Abstract

As is known, the quadrature method is very urgent up to now in finding the solutions of nonlinear Volterra integral equation of the second kind. Some authors suggest the quadrature method jointly with Runge-Kutta or Adams methods. However in all these cases it is necessary to calculate integral sum wherein the amount of calculations of integrand function (nucleus) increses in passing from a point to a point where the value of the solution of integral equation should be determined. In order to preserve constant amount of calculations of the integral nucleus a multi-step method is suggested in [2]. *Here, in §1 sufficient conditions for the convergence of the indicated method are found. Some concrete methods applied to the solution of typical equations are in §2. Comparison of the obtained results with the known ones is also given.*