

## **Solving stiff differential equations using A-stable block method**

### **ABSTRACT**

This paper will present the two-point block one-step method for solving stiff ordinary differential equations (ODE s). The propose block method is A-stable and the order is three. The solutions will be obtain simultaneously in block and produces two approximate solutions using constant step size. The method is similar as the one-step method and it is self-starting but the implementation is based on the predictor and corrector formulae. The order of the method will be discussed. The numerical results is presented to illustrate the applicability of the propose method. The results clearly shown that the propose method is able to produce comparable and better results compared to the existing method when solving stiff differential equations.

**Keyword:** Stiff ordinary differential equation; Block method; Two-point