RESEARCH ARTICLE

How to use the Company of Biologists (JEB) LaTeX class

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ABSTRACT

This sample is a guideline for preparing technical papers using LaTeX. It contains the documentation for a LaTeX class file that creates the correct manuscript layout for any of the Company of Biologists journals: Development, Journal of Cell Science, Journal of Experimental Biology, Biology Open or Disease Models and Mechanisms. This sample file uses a class file named `COB.cls`, which authors should use during manuscript preparation.

KEYWORDS: keyword entry 1, keyword entry 2, keyword entry 3

INSERT A HEAD HERE

This demo file is intended to serve as a "starter file" for author manuscripts produced under LaTeX using COB.cls.

Insert B head here

Subsection text here.

Insert C head here

Subsubsection text here.

SPANNING EQUATION ACROSS TWO COLUMN

In order to span the equations across two columns, please use the command `\begin{widetext}...\end{widetext}` command (see equation 1).

$$x_{\sigma+1} = x_\sigma + \left(\frac{1-\alpha(t_\sigma)}{M[\alpha(t_\sigma)]} + \frac{3h\alpha(t_\sigma)}{2M[\alpha(t_\sigma)]}\right)\{-bx(t_\sigma - m_1) + a\sin[cx(t_\sigma - m_2)]\} - \left(\frac{1-\alpha(t_\sigma)}{M[\alpha(t_\sigma)]} + \frac{h\alpha(t_\sigma)}{2M[\alpha(t_\sigma)]}\right) \times \{-bx(t_\sigma - m_1) + a\sin[cx(t_\sigma - m_2)]\}\,. \tag{1}$$

EQUATIONS

Sample equations.

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

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

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

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 $\tau \in [0,\tau_1)$, 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 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 $\tau > 0$*

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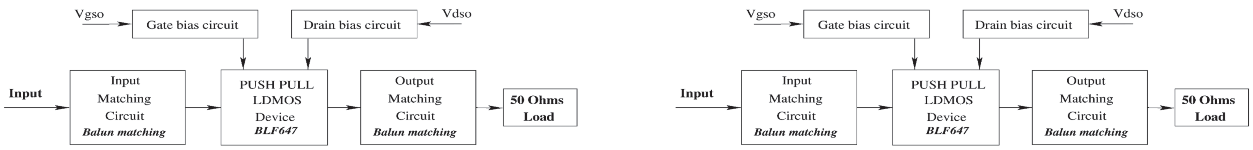

(a) Case I (b) Case II

Fig. 1. Sample sub figures in LaTeX

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.*

FIGURES & TABLES

The output for figures is:

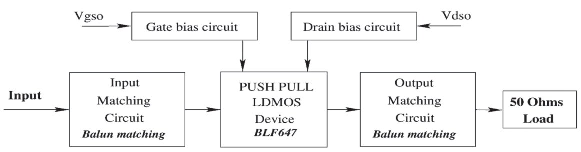

Fig. 2. Insert figure caption here

An example of a double column floating figure using two subfigures. (The subfig.sty package was already included in the class file.) 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 tables is:

Table 1. An Example of a Table

Head 1	Head 2	Head 3	Head 4	Head 5
One	Two	Three	Four	Five
Six	Seven	Eight	Nine	Ten

CONCLUSION

The conclusion text goes here.

Acknowledgements

Insert the Acknowledgment text here.

Competing interests

Insert the Competing interests text here.

Contribution

Insert the Contribution text here.

Funding

Insert the Funding interests text here.

Data availability

Insert the Data availability text here.

Supplementary

Insert the supplementary text text here.

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