

Preparation of a paper for publication in a conference proceedings book using L^AT_EX 2_ε

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Abstract. This article describes the production, using L^AT_EX 2_ε, of a paper for publication in a conference proceedings book.

1 Introduction

This article describes the preparation of a paper using the style file `sprinconf.sty` together with the L^AT_EX 2_ε ‘article’ class file at eleven point. The main purpose of the style file is to reset the page dimensions and other parameters of L^AT_EX 2_ε to produce output with the correct dimensions; however, small changes have also been made to enhance the visual appearance of articles produced this way and to format the document into the publisher’s house style. This paper has been produced using the `sprinconf.sty` style file and so demonstrates its use. The pages produced will be numbered sequentially from 1 and will not contain running heads or copyright codes. The final page numbering will be inserted by the publisher; running heads and copyright lines will be inserted when the final page numbering is known. If you cannot assign copyright in your article to the publisher (e.g. you are an employee of the US or UK Governments), please inform the Editor of the conference proceedings when submitting your paper. *It will be assumed that copyright is assigned to the publisher unless stated otherwise.* The structure of this paper is as follows: section 2 describes how the text is formatted, section 3 the references, section 4 the figures and tables and section 5 permissions. Tables of the macros in `sprinconf.sty` are given in an appendix.

2 Formatting the text

2.1 Starting off: title, author, address and abstract

The source code for a conference article should start with the following code:

```
\documentclass[12pt]{article}
\usepackage{mathptmx}
\usepackage{sprinconf}
\usepackage{graphicx}
\usepackage{bm}
\begin{document}
```

(`\usepackage{bm}` is a freely available external package to enable the setting of bold maths and `\usepackage{graphicx}` is a freely available external package to enable good, consistent setting and placement of figures.) Then follows the title in the following form:

```
\title{The title of the article with initial capital
followed by lowercase}
```

The title is set unjustified and will be broken into lines automatically when the title is too long to fit on one line. If the line breaks are unsatisfactory `\` can be used to produce a line break at a specific place. The list of authors follows and after that their affiliations. All authors should be included in the braces following `\author` and, if all the authors are not at the same institute or department, footnote symbols (in the order †, ‡, §, || and ¶) should be used to indicate which author(s) are at which address (the address(es) given should be where the work was done). Footnotes can be used to give other information such as current address, a permanent address or an e-mail address. Addresses are given with an `\affil{address}` command; there should be one `\affil` for each address. The code used to generate the authors and their addresses for this paper was as follows:

```
\author{An Author\dag\footnote{Current address: Canopus
Publishing, 27 Queen Square, Bristol BS1~4ND, UK.}, A Coauthor\dag\
and A N Other\ddag}
\affil{\dag\ Department of Physics, Bristol University, Tyndall Avenue,
Bristol BS8~1TL, UK}
\affil{\ddag\ Canopus Publishing, 27 Queen Square, Bristol
BS1~4ND, UK}
```

The abstract is preceded by the command `\beginabstract` and followed by `\endabstract`. The abstract should be restricted to a single paragraph and there should be no blank line or `\par` between `\beginabstract` and the start of the abstract. The format for the abstract is thus:

```
\beginabstract
The text of the abstract in a single paragraph.
\endabstract
```

2.2 Sections and subsections

The text of the article should normally be divided into sections and subsections and possibly subsubsections. The `\section` command is used at the start of each section and is followed by the section title and label, if required, in braces. The `\subsection` and `\subsubsection` commands are similar to `\section`. Numbering of sections, etc, is done automatically and the title should be typed with an initial capital letter followed by lowercase letters, rather than capitals throughout. Do not put a full stop at the end of section or subsection titles but one is required at the end of subsubsection titles as the text continues on the same line. Section and subsection headings will appear in bold type with subsubsections in italic. The format for sections, subsections and subsubsections is therefore:

```
\section{Section title in lowercase with initial capital,
no full stop
\label{sectionlabel}}
\subsection{Subsection title in lowercase with initial capital,
no full stop}
\subsubsection{Subsection title in lowercase
with initial capital and full stop.}
The text starts immediately after.
```

2.3 Acknowledgments and appendixes

Acknowledgments should normally form a separate unnumbered section before the references and any appendixes. The command `\section*{Acknowledgments}` should be used as the heading.

Appendixes may be used for material that is considered necessary to the understanding of the subject matter, but not sufficiently important to be an integral part of the text. The commands to produce an appendix are:

```
\appendix
\section*{Appendix. Title of appendix}
```

3 References

Two different styles of referencing can be used in conference proceedings: the Harvard alphabetical system and the Vancouver numerical system. References should be formatted according to the basic style outlined here. Brief descriptions of the two referencing systems are given below.

