

## **First order piecewise collocation solution of Fredholm integral equation second kind by using gauss-seidel iteration**

### **ABSTRACT**

We determine the approximation solution of first-order piecewise via polynomial collocation with first-order Quadrature scheme on Fredholm integral equations of second kind. This discretization has derived the formation for solving piecewise approximation equation in which constructing the linear system. In order to get the approximation solutions, the Gauss-Seidel method has been stated as a linear solver in which its formulation has been constructed and implemented in this study. The combination of the iterative method of GS with the first-order piecewise polynomial via collocation with first-order Quadrature scheme has shown that performance of GS method is excel than Jacobi method in the matter of iterations number and completion time.