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Legendre wavelets method for the nonlinear Volterra—Fredholm integral equations. (English)

Zbl 1205.65342

Math. Comput. Simul. 70, No. 1, 1-8 (2005).

Summary: A numerical method for solving the nonlinear Volterra—Fredholm integral equations is presented. The method is based upon Legendre wavelet approximations. The properties of Legendre wavelet are first presented. These properties together with the Gaussian integration method are then utilized to reduce the Volterra—Fredholm integral equations to the solution of algebraic equations. Illustrative examples are included to demonstrate the validity and applicability of the technique.

MSC:

[65R20](#) Numerical methods for integral equations

[65T60](#) Numerical methods for wavelets

[45G10](#) Other nonlinear integral equations

Cited in **79** Documents

Keywords:

Legendre; wavelets; nonlinear; Volterra — Fredholm; integral equations

Full Text: [DOI](#)

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