

A numerical approach for solving a general nonlinear wave equation

Abstract

An analysis of various numerical schemes and boundary conditions on a general nonlinear wave equation is considered in this study. In particular, the Lax-Wendroff, Leapfrog and Iterated Crank Nicholson methods with Dirichlet boundary conditions are used to solve this nonlinear wave equation. The computation of the solution is made via the reduction of the nonlinear wave equation to the two variable and three variable systems.