

A L^AT_EX CLASS FILE FOR ESA PROCEEDINGS

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ABSTRACT

The Proceedings of the Symposium will be published by ESA via a website.

Authors must deliver their full papers by 25 March 2025 as electronic PDF file by uploading it to the conference portal. Please note that you are allowed to re-upload your paper until the expiration of the deadline.

This L^AT_EX class allows authors to produce this format with a straight-forward L^AT_EX file. The only non-standard features are the `\keywords` command and the method for entering author and affiliation names.

Keywords: L^AT_EX; ESA; macros.

1. GENERAL SPECIFICATIONS

The paper must be prepared in this two-column format and **should not exceed 15 pages**. This is a L^AT_EX 2_ε class based on the standard `article` class template to be followed.

It conforms to the specifications for ESA conference proceedings:

- standard A4 paper;
- two columns, they have 1 cm between them;
- 10 pt font, Times Roman;
- all titles in upper case

Compatibility with standard L^AT_EX is maintained as much as possible in order to simplify the transfer of text from or to another format. The only additional features are the `\keyword` command and the entry of authors and affiliations.

It replaces the L^AT_EX 2.09 style file that has been previously provided by the ESA.

For an excellent manual on using L^AT_EX, see Kopka & Daly, *A Guide to L^AT_EX*, 3rd ed., 1999, Addison Wesley Longman.

2. INVOKING THE CLASS

The class file is invoked with the `\documentclass` command, as

`\documentclass[a4paper,twocolumn]{spaceDebrisC}` with option `a4paper`. The text will be centered on the specified paper type. The `twocolumn` option is to be given as the publication is to be in two columns per page.

2.1. Other Packages

There are other (nearly) standard packages that should be included with the `\usepackage` command:

- `times` to use TimesRoman instead of Computer Modern (T_EX) fonts ,
- `graphicx` for importing figures (see Section 9.1

The author may have his or her own extra packages, such as `amsmath` for advanced mathematical formatting.

3. NON-STANDARD FEATURES

A list of key words is to be printed below the abstract. They are entered *anywhere before the abstract environment* with the `\keywords` command.

```
\keywords{space; plasmas; electrons}
\begin{abstract}
. . .
\end{abstract}
```

Each author name should be entered with an `\author` command. Give the affiliation with the `\affil` command after all authors of the same affiliation. They will then be listed with a common footnote number.

```

\author{First C. Author}
\author{Second C. Author}
\affil{Author's Home Company, CA USA,
Email: \{FAuthor, SAuthor\}@$companyX.xy}
\author{Last C. Author}
\affil{University of Somewhere,
Email: LAuthor@$university.so }

```

produces

First C. Author⁽¹⁾, Second C. Author⁽¹⁾, Last C. Author⁽²⁾

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Email: {FAuthor, SAuthor}@companyX.xy
⁽²⁾*University of Somewhere,*
Email: LAuthor@university.so

4. GENERAL SPECIFICATIONS

The paper must be prepared in the defined layout and **should not exceed 15 pages**.

5. PAGE LAYOUT

Page layout is provided by the spaceDebrisC.cls class file as well as fonts and fontsize.

6. STRUCTURE OF THE DOCUMENT

Except for the above features, the spaceDebrisC class is identical to the standard article class, as far as input is concerned. The document should be organized as usual.

```

\documentclass[a4paper,twocolumn]{spaceDebrisC}
% Any extra packages
\usepackage{times,natbib,graphicx,...}
% Title and authors
\title{Title text}
\author{First Author}...
\affil{First affiliation}
...
% Start of body
\begin{document}
\maketitle
% Keywords and abstract
\keywords{keyword1; keyword2; ...}
\begin{abstract}
Text of abstract
\end{abstract}
% Main text
\section{Heading}
Text
\subsection{Sub-heading}
Text
\section*{Acknowledgments}

```

```

Acknowledgment text
% Bibliography (Section 8)
\bibliographystyle{aa}
\bibliography{database name}
% Termination
\end{document}

```

Note: leave header and footer empty.

