

## **Study of deterministic systems in epidemic diseases.**

### **ABSTRACT**

This article presents the deterministic system for susceptible-infective model for HIV. In this paper the homotopy analysis method is employed to compute an exact analytical approximation to the solution of the deterministic system for this model. We do a comparison between this method and Runge-Kutta method.

**Keyword:** Homotopy analysis method; Susceptible-infective model; Runge-kutta method.