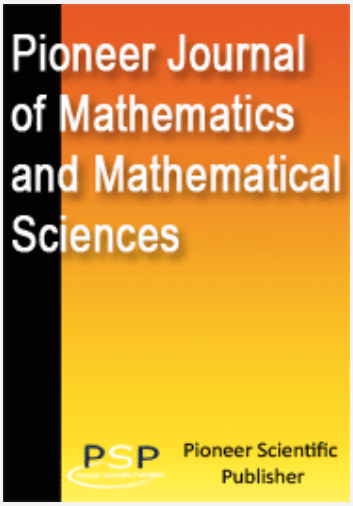
Pioneer Journal of Mathematics and Mathematical Sciences
Volume 5, Issue 1, Pages 87-94 (May 2012)

ISSN: 2230-9829



ITERATIVE SHOOTING METHOD FOR SOLVING TWO POINT BOUNDARY VALUE PROBLEM ON AN INFINITE INTERVAL

R. A. Oderinu and Y. A. S. Aregbesola

Received December 31, 2011

Abstract

A new approach of finding initial guess for the shooting angle in the iterative shooting method is developed. The Boundary Value Problems (BVPS) in the infinite domain are reduced to Initial Value Problems (IVPS) to the original differential equations. The two systems of equations are solved iteratively using Runge Kutta method of order 4. The initial guess obtained for each problem allows for quick convergence. The results obtained are compared with those obtained in the literature and they are found to be better.

Keywords and phrases: initial guess, shooting angle, Newton formulae, Runge Kutta method.