

Numerical solution for solving second order ordinary differential equations using block method.

Abstract

The purpose of this paper is to present a four point direct block one-step method for solving directly the general second order nonstiff initial value problems (IVPs) of ordinary differential equations (ODEs). The mathematical problems in real world can be written in the form of differential equations and arise in the fields of science and engineering such as fluid dynamic, electric circuit, motion of rocket or satellite and other area of application. The proposed method will estimate the approximation solutions at four points simultaneously by using variable step size.

Keyword: Second order odes; Block method; One-step method; Ordinary differential equations.