

ABSTRACT

for coursework, student Pshenychnyi Maksim, group XA-51
on discipline "Numerical methods"
on the topic of "*Solving the system of ordinary differential equations by the Runge-Kutta method*"

The differential equations have been investigated by Runge-Kutta 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 2013 software (C++, Win32 Console Application). The program allows to calculate a system of differential equations. The result of 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.