

Abstract

Mohamed Fathy E Ali

Legendre–Galerkin method for the linear Fredholm integro-differential equations

This paper presents a study of the performance of the Galerkin method using Legendre basis functions for solving linear Fredholm integro-differential problems. Convergence and error estimation of the method were discussed. The method is then tested on several examples. Numerical results are included and comparisons with other methods are made to confirm the efficiency and accuracy of the method.