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$\left(\frac{G'}{G}\right)$-expansion method for the generalized Zakharov equations

Hassan A. Zedan

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Abstract In this paper, we modified the so-called generalized (G′/G)-expansion method to obtain new traveling wave solutions for nonlinear differential equations. The generalized Zakharov equations are chosen to illustrate the method in detail.

Keywords Generalized Zakharov equations · (G′/G)-expansion method · Travelling wave solutions

Mathematics Subject Classification (2000) 35–XX

1 Introduction

In the recent decade, several analytical methods are proposed [1–4] to search for traveling wave solutions to nonlinear Zakharov equations. recently $\left(\frac{G'}{G}\right)$-expansion method was proposed to construct more explicit traveling wave solutions to generalized Zakharov equations (GZEs). The ideas of $\left(\frac{G'}{G}\right)$-expansion method is based on the assumptions that the traveling wave solutions of (GZEs) can be expressed by a polynomial in $\left(\frac{G'}{G}\right)$ and G satisfies a second order linear ordinary differential equation. The travelling wave solutions of a complicated Zakharov equations can be constructed

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H. A. Zedan
Department of Mathematics, Faculty of Science, King Abdul Aziz University,
P.O. Box 80203, Jeddah 21589, Saudi Arabia

H. A. Zedan (✉)
Department of Mathematics, Faculty of Science, Kafr El-Sheikh University,
Kafr El-Sheikh, Egypt
e-mail: hassanzedan2003@yahoo.com