**Belarusian state university**

**The Mechanics and mathematics faculty**

**Department of nonlinear analysis and analytical economics**

**Annotation for the graduate work**

**«** **Flat systems of algebraic equations »**

**Sprinzhunas Oleg Alekseevich,**

**Leader Zabreiko Petr Petrovich**

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Graduate work has 24 pages, 7 drawings, 4 sources.

Keywords: ROTATION OF A VECTOR FIELD, HOMOTOPIC FIELDS, SINGULAR POINT AND ITS INDEX, SYSTEMS OF TWO EQUATIONS, A NON-DEGENERATE POLYLINEAR FIELD, INDICATIONS OF THE SOLVABILITY OF PLANE EQUATIONS, THE MAIN THEOREM OF AN ALGEBRA.

In graduate work various methods for calculating the rotation of a vector field are studied.

The aim of the graduate work is to establish methods for calculating the rotation of a vector field on a curve and the boundary of a domain.

To achieve this goal, we used

* Rotation properties;
* Methods for calculating the rotation for homogeneous fields.

In the graduate work the following results were obtained:

* Calculation of the rotation of the vector field on the curve and the boundary of the domain;
* The theorem on the solvability of systems of algebraic equations;
* Existence and estimates of the number of solutions of planar systems;
* Signs of the solvability of plane equations.

The graduate work is of a theoretical nature.

Its results can be used in further research.

All the results of the graduate work are strictly proved in accordance with the rules accepted in mathematics. The validity and reliability of the results obtained is due to rigorous mathematical evidence.

The graduate work was written by the author himself.