NUMERICAL SOLUTION AND BEHAVIOR ANALYTICAL OF SIR EPIDEMIC MODEL WITH VACCINATION TO PREVENT CONTAGIOUS DISEASE

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Abstract

The final project studied about vaccination level which is carried out to prevent epidemic as the function of demographic parameter, acceleration contact between infectious, susceptible, and removal. The used strategy to reduce susceptible by analysing SIR Mathematics model which describe the spreading of disease in susceptible, infectious, and removal. To analyze model is used approximation of dynamic system (existence equilibrium point and its stability).

This final project is continuing (Supriatna,2004) research which the result to optimize the vaccination by approximation of Runge-Kutta fourth order as numeric solution that shown reducing susceptible to prevent contagious disease.

Keywords: SIR model; Vaccination; Equilibrium point; Runge-Kutta fourth order.
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