing.

The system is implemented on the platform .Net Framework 4.5 using the programming language C #, there are examples of programs for forecasting real stock prices. There are ways of possible further improve the system.

NONLINEAR PROCESSES, NONSTATIONARY PROCESSES,  
INTEGRATED PROCESSES, HETEROSCEDASTIC PROCESSES,  
AUTOREGRESSION MODELS MOVING AVERAGE, AUTOREGRESSIVE  
CONDITIONAL HETEROSCEDASTIC MODEL, DECISION SUPPORT  
SYSTEMS.