

# Series Solution of the System of Integro-Differential Equations

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This investigation presents a mathematical model describing the homotopy analysis method (HAM) for systems of linear and nonlinear integro-differential equations. Some examples are analyzed to illustrate the ability of the method for such systems. The results reveal that this method is very effective and highly promising.

*Key words:* Homotopy Analysis Method; Linear System of Integro-Differential Equations; Non-Linear System of Integro-Differential Equations.