The Decomposition Method for Studying a Higher-Order Nonlinear Schrödinger Equation in Atmospheric Dynamics

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The Adomian decomposition method is implemented for solving a higher-order nonlinear Schrödinger equation in atmospheric dynamics. By means of Maple, the Adomian polynomials of an obtained series solution have been calculated. The results reported in this paper provide further evidence of the usefulness of Adomian decomposition for obtaining solutions of nonlinear problems.

Key words: Adomian Decomposition Method; Higher-Order Nonlinear Schrödinger Equation; Adomian Polynomials.