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Approximate Solution for Integro Partial Differential Equation via Neural Network

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ABSTRACT The aim of this paper is to solve integro partial differential equations (IPDEs) using artificial neural network through designing multi-layer feed forward Neural Network. A multi-layers design in the proposed method consists of a hidden layer having five hidden units with tanh (tansig) Transfer function used as each unit and one output unit with linear (purelin) transfer function in this design using Levenberg-Marquardt algorithm

training. Moreover, examples on partial integrodifferential equations carried out to demonstrate the efficiency and accuracy of the introduced technique.

Keywords: artificial neural network, integro partial differential equation, linear transfer function, Levenberg-Marquardt algorithm