

عنوان مقاله:

Modelling a disease with a nonlinear incidence function

محل انتشار:

اولین همایش ملی ریاضیات زیستی (سال: 1397)

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خلاصه مقاله:

The present paper considers a disease model with nonlinear incidence function. It studies its boundedness. Since the real world is Boundedness of solutions is important for well-defined model. We obtain free-disease and endemic equilibria both $m = 0$ and $m > 0$. We define the reproduction number by R_0 . The model has at least one and at most three positive equilibrium (endemic equilibria) provided $R_0 > 1$. We show that free-disease equilibrium $(0, 0, 0)$ is unstable. The disease free equilibrium $(K, 0, 0)$ is globally asymptotically stable provided $R_0 < 1$.

کلمات کلیدی:

difference scheme; Asymptotic stability; Epidemic models

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