



Article submitted to journal

Subject Areas:

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1. Insert A head here

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Subsection text here.

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2. Equations

Sample equations.

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

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

$$\begin{aligned}\frac{\partial(F_1, F_2)}{\partial(c, \omega)} \Big|_{(c_0, \omega_0)} &= \begin{vmatrix} \frac{\partial F_1}{\partial c} & \frac{\partial F_1}{\partial \omega} \\ \frac{\partial F_2}{\partial c} & \frac{\partial F_2}{\partial \omega} \end{vmatrix} \Big|_{(c_0, \omega_0)} \\ &= -4c_0q\omega_0 - 4c_0\omega_0p^2 = -4c_0\omega_0(q + p^2) > 0.\end{aligned}\tag{2.3}$$

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 $(\tilde{u}^p(s), \tilde{w}^p(s))$ is

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

Condition 3.1. 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:

Figure 1. Insert figure caption here

The output for table is:

Table 1. An Example of a Table

date	Dutch policy	date	European policy
1988	Memorandum Prevention	1985	European Directive (85/339)
1991–1997	Packaging Covenant I		
1994	Law Environmental Management	1994	European Directive (94/62)
1997	Agreement Packaging and Packaging Waste		
1998–2002	Packaging Covenant II		
2003–2005	Packaging Covenant III		
2006–2007	Decree on Packaging and paper		

5. Conclusion

The conclusion text goes here.

Acknowledgment

Insert the Acknowledgment text here.

References

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