3.1 Harvard alphabetical system

In the Harvard system the name of the author appears in the text together with the year of publication. As appropriate, either the date or the name and date are included within parentheses. Where there are only two authors both names should be given in the text; if there are more than two authors only the first name should appear followed by ‘*et al*’ (which is obtained by typing `\etal` e.g. Smith `\etal` (1988)). When two or more references to work by one author or group of authors occur for the same year they should be identified by including a, b, etc after the date (e.g. Smith 1986a, b). If several references to different pages of the same article occur the appropriate page number may be given in the text, e.g. Kitchen (1982, p 39).

The list of references at the end of the article should be preceded by the command `\begin{references}` when the Harvard system is used. This command typesets the heading and sets the parameters to format alphabetical references correctly, including turning off the extra space after the full stop. There should be a blank line after `\begin{references}` and before the start of the reference list. The reference list consists of an alphabetical listing by authors’ names and in date order for each author or group of identical authors. Each individual reference is typed as a separate paragraph (leave a line space between entries or put `\par` at the end of each entry) and must be preceded by `\item`. The reference list is completed with `\end{references}`.

There will be two basic types of entries within the reference list: (i) those to journal articles and (ii) those to books, conference proceedings and reports. For both of these types of references font changes are required; in the subsections below we describe these font changes.

3.1.1 References to journal articles. A normal reference to a journal article contains three changes of font: the authors and date appear in roman type, the journal title in italic, the volume number in bold and the page numbers in roman again. A typical journal entry would be:

References

Cisneros A 1971 *Astrophys. Space Sci.* **10** 87

which is obtained by typing

```
\begin{references}

\item Cisneros A 1971 \emph{Astrophys. Space Sci.} {\bf 10} 87

\end{references}
```

Features to note are the following.

(i) The authors should be in the form surname (with only the first letter capitalized) **followed** by the initials with **no** periods after the initials. Authors should be separated by a comma except for the last two which should be separated by ‘and’ with no comma preceding it. Titles of journal articles may be given in the reference list but are not essential, the title should be in lower case, except for an initial capital, and should follow the date.

(ii) The journal is in italic and is abbreviated. If a journal has several parts denoted by different letters the part letter should be inserted after the journal in roman type, e.g. *Phys. Rev. A*. An exception to this is *Physics Letters* where the part letter is included in the volume number. Several frequently referenced journals have been assigned a control sequence that typesets the journal name, in italic. Thus `\JPB` expands to *J. Phys. B: At. Mol. Phys.* (prior to 1988) and `\jpb` expands to *J. Phys. B: At. Mol. Opt. Phys.* (1988 onwards). An italic correction is included where necessary and each definition ends with a space so there is no need for a control space after them.

(iii) The volume number is bold; the page number is roman. Both the initial and final page numbers should be given where possible. The final page number should be in the shortest possible form and separated from the initial page number by an en rule (–), e.g. 1203–14.

(iv) Where there are two or more references with identical authors, the authors’ names should not be repeated but should be replaced by `\dash` on the second and following occasions. Thus

```
\begin{references}
```

```
\item Niskanen J 1978 \NP {\bf 404} 495\par
\item \dash 1979 Private communication
```

```
\end{references}
```

3.1.2 *References to books, conference proceedings and reports.* References to books, proceedings and reports are similar, but have only two changes of font. The authors and date of publication are in roman, the title of the book is in italic, and the editors, publisher, town of publication and page number are in roman. Typical references to a book and a conference proceeding might be

References

Dorman L I 1975 *Variations of Galactic Cosmic Rays* (Moscow: Moscow State University Press) p 103
 Caplar R 1973 *Proc. Int. Conf. on Nuclear Physics, Munich* vol 1 (Amsterdam: North-Holland/American Elsevier) p 517

which would be obtained by typing

```
\begin{references}
```

```
\item Dorman L I 1975 \emph{Variations of Galactic Cosmic Rays}
(Moscow: Moscow State University Press) p~103
```

```
\item Caplar R 1973 \emph{Proc. Int. Conf. on Nuclear Physics,
Munich} vol~1 (Amsterdam: North-Holland/American Elsevier) p~517
```

```
\end{references}
```

Features to note are the following.

(i) Book titles are in italic and should be spelt out in full with initial capital letters for all except minor words. Words such as Proceedings, Symposium, International, Conference, Second, etc should be abbreviated to Proc., Symp., Int., Conf., 2nd, respectively, but the rest of the title should be given in full, followed by the town or city where the conference was held.

