



SDI Review Form 1.6

PART 1:

Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	MS: 2012 BJMCS 2758
Title of the Manuscript:	STABILITY ANALYSIS AND HOPF BIFURCATION OF A SEIV EPIDEMIC MODEL WITH SATURATED INCIDENCE RATE

General guideline for Peer Review process is available in this link:

(<http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline>)

- This form has total 9 parts. Kindly note that you should use all the parts of this review form.



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PART 2: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	There is a mistake in the expression V^{-1}. It leads to further mistakes in the expression FV^{-1} and R_0. The expression of R_0 in Line 74 is wrong. The expression does not match the formula given in Line 71. There is an error in Line 81. There is an error in Line 97. Theorem 1 may not be true. The threshold should be $R_0=1$, not $R_0=a_0$. The linearization matrix at the disease free equilibrium has be repeated. The similar case for the eigenvalue of the matrix is repeated. Line 114. "From the first equation of model (4.3), we have...". In fact, there is no any equation labeled (4.3). Line 115. The inequality may be wrong. What does the sentence "This implies that $x(t)=S(t)$ for all $t=0$" mean? The conclusion in Theorem 2 may be not true since the proof is not rigorous enough.	The reviewer was right and all the mistakes had been corrected. Theorem 3.1 is true and had also been established in the new theorem 3.2 where we used Lyapunov function to establish the global stability of the disease-free equilibrium. In line 81, there is nothing to correct. Theorem 3.2 initially proved has been removed and has been replaced by another theorem 3.2 to prove the global stability of DFE.



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	There is not further calculation or analysis on the Hopf bifurcation, The title of the manuscript does not match the content.	I agree with the reviewer and hopf bifurcation has been removed from the title of the manuscript.
<u>Minor</u> REVISION comments	λ_{pi} is recruitment of individuals that includes new born and immigrants into the susceptible population S and the vaccinated population; $1/(a_0 + \alpha(I))$ = measurement of psychological or inhibition effect of the behavioural change of the susceptible individuals when there is an increase in the number of infective individuals. $1/(a_0 + \alpha(I))$ Does not the form appearing in the model.	P_i has been defined by several authors the same way we have defined it. Some of the papers include in the references attest to this fact. The condition for a_0 has been newly included in the manuscript.
<u>Optional/General</u> comments	The SEIV model with saturated incidence rate, discussed in this manuscript, can be applied to certain infection Disease transmission. The problem is interesting. There are different mistakes in the statement or the conclusion. More dynamical analysis and results on the model should be give, My suggestion is to REJECT this manuscript.	