

Approximate solution of integro-differential equation of fractional (arbitrary) order

ABSTRACT

In the present paper, we study the integro-differential equations which are combination of differential and Fredholm–Volterra equations that have the fractional order with constant coefficients by the homotopy perturbation and the variational iteration. The fractional derivatives are described in Caputo sense. Some illustrative examples are presented.

Keyword: Fractional calculus; Homotopy perturbation method; The variational iteration method; Fractional integro-differential equations