

ABSTRACT

for coursework, student Melnik Nickolay, group XA-51

on discipline «Numerical methods»

on the topic: «*Solution of a system n -th order ordinary differential equations by the Euler-Koshi method*»

The differential equations have been investigated by Euler-Koshi method in coursework, analyzed the task and means of its implementation. The investigation was carried out by the example of system of three differential equations. The project was created via Visual Studio 2015 software (C++, Win32 Console Application). The program allows to calculate systems of two and three differential equations, and one equations. Results of the calculation of the program are displayed in console window and in file.

It was also studied the task of approximation functions such as searching of approximation functions (empirical coefficients, polynomial dependences) and spline interpolation. The results showed good enough approximation to the experimental values.