

# Author submission guide for *The Aeronautical Journal* Setting Up Your L<sup>A</sup>T<sub>E</sub>X 2<sub>ε</sub> Files

AER TeX Support

## ABSTRACT

This guide provides the information regarding the various options/functionalities available in aer class with L<sup>A</sup>T<sub>E</sub>X for generating the papers for submission to *The Aeronautical Journal*. Commands that differ from the article class of standard L<sup>A</sup>T<sub>E</sub>X interface, or that are provided in addition to the standard interface, are explained in this guide. This guide is not a substitute for the L<sup>A</sup>T<sub>E</sub>X manual itself but should be used together with an introductory manual on L<sup>A</sup>T<sub>E</sub>X such as reference<sup>(1)</sup>.

## INTRODUCTION

The aer class is a L<sup>A</sup>T<sub>E</sub>X document class for *The Aeronautical Journal* and other documents with similar layout requirements. aer class is primarily based on the default article class. The class depends on the following packages for its proper functionality:

- natbib.sty for citation processing;
- graphicx.sty for graphics inclusion;
- txfonts.sty optional font package, if document has to be formatted with Times and compatible math fonts;
- hyperref.sty optional packages if hyperlinking is required in the document.

These packages are part of any standard L<sup>A</sup>T<sub>E</sub>X installation. Furthermore, users are free to use AMS math packages such as, amsmath.sty, amsthm.sty, amssymb.sty, amsfonts.sty, etc., if required. Authors can also use these packages as per their specific requirements.

The class provides essentially the same markup as implemented by L<sup>A</sup>T<sub>E</sub>X standard article class.

## USING THE aer CLASS

If the file aer.cls is not already placed in the appropriate system directory for L<sup>A</sup>T<sub>E</sub>X files, then either place the file in the appropriate system directory or copy it to your working directory. In order to use the aer class, replace article by aer in the \documentclass command at the beginning of your document:

`\documentclass{article}`

is replaced by

`\documentclass{aer}`

In general, the following standard document style options should not be used with the `aer` class:

1. `10pt`, `11pt`, `12pt` unavailable;
2. `twoside` (no associated style file) `twoside` is the default;
3. `fleqn`, `leqno`, `titlepage` should not be used;

All options of `article.cls` excluding above can be used with this document class.

### Additional Document Class Options

Please place any additional command definitions at the start of the L<sup>A</sup>T<sub>E</sub>X file, before the `\begin{document}`. For example, user-defined `\def` and `\newcommand` commands that define macros for technical expressions should be placed here. Other author-defined macros should be kept to a minimum.

### Additional Facilities

In addition to all the standard L<sup>A</sup>T<sub>E</sub>X design elements, the `aer` class file includes the following features. These commands are placeholders that will be needed for L<sup>A</sup>T<sub>E</sub>X files submitted as production data for an accepted article. Authors should leave these commands empty while submitting their paper.

1. Use of the `\volume{...}` command for volume number of the paper.
2. Use of the `\issue{...}` command for issue number of the paper.
3. Use of the `\jyear{...}` command for year of the paper.
4. Use of the `\jmonth{...}` command for month of the paper.
5. Use of the `\doi{...}` command for doi number.
6. Use of the `\historydate{...}` command for history date of the paper.

In general, once you have used the additional `aer.cls` facilities in your document, do not process it with a standard L<sup>A</sup>T<sub>E</sub>X class file.

### Frontmatter

`\title{The Title Goes Here with Each Initial Letter Capitalized}`

`\subtitle{This is an Example of Article Sub Title}`

```

\author{Author One, Author Two and Author
        Three\thanks{Corresponding author}}
\affil{Author's Affiliations}

\author{Author One\email{author@one.edu}\\ Author Two}
\affil{Author's Affiliations}

```

Supported commands will be `\thanks{corresponding text}` to generate fnsymbol of cross-ref for author and are placed at bottom of the page. `\email{e-mail}` is for providing author's email.

`\maketitle`

This command inserts the actual front matter data. It has to follow the above declarations before the abstract environment.

