A Delay SIR Model with Nonlinear Transmission Rate and Holling Type-II Recovery for Infectious Disease

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Abstract—*Control of infectious diseases (like H1N1, EBOLA) is a major problem for doctors and health agencies. Therefore, in the present study, we proposed a SIR mathematical model with delay. We take nonlinear transmission rate of the infectious disease and also taking Holling type II recovery for understanding the dynamics of infectious diseases. Model stability has been done by the basic reproduction number. And show that the infectious disease will be eliminated from the society if basic reproduction number.*

Keywords*: Infectious disease; SIR model; delay differential equation; Holling type II function; stability; control strategy.*