

New exact optical soliton solutions for the General Modified fractional Degasperis-Procesi-Camassa-Holm equations with a truncated M-fractional derivative

Hadi Rezazadeh¹, amin gholami davoodi², S. Mirhosseini-Alizamin³, mostafa Khater⁴, and Raghda Attia⁴

¹University of Guilan

²babol university of technology

³Payame Noor University

⁴Jiangsu University

May 5, 2020

Abstract

In this work, we implement some analytical techniques such as Exp-Function method, Tan and Tanh methods, Extended Tan and Tanh methods, and Sech method for solving the fractional nonlinear partial differential equation with a truncated M-fractional derivative, which contain exponential terms its name, General Modified fractional Degasperis-Procesi-Camassa-Holm equation with a truncated M-fractional derivative. These methods can be used as an alternative to obtain exact solutions of different types of differential equations applied in engineering mathematics. Finally, we obtain the analytical solution of the M-fractional heat equation and present a graphical analysis.

Hosted file

Degasperis-Procesi Camassa-Holm Exp.pdf available at <https://authorea.com/users/301059/articles/430841-new-exact-optical-soliton-solutions-for-the-general-modified-fractional-degasperis-procesi-camassa-holm-equations-with-a-truncated-m-fractional-derivative>















