## Insert the article title here

Insert first author name here ${ }^{1}$, Insert second author name here ${ }^{2}$, Insert third author name here ${ }^{3}$, Insert fourth author name here ${ }^{3}$, and Insert last author name here ${ }^{\dagger 4}$<br>${ }^{1}$ Insert first author address here<br>*E-mail: xxxx@xxxxx.ac.jp<br>${ }^{2}$ Insert second author address here<br>${ }^{3}$ Insert third author address here<br>${ }^{4}$ Insert last author address here

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## 1 Insert A head here

This demo file is intended to serve as a "starter file" for ptephy journal papers produced under IATEX $^{2}$ using ptephy_v1.cls v0.1

### 1.1 Insert B head here

Subsection text here.

### 1.1.1 Insert $C$ head here

Subsubsection text here.

## 2 Equations

Sample equations.

$$
\begin{gather*}
\frac{\partial u(t, x)}{\partial t}=A u(t, x)\left(1-\frac{u(t, x)}{K}\right)-B \frac{u(t-\tau, x) w(t, x)}{1+E u(t-\tau, x)} \\
\frac{\partial w(t, x)}{\partial t}=\delta \frac{\partial^{2} w(t, x)}{\partial x^{2}}-C w(t, x)+D \frac{u(t-\tau, x) w(t, x)}{1+E u(t-\tau, x)}  \tag{1}\\
\frac{d U}{d t}=\alpha U(t)(\gamma-U(t))-\frac{U(t-\tau) W(t)}{1+U(t-\tau)}  \tag{2}\\
\frac{d W}{d t}=-W(t)+\beta \frac{U(t-\tau) W(t)}{1+U(t-\tau)} . \\
\frac{\partial\left(F_{1}, F_{2}\right)}{\partial(c, \omega)_{\left(c_{0}, \omega_{0}\right)}=\left|\begin{array}{ll}
\frac{\partial F_{1}}{\partial c} & \frac{\partial F_{1}}{\partial \omega} \\
\frac{\partial F_{2}}{\partial c} & \frac{\partial F_{2}}{\partial \omega}
\end{array}\right|_{\left(c_{0}, \omega_{0}\right)}=-4 c_{0} q \omega_{0}-4 c_{0} \omega_{0} p^{2}=-4 c_{0} \omega_{0}\left(q+p^{2}\right)>0 .}
\end{gather*}
$$

## 3 Enunciations

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

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

Condition 1. From (0.8) and (2.10), it holds $\frac{d \omega}{d \tau}<0, \frac{d c}{d \tau}<0$ for $\tau \in\left[0, \tau_{1}\right)$. 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.

Proof. Sample proof text. Sample proof text. Sample proof text. Sample proof text. Sample proof text. Sample proof text. Sample proof text. Sample proof text. Sample proof text. Sample proof text. Sample proof text. Sample proof text.

## 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.
For references, note how to include DOI information from examples below.

## References

[1] J. P. Blaizot, and E. Iancu, Phys. Rep. 359, 355 (2002). https://doi.org/10.1016/S0370-1573(01)00061-8
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[4] S. Alekhin, A. Djouadi, and S. Moch, Phys. Lett. B 716, 214 (2012) [arXiv:1207.0980 [hep-ph]]. https://doi.org/10.1016/j.physletb.2012.08.024

## A Appendix head

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$$
\begin{equation*}
a+b=c \tag{A1}
\end{equation*}
$$

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Table A1 An Example of a Table.

| One | Two |
| :---: | :---: |
| Three | Four |

## A. 1 Appendix subhead

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$$
\begin{equation*}
a+b=c \tag{A2}
\end{equation*}
$$

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Fig. A1 Figure caption

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$$
\begin{equation*}
a+b=c \tag{A3}
\end{equation*}
$$

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## B Appendix heading

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$$
\begin{equation*}
a+b=c \tag{B1}
\end{equation*}
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$$
\begin{equation*}
a+b=c \tag{B2}
\end{equation*}
$$

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## Fig. B1 Figure caption

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Fig. B2 Figure caption

Table B1 An Example of a Table.

| One | Two |
| :---: | :---: |
| Three | Four |

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[^0]:    ${ }^{\dagger}$ These authors contributed equally to this work

