

## **Second order of Volterra integro-differential equations using direct two point hybridblock method**

### **ABSTRACT**

A direct method is implemented for the numerical solution of second-order Volterra integro-differential equations (VIDEs). The formulation of two-point hybrid block method will be discussed in this paper to solve second order VIDEs directly without reducing the equations into first order system. The proposed method of order four will calculate the computing solutions using constant step size. The quadrature rule has been used to approximate the integral part. Numerical results of linear and nonlinear VIDEs are presented and show that the hybrid block method is appropriate for solving second order VIDEs directly.

**Keyword:** Direct method; Hybrid block method; Volterra integro-differential equations.