

1079-65-279

**Muhammad Usman\*** (musman1@udayton.edu), 300 College Park, Dayton, OH 45469-2316.

*Numerical Solution of Some Nonlinear Partial Differential Equations Using Radial Basis Functions.*

In this paper we present numerical solutions of a family of generalized fifth-order Korteweg-de Vries equations and Kuramoto-Sivashinsky Equation using a meshless method of lines. This method uses radial basis functions for spatial derivatives and Runge-Kutta method as a time integrator. This method exhibits high accuracy as seen from the comparison with the exact solutions. We will also discuss the difficulties using the method. (Received January 16, 2012)