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A guide to preparing JET preprints using L^AT_EX

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Abstract

This document describes the typesetting requirements for JET preprints and a L^AT_EX class which implements these. It includes a chapter providing instructions for authors who wish to prepare their preprints for submission to the reprographics department using L^AT_EX with this class file.

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Chapter 1 Introduction

1.1 Scope

This document describes the typesetting requirements for JET preprints and a \LaTeX class which implements these. It includes a chapter providing instructions for authors who wish to prepare their preprints for submission to the reprographics department using \LaTeX with this class file. It describes the implementation of the class file for the \LaTeX RO. It includes a copy of the class file and an example document. This information is also intended to be provided in electronic form on the JET websites.

This document assumes a basic knowledge of the \TeX and \LaTeX systems.

1.2 Changes

This is the first issue of this document.

1.3 References

The `jetppclass` file and example document are released under CODAS SU under the `jettex` product.

1.4 Bugs

None known, but there may be incompatibilities with some author requirements. Don't hesitate to contact A.V. Stephent to resolve any problems. Please make any suggestions for improvements.

Chapter 2 Guidelines for Authors

2.1 JET Preprint Typographical Style

JET preprints should be typeset as follows :

Page size. A4. 210mm wide by 297mm high.

Horizontal margins. Symmetrical, 25mm. Leaves 165mm text width to allow figures to be typeset in two 80mm columns with 5mm spacing.

Page width. 165mm fixed, with justification for text.

Top margin. 25mm from top of page to first line of text. No headers.

Bottom margin. 30mm from last line of text to end of page. Page number in footer, with a vertical separation of 15mm from the text.

Body font. Times 12 point¹ with 18 point leading.²

Section heading. Time bold, 12 point, capitalized, 18 point leading.

Subsection heading. Times italic, capitalized, 12 point.

Subsubsection heading. Times italic, non-capitalized, 12 point, 18 point leading.

Paragraph indentation. 5mm for new paragraphs. First paragraph non-indented.

Bibliography. 10mm indentation from index column to text.

Figure captions. 10 point times italic, 12 point leading.

Figure layout. 80mm for single column, 165mm for double column.

2.2 The JET `jetpp` L^AT_EX Class

The JET `jetpp`L^AT_EX class implements all of the rules in § 2.1. It is derived from the standard `article` class, and enforces the options `twoside`, `12pt` and `a4paper`. Other `article` class options may be passed in the usual way.

It preloads the packages `titlesec`, `fancyhdr`, `caption2` and `multicol`. You should not change header, footer, section, or caption definitions elsewhere in your document. To produce a `jetpp`preprint, your document should be written as follows. For an example see chapter B.

1. Do not write a title page—this will be typeset separately by reprographics. By all means include title information, author affiliation and contact details in the document, but please comment these or mask the `\maketitle` command to avoid generating this information in the final PDF.

¹A point is a typographical unit of distance corresponding to $\frac{1}{72}$ of an inch.

²Leading describes the vertical space between successive lines of text. In electronic typography, this distance is defined in terms of the total distance between successive lines. In T_EX terminology, this is the `baselineskip`. In traditional physical typography, the distance is defined in terms of the width of the lead bar inserted between the lines of type.

2. Write section headings in mixed case. The class will enforce capitalisation as required.
3. The abstract should be typeset in the `\section*` environment.
4. The acknowledgements should be typeset in the `\section*` environment.
5. Figures should be typeset at the end of the main text. Use the environments `onecolumnfigures` and `twocolumnfigures` as appropriate. Graphics should be sized accordingly using `\jetpponecolwidth` and `\jetpptwocolwidth` commands. See § 2.2.2 and § 2.2.3.

The document should be processed to PDF format, ideally using `pdflatex`.

2.2.1 Submission

Please submit

1. The original \LaTeX source, with any additional packages or files used which are not available on CTAN.
2. Any diagram files required by the source.
3. The fully processed PDF document.

2.2.2 New `jetpp` Environments

For typesetting figures, `jetpp` provides two new environments :

`onecolumnfigures` : Environment within which figures to be set at full page width, i.e. in one column, should be placed.

`twocolumnfigures` : Environment within which figures to be set at half page width, i.e. in two columns, should be placed.

