

# Application of Variational Iteration Method for $n$ th-Order Integro-Differential Equations

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In this paper, the variational iteration method is proposed to solve Fredholm's  $n$ th-order integro-differential equations. The initial approximation is selected wisely which satisfies the initial conditions. The results reveal that this method is very effective and convenient in comparison with other methods.

*Key words:* Variational Iteration Method; Homotopy Perturbation Method; Differential Transformation Method; Integro-Differential Equation; Volterra's Integro-Differential Equation.