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Application of Chebyshev polynomials to Volterra-Fredholm integral equations. (English)


Summary: The goal of this work is to examine the numerical solution of linear Volterra-Fredholm integral equations of the second kind using the first, second, third and fourth Chebyshev polynomials. Noting that, the approximate solution is given in the form of series which converges to the exact one. Numerical examples are compared with other methods, in order to prove the applicability and the efficiency of this technical.

MSC:
45D05 Volterra integral equations
45E05 Integral equations with kernels of Cauchy type
45L05 Theoretical approximation of solutions to integral equations

Keywords:
Chebyshev polynomials; Volterra-Fredholm integral equation; collocation method; numerical method

Full Text: Link

References:


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