

Numerical Solution of Integral Equations by Using Discrete GHM Multiwavelet

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Abstract : In this paper, numerical method based on discrete GHM multiwavelets is presented for solving the Fredholm integral equations of second kind. There is hardly any article available in the literature in which the integral equations are numerically solved using discrete GHM multiwavelet. A number of examples are demonstrated to justify the applicability of the method. In GHM multiwavelets, the values of scaling and wavelet functions are calculated only at $t = 0, 0.5$ and 1 . The numerical solution obtained by the present approach is compared with the traditional Quadrature method. It is observed that the present approach is more accurate and computationally efficient as compared to quadrature method.

Keywords : GHM multiwavelet, fredholm integral equations, quadrature method, function approximation

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