Abstract

In this research, we employ the extended exp(-φ(ξ)) expansion method for the first time to obtain the exact and solitary wave solutions of the (3+1)-Dimensional Yu-Toda-Sasa-Fukuyama Equation. We obtain the wide range of exact and solitary wave solutions of distinct physical structure.

References

3. Emad H. M. Zahran and Mostafa M.A. Khater, The modified simple equation method and
its applications for solving some nonlinear evolutions equations in mathematical physics. Jönkull
journal- Vol. 64. Issue 5 - May 2014.


5. Mostafa M. A. Khater, Emad H. M. Zahran, New solitary wave solution of the generalized
Hirota-Satsuma couple KdV system, International Journal of Scientific & Engineering Research,

6. Mahmoud A.E. Abdelrahman and Mostafa M.A. Khater, Traveling Solitary Wave Solutions
for the Symmetric Regularized Long-Wave Equation, JOURNAL OF ADVANCES IN
MATHEMATICS, Vol .11, No.8, 5520- 5528 (December 07 , 2015).

7. Mostafa M.A. Khater and Emad H. M. Zahran, Modified extended tanh function method
and its applications to the Bogoyavlenskii equation, Applied Mathematical Modelling, 40,
1769-1775 (2016).

8. A. M. Wazwaz, Exact solutions to the double sinh-Gordon equation by the tanh method


403-406.


13. M. A. Abdou, The extended F-expansion method and its application for a class of

14. Y. J. Ren, H. Q. Zhang, A generalized F-expansion method to find abundant families of
Jacobi elliptic function solutions of the (2+1)-dimensional Nizhnik-Novikov-Veselov equation,


17. H. Aminikhad, H. Moosaei, M. Hajipour, Exact solutions for nonlinear partial differential
1427-1433.

18. Z. Y. Zhang, New exact traveling wave solutions for the nonlinear Klein-Gordon

417-423.

20. S. Zhang, J. L. Tong, W.Wang, A generalized (G'/G) - expansion method for the mKdv


22. Emad H. M. Zahran and Mostafa M.A. Khater, Exact solutions to some nonlinear
evolution equations by using (G'/G) - expansion method, Jönkull journal- Vol. 64. Issue 5 - May
2014.

**Index Terms**

Computer Science  
Applied Mathematics

**Keywords**

Extended exp(-ψ(ξ))-expansion method, The (3+1)- Dimensional Yu-Toda-Sasa-Fukuyama equation, Traveling wave solutions, Solitary wave solutions.