`\begin{abstract}`

At the beginning of article, the title should be generated in the usual way using the command. The abstract should be enclosed within an abstract environment. The coding for the same is as follows:

```

\maketitle
\begin{abstract}
  Abstract text
  .....
\end{abstract}

```

## Nomenclature

We are using L<sup>A</sup>T<sub>E</sub>X environment “`\begin{deflist}\listterm{...}\end{deflist}`” for generating the contents of Nomenclature. Command `\listterm` requires two argument, first is used for terms and second is used for defining terms. Terms of nomenclature has been automatically set in italics. For roman, you should use the command `\emph{terms}`. It can be generated using the following coding:

```

\section*{NOMENCLATURE} % Head
\begin{deflist}% Nomenclature text start here%
  \listterm{term a}{definition of term \emph{a}}
  \listterm{\emph{term b}}{definition of term b}
  ...
  \listterm{term c}{definition of term \emph{c}}
\end{deflist}

\subsection*{Greek Symbol}% Head two

```

```

\begin{deflist}
  \listterm{$\alpha$}{definition of $\alpha$}
  \listterm{$\beta$}{definition of $\beta$}
  ...
  \listterm{$\gamma$}{definition of $\gamma$}
\end{deflist}

```

The output of the above-mentioned coding is as follows:

## NOMENCLATURE

*term a* definition of term *a*  
term b definition of term b  
*term c* definition of term *c*

### Greek Symbol

$\alpha$  definition of  $\alpha$   
 $\beta$  definition of  $\beta$   
 $\gamma$  definition of  $\gamma$

### Cross-references

The  $\text{\LaTeX}$  system provides a consistent and comprehensive document preparation interface. Among other things,  $\text{\LaTeX}$  can automatically number list entries, equations, figures, tables, and footnotes, as well as sections and subsections. Using this numbering system, bibliographic citations, page references, and cross references to any other numbered entity (e.g. sections, equations, and figures) are straightforward.

References to tables, figures, and equations are possible using the  $\text{\LaTeX}$  commands `\label` and `\ref`.

## SECTIONS

$\text{\LaTeX}$  provides four levels of section headings which all are defined in the `aer` class file:

Headings A – `\section{....}`  
Headings B – `\subsection{....}`  
Headings C – `\subsubsection{....}`  
Headings D – `\paragraph{....}`

Section headings are automatically numbered and converted to bold face.

## EXTRACTS

The `aer` class file provides the following standard extract environment:

```

\begin{extract}
  Extract text
\end{extract}

```

The output is given below:

This is an example of extract. This is an example of extract. This is an example of extract. This is an example of extract.

## Lists

The aer class supports all standard list environments such as `itemize`, `enumerate`, etc.

### Bullet List

```
\begin{itemize}
  \item first bulleted item
  \item second bulleted item
\end{itemize}
```

- first bulleted item
- second bulleted item

### Numbered List

```
\begin{enumerate}
\item first numbered item
\item second numbered item
\end{enumerate}
```

1. first numbered item
2. second numbered item

## Figures

### Graphics support

Support for including and manipulating graphics has been provided as the standard L<sup>A</sup>T<sub>E</sub>X `graphicx` package, which is automatically loaded by the aer class.

```
\begin{figure}[pos].....\end{figure}
```

Like standard L<sup>A</sup>T<sub>E</sub>X, the optional `pos` argument can be used to specify into which float areas this float is allowed to migrate (default is `tbp`).

A typical application is given in the following example where a picture is resized using option `width` and `height`:

```
\begin{figure}[tbp]
  \begin{center}
    \includegraphics[width=2in,height=2in]{fpo}
  \end{center}
  \caption{Figure caption.}
  \label{fig:a}
\end{figure}
```



Figure 1. Figure caption.

Cross-referencing of figures, tables, and displayed equations using the `\label` and `\ref` commands is encouraged. For example, in referencing Fig. 1 above, we used For example, Fig. `\ref{fig:a}` is generated using...

Figures can be resized using the options available in `\includegraphics` command. The first option and second option is used for, respectively, modifying figure width and figure height.

