

Title: Mathematical Analysis and Simulation of Measles Infection Spread with SEIRV+D Model

Abstract: Measles is one of the most contagious infectious diseases with long history of presence in human population. In this research SEIRV model is used to study and analyze the dynamics and stability of measles infection within a given population. First, the equilibrium point and the reproduction number are derived. Also, the stability of the equilibrium point is analyzed by means of reproduction number. The case study was performed using real data obtained from the Public Health Institute of North Macedonia. The simulations were performed using different transmission rates and vaccination rate.