

## ABSTRACT

Thesis: 104 p., 37 fig., 16 tabl., 1 appendix, 43 sources.

Object of research: linear and nonlinear non-stationary processes in the economy.

The purpose of the work: the creation of tools for the construction and selection of a better model in the process of analysis of economic processes of different types.

Subject of research: mathematical models and methods of formal description of processes in economics and finance.

The diploma project is devoted to the implementation of software for the analysis of nonlinear processes. This work is especially relevant because the construction of models can take into account long-term behavior of time series and thus provide long-term forecasts. The use of predictive models can be used to approximate nonlinear, non-stationary processes, with minimal errors. The work analyzes the existing criteria of the adequacy of the models, the criteria of the quality of estimates of forecasts, which are used in forecasting. A software has been created.

MATHEMATICAL MODEL, CRITERIA OF QUALITY, ADEQUACY  
CRITERIA.