For Laboratory Reports the Laboratory should be spelt out wherever possible, e.g. *Argonne National Laboratory Report*.

(ii) The volume number as, for example, vol 2, should be followed by the editors, if any, in a form such as ed A J Smith and P R Jones. Use *et al* if there are more than two editors. Next comes the town of publication and publisher, within brackets and separated by a colon, and finally the page numbers preceded by ‘p’ if only one number is given or ‘pp’ if both the initial and final numbers are given.

3.2 Vancouver system

In the Vancouver system references are numbered sequentially throughout the text. The numbers occur within square brackets and one number can be used to designate several references. The reference list lists the references numerically in the order they appear in the text (**not alphabetically**). The number of the reference appears in square brackets, and the references for each should be typed as a separate paragraph. The reference list **must** begin with the command `\begin{thebibliography}{number}`, where number is a single digit if there are less than 10 references and two digits if there are more than ten but less than 100 references.

As in the Harvard system, there will be two basic types of entries within the reference list: (i) those to journal articles and (ii) those to books, conference proceedings and reports. For both of these types of references font changes are required; the method is exactly as was described in the previous subsection. In fact, references to journals, e.g. [1], and books, e.g. [2], are very similar to those in the Harvard system. There are three major differences. Firstly, `\bibitem` is used to generate the reference number, in square brackets. It can be used with a label, i.e. `\bibitem{label} [1, 2]`, in which case `\cite{label}` will produce the correct reference number within square brackets within the text, or without [3], i.e. `\bibitem{}`. Secondly, two or more references with identical authors are spelt out in full, i.e. they are **not** replaced with `\dash`. Thirdly one reference number can cover several separate references. If the author(s) are the same, the different references are separated by a semicolon and only the information that differs is repeated [4]. If the author(s) are different, the command `\newref` is placed before each separate (but unnumbered reference) [5]. A numerical reference list showing these examples is:

References

- [1] Fang M T C and Newland D B 1983 *J. Phys. D: Appl. Phys.* **16** 793–810
- [2] Ames W F 1965 *Nonlinear Differential Equations in Engineering* (New York: Academic)
- [3] Gordon S and McBride J 1971 *NASA Report SP-273*
- [4] Kovitya P 1984 *IEEE Trans. on Plasma Sci.* **12** 38–42; 1987 *IEEE Trans. on Plasma Sci.* **15** 294–301
- [5] Ibrahim E Z 1980 *J. Phys. D: Appl. Phys.* **13** 2045–65
Stokes A D, Sibilski H and Kovitya P 1989 *J. Phys. D: Appl. Phys.* **22** 1702–7

The code to generate this reference list is as follows:

```
\begin{thebibliography}{9}

\bibitem{fang}Fang M T C and Newland D B 1983 \JPD {\bf 16} 793--810
\bibitem{ames}Ames W F 1965 \emph{Nonlinear Differential
Equations in Engineering} (New York: Academic)
\bibitem{}Gordon S and McBride J 1971 \emph{NASA Report} SP-273
\bibitem{kovi}Kovitya P 1984 \emph{IEEE Trans. on Plasma Sci.}
{\bf 12} 38--42; 1987 \emph{IEEE Trans. on Plasma Sci.} {\bf 15}
294--301
\bibitem{ibra}Ibrahim E Z 1980 \JPD {\bf 13} 2045--65
\newref Stokes A D, Sibilski H and Kovitya P 1989 \JPD {\bf 22} 1702--7

\end{thebibliography}
```

3.3 Reference lists

A complete reference should provide the reader with enough information to locate the article concerned and should consist of: name(s) and initials, date published, title of journal or book, volume number, editors, if any, and for books town of publication and publisher in parentheses, and finally the page numbers. Titles of journal articles may also be included. Up to ten authors may be given in the reference list; where there are more than ten only the first should be given followed by ‘*et al*’. The terms *op. cit.*, *loc. cit.* and *ibid.* should not be used. Unpublished conferences and reports should generally not be included in the reference list and articles in the course of publication should be entered only if the journal of publication is known.

References to preprints should give the title of the preprint and/or preprint number (if relevant). A thesis submitted for a higher degree may be included in the reference list if it has not been superseded by a published paper and is available through a library; sufficient information should be given for it to be traced readily.

4 Figures and tables

Figures and tables should be inserted in the text at the most appropriate place and not placed at the end of the article. As the use of the `graphicx` package is encouraged, please refer to literature (there are a number of \LaTeX publications available commercially or, alternatively, search the internet for a tutorial on the `graphicx` package—CTAN is an excellent place to begin, www.ctan.org) for more detailed instructions on its use.

