

STABILITY ANALYSIS OF A NEW SIR STOCHASTIC EPIDEMIC MODEL WITH TWO DIMENSIONAL NOISES

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The aim of this work is to study a new stochastic SIR epidemic model that include two types of white noises. These noise perturbed two important parameters in the disease dynamic: the disease transmission rate and the recovery rate. By means of the Lyapunov functions, we prove the global existence and positivity of the solution. We also investigated the conditions of the extinction and the persistence of the disease and we used suitable Lyapunov function to study the stability of the model. Numerical simulations of our result is also presented.

References

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