

ABSTRACT

Complex thesis: 138 pages, 3 volumes, 14 tables, 29 figures, 20 names of bibliographic sources.

PROBLEM OF QUADRATIC PROGRAMMING, CONJUGATE GRADIENT METHOD, NONLINEAR PROGRAMMING, MATHEMATICAL PROGRAMMING, LINEAR SOLUTION, QUADRATIC PROGRAMMING PROBLEM, QUADRATIC SIMPLEX METHOD, PENALTY METHOD, BARRIER METHODS, CONJUGATED DIRECTIONS METHOD, NONLINEAR PROGRAMMING.

The theme of the work is the methods of solving multidimensional problems of quadratic programming, in particular, their linear solution and quadratic simplex method.

The object of the study are the method of linear solving of the quadratic programming problem and its application for finding solutions to specific problems, quadratic simplex method for solving quadratic programming problem.

The subject of the study is the problem of quadratic programming, methods for its solution, and the linear solution of the quadratic programming problem, the application of a quadratic simplex method for solving quadratic programming problem

The purpose of the work:

- consideration of methods for solving quadratic programming problems;
- checking the possibility of using this linear method for solving quadratic programming problems and its effectiveness.
- .the analysis of the efficiency of applying a quadratic simplex method.

Methods of research: Methods of optimization, numerical methods, program realization of a quadratic simplex method is performed in the Jupyter Notebook environment.