

STABILITY ANALYSIS OF HIV INFECTION MODEL WITH TUMOR

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Abstract

In this study, we propose a mathematical model of HIV infection with tumor cells. We model the interaction between tumor cells, helper T cells, infected helper T cells and virus cells by using a nonlinear dynamical system approach which gives rates of change of the four cell populations in the body. First, we prove the positivity of the solution, as desired in any population dynamics. Then, we analyze the local asymptotic stability of equilibrium points of the HIV infection model. In the end, we support our theoretical results by some numerical simulations.

Keywords: HIV infection, Nonlinear Dynamical System, Stability Analysis.

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