### ***Small figures to be generated side by side***

We are using  $\text{\LaTeX}$  environment “`\begin{minipage}[pos]{width}...\end{minipage}`” for generating the small figures side by side. Like standard  $\text{\LaTeX}$ , the optional `pos` (eg, `tbp`) argument can be used to specify the alignment of two side by side figures. This can be generated with the help of following coding:

```
\begin{figure}[h]
\centering
\begin{minipage}[b]{.45\textwidth}
\centering
\includegraphics[width=1in,height=1.2in]{fpo}%
\caption{Figure caption}\label{fig2}
\end{minipage}\hfill %% No line space after \hfill%
\begin{minipage}[b]{.45\textwidth}
\centering
\includegraphics[width=2in,height=1.2in]{fpo}%
\caption{Figure caption}\label{fig3}
\end{minipage}
\end{figure}
```



Figure 2. Figure caption



Figure 3. Figure caption

## Tables

```
\begin{table}[pos]... \end{table}
```

Like standard L<sup>A</sup>T<sub>E</sub>X, the optional `pos` (eg, `tbp`) argument can be used to specify into which float areas this float is allowed to migrate (default is top if `pos` not given).

### Table Headings

```
\tch{cols}{h-pos}{v-pos}{heading text}
```

To ease the production of tables the command `\tch` is provided that is essentially and abbreviation for a `\multicolumn` command that additionally boldens its text argument, i.e., `cols` specifies the number of columns the `heading text` should span and `h-pos` defines the horizontal positioning of the text of the column(s), e.g., `l`, `r`, `c`, or `p{...}`. In contrast to a simple `\multicolumn` command the `heading text` can be split vertically by using `\\` to denote the line breaks. The `v-pos` argument should contain either `t`, `c`, or `b` denoting the vertical placement of the text in relation to other cells of that row. It is only relevant if the `heading text` consists of more than one line that demonstrates the use of this command.

### Table Notes

```
\begin{tabnote}... \end{tabnote}
```

Table notes should be enclosed within the `tabnote` environment shown above.

`\hline` can be used for horizontal lines to separate the `caption`, `table head`, `table body`, and `table note` from each other respectively.

Typically the body of the environment consist of a `tabular` environment responsible for producing the actual table including the table and stub headers.

An example showing the use of all commands described above is shown in Table 1. It was generated by the input that follows the table:

**Table 1**  
**Average turnover per shop: by type of retail organisation**

Year	Single outlet	Small multiple <sup>a</sup>	Large multiple	Total
1982 <sup>b</sup>	98	129	620	847
1987	138	176	1000	1314
1991	173	248	1230	1651
1998	200	300	1500	2000

This is an example of unnumbered tablenote

<sup>a</sup>This is an example of first numbered tablenote

<sup>b</sup>This is an example of second numbered tablenote

```
\begin{table}
\caption{Table caption}\label{tab:a}
\centering
\begin{tabular}{lcccc}
\textbf{Year}
& \textbf{Single\\outlet}
& \textbf{Small\\multiplea}
& \textbf{Large\\multiple}
& \textbf{Total}\\[6pt]
1982b & 98 & 129 & 620 & 847\\
1987 & 138 & 176 & 1000 & 1314\\
1991 & 173 & 248 & 1230 & 1651\\
1998 & 200 & 300 & 1500 & 2000\\
\end{tabular}
\begin{tabnote}
This is an example of unnumbered tablenote\\
aThis is an example of first numbered tablenote\\
bThis is an example of second numbered tablenote\\
\end{tabnote}
\end{table}
```

As with figures, cross-referencing of tables is encouraged. For example, we would reference Table 1 using Table~\ref{tab:a}. Label of Table must be given after the \caption for correct numbering in the cross-referencing.

### Landscaping pages

If a table/figure is too wide to fit the standard measure, it may be turned, with its caption, to 90 degrees. Landscape tables/figures cannot be produced directly using the aer class class file because LATEX itself cannot turn the page, and not all device drivers provide such a facility. The following procedure can be used to produce such pages.



Use the package `rotating` in your document and change the coding from

```
\begin{sidewaystable}...\end{sidewaystable}

\begin{sidewaysfigure}...\end{sidewaysfigure}
```

## Footnote

L<sup>A</sup>T<sub>E</sub>X provides `\footnote` command to generate the footnote.\* It can be produced by:

```
\footnote{This is an example of footnote.}
```

## Typesetting mathematics

### *Displayed mathematics*

The equations and `eqnarray` environments have been incorporated into the `aer` class file regarding the equations environment. Using these two environments, you can number your equations.

