

Legendre Pseudospectral Method for Solving Three-Dimensional Non-Linear Hyperbolic Partial Differential Equations

Abdur Rashid

Department of Mathematics, Gomal University, Dera Ismail Khan, Pakistan
email: prof.rashid@yahoo.com

Abstract:

In this talk, numerical solutions of three-space non-linear hyperbolic partial differential equations will be presented by using Legendre pseudospectral method. The discretization of the spatial derivatives of the problem have been solved by using Legendre pseudospectral method. A system of non-linear ordinary differential equations is generated. The values of unknown function u can be found by using kronecker product. The representation of this kind of product can easily be extended to higher dimensions. The numerical results are obtained and compare with exact solutions to validate the high precision of the Legendre pseudospectral method.

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