4.1 Figures

The general format for figures is:

```
\begin{figure}[t]
\begin{center}
\includegraphics{figure.eps}
\caption{The figure caption.\label{fig1}}
\end{center}
\end{figure}
```

where `figure.eps` is the graphics file being incorporated—**note: please supply all graphics files in EPS format**. The figure caption should have a full stop at the end. The numbering of the figures is done automatically and figures can be given labels for cross referencing. The size of the figure should be commensurate with the amount and value of the information the figure has to convey. Since the page size may be reduced on reproduction, micron marks or other scales must be inserted on the diagram itself rather than described in the caption. Magnifications should not be quoted. Special care should be taken with the presentation of figures. The lettering should be in a similar size to the text so that it will be easily readable. Curves on a figure can be described in the caption using the commands in table 1.

Table 1. Commands for producing examples of lines in figure captions.

Command	Output
<code>\dotted</code>
<code>\dashed</code>	- - - -
<code>\broken</code>	---
<code>\longbroken</code>	-----
<code>\chain</code>	---.---
<code>\dashddot</code>	---.---
<code>\full</code>	=====

4.2 Tables

Tables are produced in $\text{\LaTeX 2}\epsilon$'s `table` and `center` environments. The text of tables will be in a slightly smaller type size than normal text. Vertical rules should not be used at all and horizontal lines should not be used between each line of the table, just above and below the table and to separate headings from the entries in the table. If rows of a table need to be separated off slightly from neighbouring rows, the command `\bs` gives a half line space. The top and bottom lines of a table should be thicker than any other lines in the table and for these the commands `\topline` and `\bottomline` are used rather than just `\hline`. For the rule separating the headings from the entries `\midline` should be used; this is `\hline` but with a half line of space on either side (i.e. `\bs\hline\bs`). Units should not normally be given within the body of a table but given in brackets in the column headings; however, they can be included in the caption where there are long column headings or complicated units. It can often be difficult to decide on the correct alignment of columns and there are unfortunately no hard and fast rules. Useful guidelines, however, are:

- (i) align decimal points where possible;
- (ii) columns of numbers without decimal points should align right as if they had decimal points;
- (iii) dashes (use an em rule, `---`) in tables should align with the first complete column on the left-hand side;

- (iv) column headings should normally be aligned left;
- (v) minus signs should be ignored for alignment purposes (i.e. ‘phantom’ minus signs may be necessary);
- (vi) if there is a small column heading over a wide column with an uneven left-hand edge, the heading may look better if aligned with the left-hand side of the first entry in that column;
- (vii) column headings spanning two or more minor headings should be centred.

It may be difficult to satisfy all these points simultaneously but the most important underlying point is to create a table that is easy to read and understand and that has a pleasing appearance to the eye. To aid alignment where the decimal points need to be aligned the `\0` can be used to produce a space the width of a digit and `\m` a minus sign sticking out to the left of a column of numbers. Table 2 demonstrates their use in aligning columns of numbers.

Table 2 was obtained using the following code:

```
\begin{table}[ht]
\begin{center}
\caption{A table showing the alignment columns of numbers.}
\begin{tabular}{lllll}
\topline
Diameter (mm)& $\mu$ & $\mu$ & $\mu$ & $\mu$ \\
\midline
05 & 0.77 & 1221.42 & \0\00.105 & \\
10& \m2.7 & \0687.3 & \0\m16.42 & \\
15& \m4.185 & \0\097.225 & 100.1 & \\
\bottomline
\end{tabular}
\end{center}
\end{table}
```

5 Permissions

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Table 2. A table showing the alignment of columns of numbers.

Diameter (mm)	t_1 (μs)	t_2 (μs)	t_3 (μs)
5	0.77	1221.42	0.105
10	-2.7	687.3	-16.42
15	-4.185	97.225	100.1

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Contacts

If you should have any queries, please contact Julian Brigstoke at Canopus Publishing (email: julian@canopusbooks.com) for assistance.

Appendix. Macros in `sprinconf.sty`

The following tables give the macros in `sprinconf.sty` for formatting text and maths and abbreviating journal titles in references.

Table 3. Macros in sprinconf.sty for formatting text, i.e. where changes or additions have been made to article.cls or L^AT_EX 2_ε.