7. ABBREVIATIONS AND ACRONYMS

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Avoid using abbreviations in the title unless absolutely necessary.

8. BIBLIOGRAPHIC REFERENCES

Citations to bibliographic references are to be of the alphanum number style. The citations are parenthetical [3].

The list of references is placed at the end of the article in alphabetical order, as

```

\begin{thebibliography}{}
\bibitem{author73}
Author T., (1973). Astrophysical Quantities,
Athlone Press

\bibitem{nobody97}
Nobody B., Somebody G., Who D., et al., (1997).
{\it The book}, Publisher, ed. 2

\bibitem{smith96}
Smith A., Jones B., (1996). The new discovery,
{\it Other Journal}, {\bf 223}(1), 1029--1101
\end{thebibliography}

```

Note the empty braces after
\begin{thebibliography}

9. FIGURES AND TABLES

Figures and tables are inserted with the normal L^AT_EX environments figure and table. They are numbered automatically and one refers to the numbers with the \label and \ref system. Please note for non-vector formats: image resolution should be at least 600 dpi for monochrome and 300 dpi for colour images.

9.1. Figures

The figure environment is used to enter a single column figure such as Figure 1, while figure* is for dou-

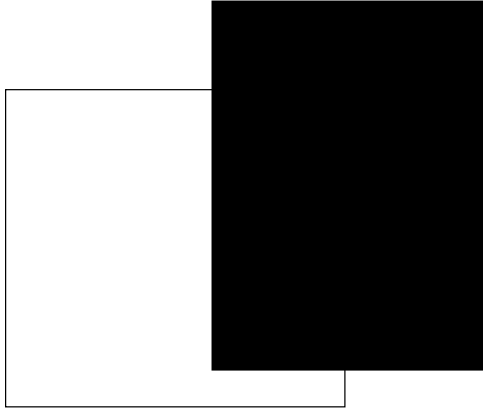


Figure 1. Sample figure showing how an pdf graphic may be included. This example is for a single column figure.

ble column figures (Figure 2).

```
\begin{figure}
\centering
\includegraphics[width=0.8\linewidth]
{sample}
\caption{Sample figure showing how a
eps(latex) pdf/png(pdflatex) graphic may
be included.
This example is for a single column
figure.\label{fig:single}}
\end{figure}
```

One can then refer to this figure with `Figure~\ref{fig:single}`, producing “Figure 1”.

The `\includegraphics` command is made available with the `graphicx` package and allows the importation of graphic files. For PostScript output (with the `dvips` program) these graphics must adhere to the *encapsulated* PostScript standard.

The same syntax can also be used with `pdfTeX`, a variant on the `TEX` program producing PDF output directly. In this case, the figures must be in PDF, PNG, or JPEG format. It is not necessary to include the extension in the file name (`file=sample` suffices), something that makes the `LATEX` text more general for both normal `TEX` and `pdfTEX`. (It may however be necessary to add the option `[pdftex]` when loading the graphics packages.)

9.2. Tables

Tables are placed and numbered and referred to with the `table` and `table*` environments. The contents of the table are normally entered with the `tabular` or `tabbing` environments. The `\caption` now comes at the top of the table, before the table contents.

Table 1. A sample table illustrating usage of the *L^AT_EX* table environment.

First column	Col. 2	Col. 3	V mag
row 1	11.0	25.0	12
row 2	11.0	25.0	12
row 3	11.0	25.0	12
row 4	11.0	25.0	12
row 5	11.0	25.0	12

