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A series solution of the nonlinear Volterra and Fredholm integro-differential equations.
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Summary: The homotopy analysis method is applied to obtain the series solution of the high-order nonlinear Volterra and Fredholm integro-differential problems with power-law nonlinearity. Two cases are considered, in the first case the set of base functions is introduced to represent solution of given nonlinear problem and in the other case, the set of base functions is not introduced. However, in both cases, the convergence-parameter provides us with a simple way to adjust and control the convergence region of solution series.

MSC:

[65R20](#) Numerical methods for integral equations
[45J05](#) Integro-ordinary differential equations

Cited in **18** Documents

Keywords:

[homotopy analysis method](#); [series solution](#); [integro-differential equation](#); [Volterra](#); [Fredholm](#)

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