For example, you can typeset

$$X = \gamma X - \gamma \delta \eta, \quad \dots(1)$$

and

$$\eta = \frac{1}{2}\delta + 2X\eta.$$

$$X = \gamma X - \gamma \delta \eta, \quad \dots(2)$$

$$\eta = \frac{1}{2}\delta + 2X\eta. \quad \dots(3)$$

and

$$\begin{aligned} X &= \gamma X - \gamma \delta \eta, \\ \eta &= \frac{1}{2}\delta + 2X\eta. \end{aligned}$$

by using the `equations` environment as follows:

```
Numbered Equation single line
\begin{equation}
  X      = \gamma X - \gamma\delta\eta ,\label{eqn1}
\end{equation}
Unnumbered Equation single line
\[
  \eta    = {\textstyle\frac{1}{2}} \delta + 2X\eta.
\]
Numbered Equation multiple line
```

\* This is an example of **footnote**.

```

\begin{eqnarray}
X & = & \gamma X - \gamma\delta , \backslash\label{eqn2}\\
\eta & = & \{\textstyle\frac{1}{2}\} \delta \\
& & + 2X . \backslash\label{eqn3}
\end{eqnarray}
\begin{eqnarray*}
X & = & \gamma X - \gamma\delta\eta , \\
\eta & = & \{\textstyle\frac{1}{2}\} + 2X\eta .
\end{eqnarray*}

```

For numbered display equations, cross-referencing is encouraged using the  $\LaTeX$  commands `\label` and `\ref`. An example is shown below.

```

\begin{equation}
(n-1)^{-1} \sum_{i=1}^n (X_i - \overline{X})^2.
\label{eq:samplevar}
\end{equation}
Equation~(\ref{eq:samplevar}) gives the formula for
sample variance.

```

$$(n-1)^{-1} \sum_{i=1}^n (X_i - \overline{X})^2. \quad \dots(4)$$

Equation (4) gives the formula for sample variance.

## ENUNCIATIONS

We are using  $\LaTeX$  standard package “amsthm.sty” for generating the enunciations. So, they can be produced with the help of following commands:

```

\begin{theorem}...\end{theorem}
\begin{lemma}...\end{lemma}
\begin{example}...\end{example}
\begin{proof}...\end{proof}
\begin{corollary}...\end{corollary}
\begin{proposition}...\end{proposition}
\begin{definition}...\end{definition}
\begin{assumption}...\end{assumption}
\begin{remark}...\end{remark}

```

The above-mentioned coding can also include optional arguments such as `\begin{theorem}[...]`. Example for theorem:

**Theorem 1** (Generalized Poincaré Conjecture). *Four score and seven years ago, our fathers brought forth, in this continent, a new nation, conceived in Liberty, and dedicated to the proposition.*

*Proof.* Four score and seven years ago, our fathers brought forth, in this continent, a new nation, conceived in Liberty, and dedicated to the proposition.  $\square$

```
\begin{theorem}[Generalized Poincar\'{e} Conjecture]
  Four score and seven ... created equal.
\end{theorem}

\begin{proof}
  Four score and seven ... created equal.
\end{proof}
```

## Acknowledgments

These should appear at the close of your paper, just before the list of references. Use the acknowledgments environment, e.g.

```
\section*{ACKNOWLEDGMENTS}
```

The research and writing of this work was partially carried out...

The following is example of acknowledgments:

## ACKNOWLEDGMENTS

The research and writing of this work was partially carried out...

## References

Referring to other articles, books, etc. can be done using the `\cite` command of standard L<sup>A</sup>T<sub>E</sub>X. The list of references itself can either be generated using standard L<sup>A</sup>T<sub>E</sub>X methods or using Bib<sub>T</sub>E<sub>X</sub>.

