



Exact Solutions > Nonlinear Partial Differential Equations >
Third-Order Partial Differential Equations > Generalized Korteweg–de Vries Equation

$$4. \quad \frac{\partial w}{\partial t} + \frac{\partial^3 w}{\partial x^3} + f(w) \frac{\partial w}{\partial x} = 0.$$

Generalized Korteweg–de Vries equation.

References

- Fushchich, W. I., Serov, N. I., and Ahmerov, T. K.,** On the conditional symmetry of the generalized KdV equation, *Rep. Ukr. Acad. Sci.*, A 12, 1991.
- Galaktionov, V. A.,** Ordered invariant sets for nonlinear evolution equations of KdV-type, *Zh. Vych. Matem. i Mat. Fiziki* [in Russian], Vol. 39, No. 9, pp. 1564–1570, 1999.
- Polyanin, A. D. and Zaitsev, V. F.,** *Handbook of Nonlinear Partial Differential Equations*, Chapman & Hall/CRC, Boca Raton, 2004.

Generalized Korteweg–de Vries Equation

Copyright © 2004 Andrei D. Polyanin

<http://eqworld.ipmnet.ru/en/solutions/npde/npde5104.pdf>