2.2.3 `jetpp` Commands

If required, you may refer to the following commands defined in the `jetppclass`

`\jetpponecolwidth` The dimension of single column text width.

`\jetpptwocolwidth` The dimension of double column text width.

2.3 Implementation

2.3.1 Document Font

The standard document font is set by redefining `\normalsize`.

2.3.2 Page Layout

All of the standard page layout dimensions are set so as to achieve the required margins. The paper size is enforced by executing the `a4paper` option in the `article` class.

2.3.3 Page Numbering

The `fancyhdr` package is used to define page style, headers and footers.

2.3.4 Section Heading

The `titlesec` package is used to customize `\section`, `\subsection` and `\subsubsection` commands. Section and subsection headings are capitalized using the `\MakeUppercase` command.

2.3.5 Figures

The caption font is set using the `caption2` package. Two new environments are provided to switch between one and two column mode.

Appendix A jetppClass File

```
% =====  
% File jetpp.cls : LaTeX2E class for JET preprints, derived from article class.  
%  
% Author : Adam Stephen, CODAS  
%  
% Notes : See JDN(04)25 for details on usage.  
% =====  
%  
% TODO : Override the maketitle command  
%  
\NeedsTeXFormat{LaTeX2e}  
\ProvidesClass{jetpp}[2003/09/01 Standard article style customised for JET preprints.]  
% =====  
% Base Class and Options  
% =====  
% Specify default options for article and load article with these options  
\DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}}  
\ExecuteOptions{12pt, twoside, a4paper}  
\ProcessOptions\relax  
\LoadClassWithOptions{article}  
% =====  
% Required packages  
% =====  
\usepackage{sectsty}  
\usepackage{titlesec}  
\usepackage{fancyhdr}  
\usepackage{caption2}  
\usepackage{multicol}  
\usepackage{color}  
% =====  
% Default font is Times 12pt with 18pt leading  
% =====  
\renewcommand{\normalsize}{%  
    {\fontfamily{ptm}\fontseries{m}\fontshape{n}\fontsize{12pt}{18pt}\selectfont}}  
% =====  
% Page Layout and Fonts  
% =====  
% General Page Dimensions  
% JET requires A4 210 width split with two 22.5mm margins and textwidth of 165mm  
% We express this by setting the margin as 22.5mm - 1 inch = 22.5 - 25.4 = -3.1  
\newlength{\jetpponecolwidth}  
\setlength{\jetpponecolwidth}{165mm}  
\newlength{\jetpptwocolwidth}  
\setlength{\jetpptwocolwidth}{80mm}  
\setlength{\textwidth}{\jetpponecolwidth}  
\setlength{\oddsidemargin}{-3.1mm}  
\setlength{\evensidemargin}{-3.1mm}  
\setlength{\marginparsep}{0mm}  
\setlength{\marginparwidth}{0mm}  
% Vertical settings : A4 height is 297  
%  
% JET requires top margin of 25mm to text top : no headers used  
% Express this with relation to voffset as : 25mm - 1inch = 25mm - 25.4mm = -0.4mm  
\setlength{\topmargin}{0.0mm}  
\setlength{\headheight}{0mm}  
\setlength{\headsep}{0mm}  
% Bottom margin is nominally 30mm to bottom of text, with 15mm footskip  
% This leaves a text height of 297 - 30 - 25 = 242  
\setlength{\textheight}{242mm}  
\setlength{\footskip}{15mm}  
\setlength{\parindent}{5mm}  
\setlength{\baselineskip}{18pt}  
% =====  
% Page numbering : tune the headers and footers  
% =====
```

```

\pagestyle{fancy}
% Put the page numbers in the right place
\fancyhead{} % Clear all headers - none required
\renewcommand{\headrulewidth}{0pt} % No header rule
\fancyfoot{} % Clear all
\fancyfoot[LE,RO]{\thepage}
% Also change plain style where this may be invoked indirectly by LaTeX
\fancypagestyle{plain}{%
\fancyhead{} % Clear all headers - none required
\renewcommand{\headrulewidth}{0pt} % No header rule
\fancyfoot{} % Clear all
\fancyfoot[LE,RO]{\thepage}
}
% -----
% Section Formatting.
% -----

% -----
% \section : JET Rule : Heading is in bold, upper case, caps.
% -----

\newcommand{\secformat}[1]{\MakeUppercase{#1}}

\titleformat{\section} % No optional shape
{\normalsize\bfseries} % Format
{\thesection.} % Label
{1em} % Sep
{\secformat} % Before
% After

% -----
% \subsection :
% JET Rule : Sub heading 1 is bold, 12 pt Times, Italics, Caps
% -----

\titleformat{\subsection} % No optional shape
{\normalsize\bfseries\itshape} % Format
{\thesubsection.} % Label
{1em} % Sep
{\secformat} % Before
% After

% -----
% \subsubsection :
% JET Rule : Sub heading 1 is 12 pt Times, Italics, Mixed case (at author's discretion)
% -----

\titleformat{\subsubsection} % No optional shape
{\normalsize\itshape} % Format
{\thetitle.} % Label
{1em} % Sep
{} % Before
% After

% -----
% Figure related
% -----

% -----
% JET Rule : Caption to be in italics
% -----

%\newcommand{\figcaption}[1]{\caption{\textit{#1}}}

%\newcommand{\startfigures}%
% {\fontfamily{ptm}\fontseries{m}\fontshape{it}\fontsize{10pt}{12pt}\selectfont}

\renewcommand{\captionfont}{\small\itshape}

\newenvironment{onecolumnfigures}%

