

New Exact Solutions for Two Nonlinear Equations

Zonghang Yang

Department of Mathematics, City University of Hong Kong, Hong Kong, SAR, P. R. China

Reprint requests to Z.Y.; E-mail: yangzonghang@hotmail.com

Z. Naturforsch. **61a**, 1 – 6 (2006); received December 6, 2005

Nonlinear partial differential equations are widely used to describe complex phenomena in various fields of science, for example the Korteweg-de Vries-Kuramoto-Sivashinsky equation (KdV-KS equation) and the Ablowitz-Kaup-Newell-Segur shallow water wave equation (AKNS-SWW equation). To our knowledge the exact solutions for the first equation were still not obtained and the obtained exact solutions for the second were just N-soliton solutions. In this paper we present kinds of new exact solutions by using the extended tanh-function method.

Key words: KdV-KS Equation; AKNS-SWW Equation; Extended tanh-Function Method; Exact Solution.