

**Adomian, G.**

**An investigation of the asymptotic decomposition method for nonlinear equations in physics.**  
(English) [Zbl 0637.65086](#)  
*Appl. Math. Comput.* 24, 1-17 (1987).

The paper presents some useful illustrations on the author's decomposition method, and contains 14 examples of nonlinear equations - six of them are of first order and one of second order ordinary equations, and seven partial differential equations of first and second order. It is shown that the decomposition method makes possible the study of the behaviour of the differential equation solution when an independent variable (or variables) tends to infinity.

Reviewer: Ju.V.Kostarčuk

**MSC:**

[65L99](#) Numerical methods for ordinary differential equations  
[65Z05](#) Applications to the sciences  
[34E99](#) Asymptotic theory for ordinary differential equations  
[35B40](#) Asymptotic behavior of solutions to PDEs

Cited in **12** Documents

**Keywords:**

asymptotic behaviour of the solution; decomposition method

**Full Text:** [DOI](#)

**References:**

- [1] Adomian, G., Stochastic systems, (1983), Academic · [Zbl 0504.60066](#)
- [2] Adomian, G., Nonlinear stochastic operator equations, (1986), Academic · [Zbl 0614.35013](#)
- [3] Adomian, G., Applications of nonlinear stochastic systems theory to physics, (June 1987), Reidel Dordrecht

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.