Macro name	Purpose
<code>\title{#1}</code>	Title of article
<code>\author{#1}</code>	Full list of authors
<code>\affil{#1}</code>	Affiliation of author
<code>\beginabstract</code>	Start of abstract
<code>\endabstract</code>	End of abstract
<code>\footnote</code>	Footnotes: rule removed and space added
<code>\section{#1}</code>	Section heading
<code>\subsection{#1}</code>	Subsection heading
<code>\subsubsection{#1}</code>	Subsubsection heading
<code>\caption{#1}</code>	Figure and table captions
<code>\thebibliography{#1}</code>	Start of numerical reference list
<code>\newref</code>	Separating references under one number
<code>\references</code>	Start of reference list in Harvard system
<code>\etal</code>	Produces <i>et al</i>
<code>\dash</code>	Line for repeated authors in Harvard system
<code>\lc</code>	Short form of <code>\lowercase</code>
<code>\uc</code>	Short form of <code>\uppercase</code>
<code>\bs</code>	Half line space in alignments
<code>\topline</code>	Top bold rule for tables
<code>\midline</code>	Medium rule with space for body of tables
<code>\bottomline</code>	Bottom bold rule for tables
<code>\0</code>	Space the width of a digit (for table alignment)
<code>\m</code>	Minus sign sticking out left (for table alignment)

Table 4. Macros in sprinconf.sty for use in maths mode, i.e. where changes or additions have been made to article.cls or L^AT_EX 2_ε.

Macro name	Purpose
<code>\bm{#1}</code>	Bold characters in maths mode, e.g. $\$ \backslash \text{bm}\{a+\text{beta}\} \$$ produces $\mathbf{a + \beta}$
<code>\rmd</code>	Roman d for differential d
<code>\rme</code>	Roman e for exponential e
<code>\rmi</code>	Roman i for imaginary i
<code>\case{#1}{#1}</code>	A text style fraction in displayed maths
<code>\Or</code>	Roman O for ‘of the order of’
<code>\tr</code>	Roman tr for traces
<code>\Tr</code>	Roman Tr for Traces

Table 5. Macros in sprinconf.sty for some journal abbreviations.

Macro name	Short form of journal title	
\AC	Acta Crystallogr.	
\AM	Acta Metall.	
\AP	Ann. Phys., Lpz	
\APNY	Ann. Phys., NY	
\APP	Ann. Phys., Paris	
\CJP	Can. J. Phys.	
\CQG	Class. Quantum Grav.	
\IP	Inverse Problems	
\JPA	J. Phys. A: Math. Gen.	
\JPB	J. Phys. B: At. Mol. Phys.	1968–1987
\jpb	J. Phys. B: At. Mol. Opt. Phys.	1988 and onwards
\JPC	J. Phys. C: Solid State Phys.	1968–1988
\JPCM	J. Phys: Condens. Matter	1989 and onwards
\JPD	J. Phys. D: Appl. Phys.	
\JPE	J. Phys. E: Sci. Instrum.	1968–1989
\JPF	J. Phys. F: Met. Phys.	
\JPG	J. Phys. G: Nucl. Phys.	1975–1988
\jpg	J. Phys. G: Nucl. Part. Phys.	1989 and onwards
\MST	Measurement Sci. Technol.	1990 and onwards
\NET	Network	
\NL	Nonlinearity	
\NT	Nanotechnology	
\PMB	Phys. Med. Biol.	
\QO	Quantum Opt.	
\RPP	Rep. Prog. Phys.	
\SST	Semicond. Sci. Technol.	
\SUST	Supercond. Sci. Technol.	
\WRM	Waves in Random Media	
\JAP	J. Appl. Phys.	
\JCP	J. Chem. Phys.	
\JJAP	Japan. J. Appl. Phys.	
\JMMM	J. Magn. Magn. Mater.	
\JMP	J. Math. Phys.	
\JOSA	J. Opt. Soc. Am.	
\JP	J. Physique	
\JPhCh	J. Phys. Chem.	
\JPSJ	J. Phys. Soc. Japan	
\JQSRT	J. Quant. Spectrosc. Radiat. Transfer	
\NC	Nuovo Cimento	
\NIM	Nucl. Instrum. Methods	
\NP	Nucl. Phys.	
\PL	Phys. Lett.	
\PR	Phys. Rev.	
\PRL	Phys. Rev. Lett.	
\PRS	Proc. R. Soc.	
\PS	Phys. Scr.	
\PSS	Phys. Status Solidi	
\PTRS	Phil. Trans. R. Soc.	
\RMP	Rev. Mod. Phys.	
\RSI	Rev. Sci. Instrum.	
\SSC	Solid State Commun.	
\ZP	Z. Phys.	