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SOLUTION OF THE FRACTIONAL BURGER-HUXLEY EQUATION OF THE CAPUTO-FABRIZIO TYPE USING THE ABOODH TRANSFORM METHOD WITH THE REDUCED DIFFERENTIAL POLYNOMIALS

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Abstract

The Aboodh transform method was combined with the reduced differential polynomials to solve the Fractional Burger-Huxley (FB-H) equation of the Caputo-Fabrizio type. The general Burger-Huxley equation which is a nonlinear partial differential equation that models the interplay between the reaction mechanisms, convective effects and diffusion transport observed in many biological and physical systems is analyzed. The results gotten are showcased in tabular and graphical forms to explain the performance and efficiency of the combined methods. It is discovered that the results derived are close to the exact solution of the problems illustrated. This work will thus make it simple to study nonlinear process that arise in various aspect of innovations and researches.

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