Solving Volterra Integral Equations of the Third Kind by a Spline Collocation Method

Pedro M. Lima *,   K. Kherkouche,   A. Bellour

Abstract

In this paper, we introduce an iterative collocation method based on the use of Lagrange polynomials for the numerical solution of a class of nonlinear third kind Volterra integral equations. The approximate solution is given by explicit formulas. We present results on the convergence of the algorithm and illustrate its performance with a mumerical example.

---

*   Centro de Matemática Computacional e Estocástica, Instituto Superior Técnico, Av. Rovisco Pais, 1049 001 Lisboa, Portugal, plima@math.tecnico.ulisboa.pt .