Modified Variational Iteration Method for Integro-Differential Equations and Coupled Systems

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In this paper, we apply the modified variational iteration method (mVIM) for solving integro-differential equations and coupled systems of integro-differential equations. The proposed modification is made by the elegant coupling of He's polynomials and the correction functional of variational iteration method. The proposed mVIM is applied without any discretization, transformation or restrictive assumptions and is free from round off errors and calculation of the so-called Adomian's polynomials.

Key words: Variational Iteration Method; He's Polynomials; Integro Differential-Equations; Blasius Problem; Error Estimates.

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