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[Received on 6 November 2019]

The abstract text goes here.

*Keywords:* Insert keyword text here.

2000 Math Subject Classification: 34K30, 35K57, 35Q80, 92D25

**1. Insert A head here**

This demo file is intended to serve as a “starter file” for IMAIAI journal papers produced under L<sup>A</sup>T<sub>E</sub>X using imaiai.cls v1.5e.

1.1 *Insert B head here*

Subsection text here.

1.1.1 *Insert C head here.* Subsubsection text here.

**2. Equations**

Sample equations.

$$\begin{aligned}\frac{\partial u(t,x)}{\partial t} &= Au(t,x) \left(1 - \frac{u(t,x)}{K}\right) - B \frac{u(t-\tau,x)w(t,x)}{1 + Eu(t-\tau,x)}, \\ \frac{\partial w(t,x)}{\partial t} &= \delta \frac{\partial^2 w(t,x)}{\partial x^2} - Cw(t,x) + D \frac{u(t-\tau,x)w(t,x)}{1 + Eu(t-\tau,x)},\end{aligned}\tag{2.1}$$

$$\begin{aligned}\frac{dU}{dt} &= \alpha U(t)(\gamma - U(t)) - \frac{U(t-\tau)W(t)}{1+U(t-\tau)}, \\ \frac{dW}{dt} &= -W(t) + \beta \frac{U(t-\tau)W(t)}{1+U(t-\tau)}.\end{aligned}\tag{2.2}$$

$$\frac{\partial(F_1, F_2)}{\partial(c, \omega)} \Big|_{(c_0, \omega_0)} = \begin{vmatrix} \frac{\partial F_1}{\partial c} & \frac{\partial F_1}{\partial \omega} \\ \frac{\partial F_2}{\partial c} & \frac{\partial F_2}{\partial \omega} \end{vmatrix} \Big|_{(c_0, \omega_0)} = -4c_0 q \omega_0 - 4c_0 \omega_0 p^2 = -4c_0 \omega_0 (q + p^2) > 0.$$

### 3. Enunciations

**THEOREM 3.1** Assume that  $\alpha > 0, \gamma > 1, \beta > \frac{\gamma+1}{\gamma-1}$ . Then there exists a small  $\tau_1 > 0$ , such that for  $\tau \in [0, \tau_1)$ , if  $c$  crosses  $c(\tau)$  from the direction of to a small amplitude periodic traveling wave solution of (2.1), and the period of  $(\check{u}^p(s), \check{w}^p(s))$  is

$$\check{T}(c) = c \cdot \left[ \frac{2\pi}{\omega(\tau)} + O(c - c(\tau)) \right].$$

**Condition 3.2** From (0.8) and (2.10), it holds  $\frac{d\omega}{d\tau} < 0, \frac{dc}{d\tau} < 0$  for  $\tau \in [0, \tau_1)$ . This fact yields that the system (2.1) with delay  $\tau > 0$  has the periodic traveling waves for smaller wave speed  $c$  than that the system (2.1) with  $\tau = 0$  does. That is, the delay perturbation stimulates an early occurrence of the traveling waves.

### 4. Figures & Tables

The output for figure is:

FIG. 1. Insert figure caption here

An example of a double column floating figure using two subfigures. (The subfig.sty package must be loaded for this to work.) The subfigure `\label` commands are set within each subfloat command, the `\label` for the overall figure must come after `\caption`. `\hfil` must be used as a separator to get equal spacing. The subfigure.sty package works much the same way, except `\subfigure` is used instead of `\subfloat`.

The output for table is:

Table 1. An Example of a Table

One	Two
Three	Four

**5. Conclusion**

The conclusion text goes here.

**Acknowledgment**

Insert the Acknowledgment text here.

**References**

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