

Malfliet, Willy; Hereman, Willy

The tanh method. I: Exact solutions of nonlinear evolution and wave equations. (English)

[Zbl 0942.35034](#)

Phys. Scr. 54, No. 6, 563-568 (1996).

Summary: A systemized version of the tanh method is used to solve particular evolution and wave equations. If one deals with conservative systems, one seeks travelling-wave solutions in the form of a finite series in tanh. If present, boundary conditions are implemented in this expansion. The associated velocity can then be determined a priori, provided the solution vanishes at infinity. Hence, exact closed-form solutions can be obtained easily in various cases.

For Part II, *ibid.* 569-575 (1996) see [Zbl 0942.35035](#) below.

MSC:

[35C05](#) Solutions to PDEs in closed form

[35Q53](#) KdV equations (Korteweg-de Vries equations)

Cited in **2** Reviews
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