

ANALYTICAL SOLUTION OF INTERACTION BETWEEN CANCER CELLS AND IMMUNE CELLS WITH IMMUNOTHERAPY SPATIAL TEMPORAL MODEL

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ABSTRACT

In this study, the analytic solution of the spatial temporal system for the spread of cancer cells in the presence of immunotherapy was studied. Analytical Solutions are studied using the perturbation method. Analytical Solutions compared to numerical solutions. The results of the analytical solutions and numerical solutions show the same results. In addition, the study of periodic solutions in the mathematical model of cancer cells is important. Cancer patients after being declared cured can recur which is sometimes difficult to predict. This reinfection phenomenon is mathematically studied through the existence of periodic solutions, one of which is the limit cycle.

Kata Kunci: *LIMIT CYCLE, CANCER MODEL, IMMUNE SYSTEM*