**Belarusian State University**

**Mechanics and Mathematics Faculty**

**Department of Nonlinear Analysis and Analytical Economics**

**Annotation to the diploma work**

**«Theorems of Hicks and Le-Chatelier - Samuelson for equations in spaces of Riesz»**

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Diploma work contains:

– 29 pages,

– 15 used sources.

Keywords: RIESZ SPACES, ORDER CONTINUOUS OPERATOR, PRESERVING THE COMPONENT, SOLVABILITY OF THE EQUATION x = Tx + z, THEOREM HICKS AND LE - CHATEILER – SAMUELSON FOR THE EQUATIONS IN AN IDEAL SPACE.

The diploma work examines the generalization of the classical theorems of Hicks and Le Chatelier - Samuelson for non-negative matrices to arbitrary linear positive operators in ideal spaces.

The aim of this work is the use of the classical theorems of Hicks and Le Chatelier - Samuelson in the case of an ideal space to Leontiev model and solution of this problem. The main emphasis is placed on these results, as the use of analogs of the theorems of data to operators, preserving components, the solvability of equations x = Tx + z.

To achieve this goal have been used:

 – Methods of the theory of ordered spaces, in particular, Riesz spaces

– Methods of the theory of order-continuous operators and preserving components

– Methods of the theory of solvability of linear equations, in particular, the equations x = Tx + z.

Thesis includes:

1) consideration of the solubility of equations x = Tx + z applied to the Leontief model

2) formulation of the theorems of Hicks and Le Chatelier - Samuelson for non-negative matrices to arbitrary linear positive operators in ideal spaces.

Degree work is abstract in nature. Review and study material can be used for reading special courses on economic and mathematical models, as well as courses on the theory of ordered spaces and operator theory. All the results of the thesis mathematically proven.

The diploma work is done by the author alone.