

## **An accurate analytic solution for differential and integral equations by modified homotopy perturbation method.**

### **ABSTRACT**

In this paper, the new modified Homotopy Perturbation Method (HPM) is applied for analytical treatment of differential equations and integral equations. The new modified HPM yields an analytical solution in terms of a rapidly convergent infinite power series with easily computable terms. The efficiency of the new modified technique is examined by several illustrative examples. In all cases of differential and integral equations, the new modified HPM yields the exact solutions in minimal iterations only.

**Keyword:** Differential equations; Homotopy-perturbation method; Integral equations; Modified HPM.