

## ABSTRACT

**Structure and scope of a paper.** Explanatory note of the main part of the thesis consists of five chapters, has got 4 pictures, 12 tables, 1 addition, 33 sources.

The thesis is devoted to development of the system for building multidimensional polynomial regression based on redundant model in the case of active experiment.

First chapter of the thesis contains description of the domain, and basic principles of the active experiment regression problem. In addition, goals for were set for the development of the system.

In the chapter of information support input and output data is defined and explained. Also, it describes data structures which are used to store information about experiments and regression line.

The chapter of mathematical support is devoted to problem stating and argumentations of the developed solving method. Also, this chapter explains and gives ground to recommendations for regression analysis.

In the chapter programming and technical support, the selected architecture of the software is described.

In the chapter of the technology the user's guide is described. Also the methodology of the testing is written there.

REGRESSION, MULTIDIMENSIONAL POLYNOMIAL REGRESSIO,  
EXPERIMENT, ACTIVE EXPERIMENT, FORSYTHES POLYNOMIALS,  
REPETITIVE EXPERIMENTS, RECURRENCE RELATIONS

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