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RICH DYNAMICS OF A VECTOR-HOST EPIDEMIC MODEL WITH NON-MONOTONIC AND BILINEAR INCIDENCE RATES

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Abstract

In this paper, we propose a vector-host epidemic model with non-monotonic and bilinear incidences and discuss the dynamical behavior of the model through the basic reproduction number. We also analyze the local stability and the global stability of disease free equilibrium and endemic equilibrium. We carry out the numerical analysis of the model to illustrate the theoretical result.

Key Words : *Basic reproduction number, Vector-borne diseases, Disease free equilibrium, Endemic equilibrium, Stability.*

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