```

```
{\setcaptionwidth{\jetpponecolwidth}}% Setup for one column figures  
{ } % End code for one column figures
```

```
\newenvironment{twocolumnfigures}%  
{\setcaptionwidth{\jetpptwocolwidth}\setlength{\columnsep}{5mm}\twocolumn}% Setup for two column figures  
{\onecolumn} % End code for one column figures
```


Appendix B jetppExample Document

```
% Example jetpp document
\documentclass{jetpp}
\usepackage{epsf}
\usepackage{graphicx}

\begin{document}

\section*{Abstract} This paper discusses the guidelines for authors regarding the preparation of preprints

\section{Introduction}

The JET reprographics service can prepare preprints more quickly if they are submitted in a suitable elect
The software tools that reprographics have available mean that PDF is the most appropriate form to receive
which have been prepared using \TeX. In order to allow the preprints graphics to be added to the document

\subsection{Requirements}

The document should be prepared using the {\tt jetpp} class and according to the rules
in JDN H(04)25. This class is derived from the standard \LaTeX {\tt article} class.
The document should be prepared without a title page. Abstract and acknowledgment sections
should be set in the {\tt \backslash section*} environment. Figures should be typeset
using new environments provided by the class : either {\tt \backslash onecolumnfigures}
or {\tt \backslash twocolumnfigures}.

\subsubsection{Comments}

Section headings will be formatted according to JET style rules. Caption text is controlled
using the {\tt caption2} package. The heading changes are implemented using the {\tt titlesec}
package.

\section*{Acknowledgements}

This work has been performed under the European Fusion Development Agreement.

\begin{thebibliography}{99}
\bibitem{Stephen04} A.V. Stephen, Jet Design Note {04 25} 1 (2004).
\end{thebibliography}

\clearpage

% Figures for single page formatting as follows

\begin{onecolumnfigures}

\begin{figure}[H]
\begin{center}
\resizebox{\jetpponecolwidth}{!}{\includegraphics{sameplfig.eps}}
\caption{A sample figure caption indicating the inclusion of a full-width graphic which will be typeset at
\label{samplefig.eps}
\end{center}
\end{figure}

\end{onecolumnfigures}

% Figures for two column formatting

\begin{twocolumnfigures}

\begin{figure}[H]
\begin{center}
\resizebox{\jetpptwocolwidth}{!}{\includegraphics{sameplfig.eps}}
\caption{A sample figure caption indicating the inclusion of a half-width graphic which will be typeset at
\label{samplefig.eps}
\end{center}
\end{figure}
```

```
\begin{figure}[H]
\begin{center}
\resizebox{\jetpptwocolwidth}{!}{\includegraphics{sameplfig.eps}}
\caption{A sample figure caption indicating the inclusion of a half-width graphic which will be typeset at a w
\label{samplefig.eps}
\end{center}
\end{figure}

\end{twocolumnfigures}

\end{document}
```