

Numerical Solutions of Fractional Order Epidemic Model

Authors : Sadia Arshad, Ayesha Sohail, Sana Javed, Khadija Maqbool, Salma Kanwal

Abstract : The dynamical study of the carriers play an essential role in the evolution and global transmission of infectious diseases and will be discussed in this study. To make this approach novel, we will consider the fractional order model which is generalization of integer order derivative to an arbitrary number. Since the integration involved is non local therefore this property of fractional operator is very useful to study epidemic model for infectious diseases. An extended numerical method (ODE solver) is implemented on the model equations and we will present the simulations of the model for different values of fractional order to study the effect of carriers on transmission dynamics. Global dynamics of fractional model are established by using the reproduction number.

Keywords : Fractional differential equation, Numerical simulations, epidemic model, transmission dynamics

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