Approximation to some specific Integral Equation by using Monte Carlo Simulation

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(2002)

Abstract:

In this thesis we consider four Monte Carlo techniques for evaluating approximately ordinary bounded integrals. These techniques are discussed theoretically and applied practically on evaluating the in complete Chi-square integral. Efficiency and the accuracy of the methods are compared together and with the literature – tabulated results.

Aspecific type of Fredholm Integral equation of the 2nd kind is approximated by using one of these techniques where the integral part of the equation is simulated which lead to system of linear equations. This system is approximated numerically by using two Monte Carlo procedures and the results are compared with awell-known numerical(Collocation)method.

 A Thesis
Submttted to the College of Science Of Saddam University
Supervised by
Dr.Akram Al-Abood
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