

WAVEFORM RELAXATION METHOD FOR SOLVING PARABOLIC PARTIAL DIFFERENTIAL EQUATION USING SPECTRAL METHOD

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Abstract

Solving the large system of ODEs and PDEs has basic application in science and engineering. In this paper, the waveform relaxation method (or dynamic iteration) is applied to solve partial differential equation (PDE) of parabolic type using spectral methods for time and space variables. This gives a system of linear or non-linear equations. This system is solved by iterative methods. The results demonstrate the performance and efficiency of the proposed method.

Keywords and phrases: waveform relaxation method, parabolic partial differential equation, spectral method.

Received August 21, 2012

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