

## **Abstract**

In this paper, we consider a discrete mathematical model of HIV-1 in vivo dynamics in the presences of chemotherapy and delay in infectivity of target cells. A novel feature in this work is that both delay in infectivity of CD4+T-cells and chemotherapy are incorporated into the discrete HIV-1 in vivo dynamics. We establish the necessary and sufficient condition for global stability of Disease free equilibrium. We also perform numerical simulations which supports the obtained theoretical results.