For this we recommend the use of `natbib.sty` after the `\documentclass{aer}` declaration. The `natbib` system has two basic citation commands, `\citet` and `\citep` for *textual* and *parenthetical* citations, respectively. There also exist the starred versions `\citet*` and `\citep*` that print the full author list, and not just the abbreviated one. All of these may take one or two optional arguments to add some text before and after the citation. The following table shows some examples:

Commands	Author-Year Style	Numerical Style
<code>\citet{jon90}</code>	$\Rightarrow$ Jones et al. (1990)	$\Rightarrow$ Jones et al. [21]
<code>\citet[chap.~2]{jon90}</code>	$\Rightarrow$ Jones et al. (1990, chap. 2)	$\Rightarrow$ Jones et al. [21, chap. 2]
<code>\citep{jon90}</code>	$\Rightarrow$ (Jones et al., 1990)	$\Rightarrow$ [21]
<code>\citep[chap.~2]{jon90}</code>	$\Rightarrow$ (Jones et al., 1990, chap. 2)	$\Rightarrow$ [21, chap. 2]
<code>\citep[see][]{jon90}</code>	$\Rightarrow$ (see Jones et al., 1990)	$\Rightarrow$ [see 21]
<code>\citep[see][chap.~2]{jon90}</code>	$\Rightarrow$ (see Jones et al., 1990, chap. 2)	$\Rightarrow$ [see 21, chap. 2]
<code>\citet*{jon90}</code>	$\Rightarrow$ Jones, Baker, and Williams (1990)	$\Rightarrow$ [21]
<code>\citep*{jon90}</code>	$\Rightarrow$ (Jones, Baker, and Williams, 1990)	$\Rightarrow$

In *The Aeronautical Journal*, citation of references in the text is generated as superscript number within paranthesis, e.g. <sup>(1)</sup> ... <sup>(1,2)</sup>. There are options available in natbib package to generate citation in superscript.

```
\usepackage[super,comma,round]{natbib}
```

For more information regarding these commands, the authors can refer to the documentation of natbib package.

The following are the coding of bibliography:

```
\begin{thebibliography}{0}% '2nd argument is widest acronym'
\bibitem{A-W:LLa94}
L.~Lamport, \emph{{\LaTeX:} A Document Preparation System},
Addison-Wesley, Reading, Massachusetts, 1994, second edn.

\bibitem{author1}
\textsc{Author One, B.C.} and \textsc{Author Two, D.} Article
title, \textit{BIBB J}, October 2009, \textbf{52}, (10),
pp 2100-2109.

\bibitem{author2}
\textsc{Author One, B.C.}, \textsc{Author Two, D.} and
\textsc{Author Three, D.} Article title, \textit{Aeronaut J},
August 2006, \textbf{110}, pp 487-494.

\bibitem{author3}
\textsc{Author Surname, B.} Article title, 2012, Cambridge
University Press.

\bibitem{author4}
\textsc{Author, C.} Article title, \textit{Prog Aerospace Sci},
April 2007, \textbf{43}, (3), pp 192-236.

\end{thebibliography}
```

The style of citation – \cite{key} or \citep{key} – to produce the reference numbers are given below.

The citation <sup>(2)</sup> is produced by:

```
\citep{author1} or \cite{author1},
```

while <sup>(3,4)</sup> is produced by:

```
\cite{author2,author3}.
```

The following are some bibliography examples:

## REFERENCES

1. L. Lamport, *L<sup>A</sup>T<sub>E</sub>X: A Document Preparation System*, Addison-Wesley, Reading, Massachusetts, 1994, second edn.
2. AUTHOR ONE, B.C. and AUTHOR Two, D. Article title, *BIBB J*, October 2009, **52**, (10), pp 2100-2109.
3. AUTHOR ONE, B.C., AUTHOR Two, D. and AUTHOR THREE, D. Article title, *Aeronaut J*, August 2006, **110**, pp 487-494.
4. AUTHOR SURNAME, B. Article title, 2012, Cambridge University Press.
5. AUTHOR, C. Article title, *Prog Aerospace Sci*, April 2007, **43**, (3), pp 192-236.

## Appendix

Appendix should be at the end of your article. Appendix can be produced from the following command:

```
\section*{APPENDIX}
\section{FIRST-LEVEL HEADING}
Appendix text.
```

The following is output of appendix produced by above coding:

## APPENDIX

### 1.0 FIRST-LEVEL HEADING

Appendix text.