UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

SOLUTION OF FISHER'S EQUATION USING INTEGRAL ITERATIVE METHOD

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ABSTRACT

In this research, we are focusing on solving Fisher's Equation (FE) which is a nonlinear differential equation by using Integral Iterative Method (IIM). As a basic knowledge, IIM generates a sequence of approximation in which this method is very convenient for both nonlinear and linear problems that consist a huge number of variables. With this method, we are able to compute approximate solution which converges to the exact solution at given initial approximations. Moreover, we also want to validate the efficiency and accuracy of solving FE by using IIM. The result that we obtained by using IIM will be proven by the absolute error of the solution as compared to the exact solution. We are focusing on application of IIM into two cases with different initial condition to determine the best results of this research. The findings demonstrate that IIM is reliable, practical, and effective at resolving nonlinear issues. Thus, this will encourage the researcher in the future to enhance this IIM method to solve FE and suggest any recommendation that can be applied to improve this method's efficiency and accuracy of solving nonlinear differential equation.