10. EQUATIONS

Formulae which appear in the running text should be enclosed in `$` signs. For example, to produce the equation $a^2 + b^2 = c^2$ within a paragraph type `$a^2 + b^2 = c^2$`. Displayed formulae are produced using the `\begin{equation}` and `\end{equation}` commands (see Equation 1). This produces equations which are automatically numbered sequentially throughout your paper. Equations which should appear together can be formatted using `\begin{eqnarray}` and `\end{eqnarray}` as for Equations 2 and 3:

$$\Delta \hat{a}_i = \sum_j \frac{\partial f_i}{\partial a_j} \Delta a_j \quad (1)$$

$$\alpha = \alpha_0 + (T - T_0) \mu_{\alpha*0} \sec \delta_0 \quad (2)$$

$$\delta = \delta_0 + (T - T_0) \mu_{\delta 0} \quad (3)$$

When in math mode (i.e. within the `equation` or `eqnarray` environment) all letters appear in italics. However, the preferred notation is for subscripts, superscripts¹ and text within the equation to be typeset as roman. To achieve this use the `\mbox{...}` command. Thus, `$T_{\mbox{eff}}=5.8\times 10^3$K` produces $T_{\text{eff}} = 5.8 \times 10^3$ K. Note that units should be tied to the numerical value using `~` and should always be in roman font (the default outside of math mode).

11. FINAL MANUSCRIPTS

You should use the standard `LATEX` or `pdflatex` command, in conjunction with the style file provided, `spaceDebrisC.cls`, to produce the final output. If using `dvips` places the final PostScript file lower on the page than appears to be reasonable, try using the qualifier ‘-t a4’ with `dvips`.

The maximum allowed file size is 15 MB.

¹Except when the superscript or subscript are variables.

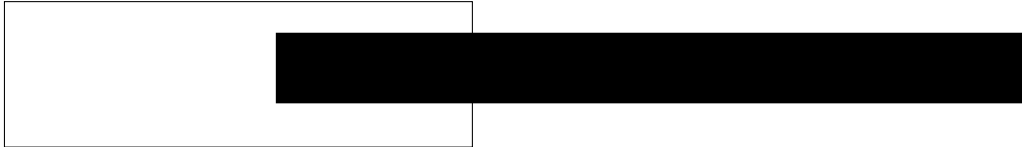


Figure 2. Sample figure showing how an encapsulated PostScript graphic may be included. This example is for a double column figure, which does cause more placement problems than single column ones.

12. USE OF ARTIFICIAL INTELLIGENCE (AI) BY AUTHORS

We adopt an approach that is aligned with the AIAA Ethical Standards for Publication, i.e. we ask to respect the following obligations of authors: As usual, each author is fully responsible and accountable for the content of the entire manuscript, including the accuracy, integrity, and completeness of the manuscript, citation of previous work, obtaining copyright approval, and potential issues of plagiarism.

If authors use any type of AI technology in the writing process, we ask you to observe the following rules (note that the term author refers to all contributing authors of the manuscript under consideration):

Writing:

- AI should be used primarily to improve readability, grammar, and language in the work.
- Authors may not list AI or AI-assisted technologies as a co-author.
- Authors may not cite AI engines as an original source.
- When authors use AI in the writing process, they must disclose the use of AI technologies used in the preparation of the manuscript as part of the manuscript (disclosures exclude the use of spelling and grammar checkers that are included in word processing software).

Creation or editing of illustrations, graphics, and photographs:

- AI can be used to construct or modify illustrations, figures or graphics to improve clarity and the communication of concepts.

- AI can be used to modify a photograph to improve the clarity or particular features of interest. However, AI shall not be used to generate false or misleading photographs, such as adding objects or images of individuals.
- Regardless of how an illustration, figure, graphic, or photograph is constructed, the authors are fully responsible for appropriate citation to previous work, obtaining needed copyright permission, and potential issues of plagiarism.
- Note that citation and copyright protection may apply even if a previously published figure has been altered.
- When authors use AI for an illustration, figure, graphic, or photograph, they must disclose the use of AI technologies as part of the manuscript.

ACKNOWLEDGMENTS

The section containing acknowledgments should use the `\section*` form, as shown, to prevent it from being numbered.

REFERENCES

1. Author T., (1973). Astrophysical Quantities, Athlone Press
2. Nobody B., Somebody G., Who D., et al., (1997). *The book*, Publisher, ed. 2
3. Smith A., Jones B., (1996). The new discovery, *Other Journal*, **223**(1), 1029–1101