Graphical Abstract

This is a specimen _a_ title

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Highlights

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- Research highlights item 1
- Research highlights item 2
- Research highlights item 3
This is a specimen $a_b$ title*.*

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ABSTRACT

This template helps you to create a properly formatted $\LaTeX$ manuscript. The \begin{abstract} and \end{abstract} which contain the abstract and keywords respectively. Each keyword shall be separated by a \sep command.

1. Introduction

The Elsevier cas-dc class is based on the standard article class and supports almost all of the functionality of that class. In addition, it features commands and options to format the

• document style

• baselineskip

• front matter

• keywords and MSC codes

• theorems, definitions and proofs

• lables of enumerations

• citation style and labeling.

This class depends on the following packages for its proper functioning:

1. natbib.sty for citation processing;

2. geometry.sty for margin settings;

3. fleqn.clo for left aligned equations;

4. graphicx.sty for graphics inclusion;

5. hyperref.sty optional packages if hyperlinking is required in the document;

All the above packages are part of any standard $\LaTeX$ installation. Therefore, the users need not be bothered about downloading any extra packages.

2. Installation

The package is available at author resources page at Elsevier (http://www.elsevier.com/locate/latex). The class may be moved or copied to a place, usually, $\$TEXMF/tex/latex/elsevier/, or a folder which will be read by $\LaTeX$ during document compilation. The $\LaTeX$ file database needs updation after moving/copying class file. Usually, we use commands like \texttt{mktexlsr} or \texttt{texhash} depending upon the distribution and operating system.

3. Front matter

The author names and affiliations could be formatted in two ways:

(1) Group the authors per affiliation.

(2) Use footnotes to indicate the affiliations.

See the front matter of this document for examples. You are recommended to conform your choice to the journal you are submitting to.

4. Bibliography styles

There are various bibliography styles available. You can select the style of your choice in the preamble of this document. These styles are Elsevier styles based on standard styles like Harvard and Vancouver. Please use \texttt{Bib$\LaTeX$} to generate your bibliography and include DOIs whenever available.

Here are two sample references: [1] [1, 2] [1, 3]
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Figure 1: The evanescent light - 1S quadrupole coupling ($g_{1,1}$) scaled to the bulk exciton-photon coupling ($g_{1,2}$). The size parameter $k_{r_0}$ is denoted as $x$ and the PMS is placed directly on the cuprous oxide sample ($\delta r = 0$, See also Table 1).

5. Floats

Figures may be included using the command, \includegraphics in combination with or without its several options to further control graphic. \includegraphics is provided by graphic[s,x].sty which is part of any standard L\LaTeX distribution. graphicx.sty is loaded by default. \LaTeX accepts figures in the postscript format while pdflatex accepts *.pdf, *.mps (metapost), *.jpg and *.png formats. pdflatex does not accept graphic files in the postscript format.

The table environment is handy for marking up tabular material. If users want to use multirow.sty, array.sty, etc., to fine control/enhance the tables, they are welcome to load any package of their choice and cas-dc.cls will work in combination with all loaded packages.

Table 1

<table>
<thead>
<tr>
<th>Col 1</th>
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<th>Col 4</th>
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</tbody>
</table>

6. Theorem and theorem like environments

cas-dc.cls provides a few shortcuts to format theorems and theorem-like environments with ease. In all commands the options that are used with the \newtheorem command will work exactly in the same manner. cas-dc.cls provides three commands to format theorem or theorem-like environments:

\begin{theorem}
For system (8), consensus can be achieved with $\|T_{\omega z}$ ... \\
\end{theorem}

Theorem 1. For system (8), consensus can be achieved with $\|T_{\omega z} \ldots$ (1)

Further, the enhanced list environment allows one to prefix a string like ‘step’ to all the item numbers.

7. Enumerated and Itemized Lists

cas-dc.cls provides an extended list processing macros which makes the usage a bit more user friendly than the default \LaTeX list macros. With an optional argument to the \begin{enumerate} command, you can change the list counter type and its attributes.

\begin{enumerate}[1.]
\item The enumerate environment starts with an optional argument ‘1.’, so that the item counter will be suffixed by a period.
\item You can use ‘a)’ for alphabetical counter and ‘(i)’ for roman counter.
\end{enumerate}

Further, the enhanced list environment allows one to prefix a string like ‘step’ to all the item numbers.
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\begin{enumerate}
\item This is the first step of the example list.
\item Obviously this is the second step.
\item The final step to wind up this example.
\end{enumerate}

8. Cross-references

In electronic publications, articles may be internally hyperlinked. Hyperlinks are generated from proper cross-references in the article. For example, the words Fig. 1 will never be more than simple text, whereas the proper cross-reference \ref{tiger} may be turned into a hyperlink to the figure itself: Fig. 1. In the same way, the words Ref. [1] will fail to turn into a hyperlink; the proper cross-reference is \cite{Knuth96}. Cross-referencing is possible in \LaTeX{} for sections, sub-sections, formulae, figures, tables, and literature references.

9. Bibliography

Two bibliographic style files (*.bst) are provided — model1-num-names.bst and model2-names.bst — the first one can be used for the numbered scheme. This can also be used for the numbered with new options of natbib.sty. The second one is for the author year scheme. When you use model2-names.bst, the citation commands will be like \citep, \citet, \citealt etc. However when you use model1-num-names.bst, you may use only \cite command.

\bibitem{} Parenthetical: \citep{WB96} produces (Wettig & Brown, 1996).
\bibitem{} Textual: \cite{ESG96} produces Elson et al. (1996).
\bibitem{} An affix and part of a reference: \citep[e.g.][Ch. 2]{Gea97} produces (e.g. Governato et al., 1997, Ch. 2).

In the numbered scheme of citation, \cite\{<label>\} is used, since \citep or \cite has no relevance in the numbered scheme. natbib package is loaded by cas-dc with numbers as default option. You can change this to author-year or harvard scheme by adding option \texttt{authoryear} in the class loading command. If you want to use more options of the natbib package, you can do so with the \texttt{biboptions} command. For details of various options of the natbib package, please take a look at the natbib documentation, which is part of any standard \LaTeX{} installation.

A. My Appendix

Appendix sections are coded under \appendix. \texttt{printcredits} command is used after appendix sections to list author credit taxonomy contribution roles tagged using \texttt{credit} in frontmatter.

CRediT authorship contribution statement

CV Radhakrishnan: Conceptualization of this study, Methodology, Software. CV Rajagopal: Data curation, Writing - Original draft preparation.

References