

REGARDING ANALYTICAL PROTOTYPE STUDIES FOR THE
GENERALIZED NONLINEAR POCHHAMMER-CHREE EQUATION

Haci Mehmet Baskonus¹, Hasan Bulut² and Mirac Kayhan³

¹ Faculty of Engineering, Tunceli University, Tunceli, Turkey

² Faculty of Science, Firat University, Elazig, Turkey

³ Faculty of Science, Inonu University, Malatya, Turkey

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Abstract

In this study, we have applied Kudryashov method to obtain some new analytical solutions for the generalized nonlinear Pochhammer-Chree equation, after we give the structure of Kudryashov method in section 2, primarily. In Section 3, as an application, before we have formed two and three dimensional surfaces of analytical solutions obtained by Kudryashov method, we have obtained some new analytical solutions of the generalized nonlinear Pochhammer-Chree equation defined as following form;

$$u_{tt} - u_{ttxx} + \gamma u_{xxt} - (\lambda_1 u + \lambda_2 u^p + \lambda_3 u^{2p-1})_{xx} = 0, \quad (1)$$

where $\gamma, \lambda_1, \lambda_2, \lambda_3$ are constants and they are not zero.

Keywords: The Kudryashov method, Generalized nonlinear Pochhammer-Chree equation, Exponential function solution, Trigonometric function solutions, Hyperbolic function solutions.

References

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¹hmbaskonus@gmail.com

²hbulut@firat.edu.tr

³mirackayhan@yandex.com