How to Prepare Articles for Publication in Journal of Materials Science and Technology using LaTeX 2ε

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Abstract.   This document contains a description on how to use LaTeX for preparing manuscripts to JMST. **One has to add to the standard LaTeX packages three new style files: jmst.sty, jmst.cls and jmst11.clo.** As to the abstract itself, it should be self-contained (without footnotes and references) and not exeeding 120 words.

Keywords: up to 5 keywords

1. Introduction

Authors are not obliged to use this template when preparing their manuscripts. But we hope it will be helpful to avoid regrettable mistakes and retyping manuscripts. Please, look at details as e.g. use of capital letters in the title, sections and subsections, style of references, figure captions.

1.1. Language

Manuscripts must be submitted in English. Both American or English spellings are acceptable. Do not rely on a language editor. If the English is not acceptable, the manuscript will be sent back to the authors for resubmission.

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1.1.1. ***Notation*** must be legible, clear, and consistent with standard usage. Such characters as e.g. 0 (numeral) and O (letter), 1 (one) and l (el), v (Latin) and ν (Greek) that could be easily confused should be distinguished clearly.

- **Equations and formulae** should be neatly formatted and numbered on the right in parentheses. They should be followed by a full stop when at the end of a sentence. Equations are numbered consecutively independently of the section they appear. If authors prefer, they can add (uncomment) the command `\eqnobysec` in the preamble and then the section will be attached to the equation number (e.g. (3.21)). Equation numbering by section is useful in articles with several appendices.

Example:

$$1/2a = \frac{1}{2a}.\tag{1}$$

As shown in (1) one must be careful with bracketing in fractions (e.g. 1/2k means 1/(2a), not (1/2)a).

When referring to an equation in the text it is not normally necessary to include the word *equation* before the equation number, which should be in parentheses. Do not use abbreviations such as eqn or eq. except for very special cases. When cross-referencing is used, (`\ref{<label>}`) will produce only '<eqnum>', while `\eref{<label>}` produces '(<eqnum>)', i.e. the same number in parentheses, and `\Eref{<label>}` produces 'Equation (<eqnum>)', where `<label>` is the label to produce equation number <eqnum>. So, for the equation above $< label >=< test >$ and the commands `\ref{<test>}`, `\eref{<test>}` and `\Eref{<test>}` produce 1, (1) and Equation (1), respectively.

Sometimes it is useful to number equations as parts of the same basic equation. This can be accomplished by inserting the commands `\numparts` before the equations concerned and `\endnumparts` when reverting to the normal sequential numbering. The equations below show the usage of these commands:

```
\numparts
\begin{eqnarray}
a_1&= \alpha_{11} b_1 + \alpha_{12}b_2 \\
a_2&= \alpha_{21} b_1 + \alpha_{22}b_2 .
\end{eqnarray}
\endnumparts
```

This produces

$$a_1 = \alpha_{11}b_1 + \alpha_{12}b_2 \qquad (2a)$$

$$a_2 = \alpha_{21}b_1 + \alpha_{22}b_2. \qquad (2b)$$

1.1.2. **Figures ad Tables** should be numbered consecutively. One has to keep in mind that they will be printed in a grey scale. Some pictures and graphics may be in colour, but they will appear in color only in the electronic version. The size of the figures must be conformable to the information contained, and must be suitable for direct reproduction without significant rescaling. Diagrams must be drawn in black on a white background. Lettering should be in proportion to the overall dimensions. Shaded areas should be filled in by hatching or cross-hatching since fine dots are reproduced not so well. All figures, pictures, diagrams etc. should be referred to as Fig.1, Fig.2 etc. Figure captions should be written on a separate page as well.

- It is advisable figures to be in encapsulated PostScript files, PDF-s or created using standard LʌTEX drawing commands. However, other formats as PS, CDR, PCX, BMP, WMF, TIFF and GIF are also acceptable. A minimum resolution of 300 dpi is required.

- **Including figures** All figures can be included within the body of the text at an appropriate point or grouped together with their captions at the end of the article. A standard graphics inclusion package such as `graphicx` should be used for figure inclusion. Wherever possible, please try to use standard LʌTEX tools and packages.

2. Preparing an article

The first code line is `\documentclass[11pt]{jmst}`. Authors may add their own macros in the preamble (between `\documentclass[11pt]{jmst}` and `\begin{document}` to the paper with comments to describe any complex or non-obvious ones.

3. The title and abstract page

These comments are for authors who are interested in the code construction.

3.1. Titles and article types

The title is set using the command `\title[\shorttitle]{Full title}`. The command `\emph{\shorttitle}` is given in a separate line and its argument is used for running headers on all pages appart from the first one. It is useful when the title is too long.

3.2. Authors' names and addresses

The style for the names is initials separated by full stops then family name, with a comma after all but the last two names separated by 'and'. If authors have different affiliations superscripted numbers, e.g. [1], `$^1$`, should be used after each name. The same superscripts must label the corresponding address commands. Additional information showing the name of the corresponding author is given as a footnote using the standard LATEX 2εcommand.

The addresses of the authors' affiliations and e-mails follow the list of authors. Each address is set by using a separate command `\address`. If there is more than one address then the appropriate superscripted number, followed by a space, should come at the start of the address.

4. The body of the text

The text of articles may be divided into sections, subsections and, if necessary, subsubsections.

4.1. Sections, subsections and subsubsections

To start a new section, end the previous paragraph and then include `\section` followed by the section heading within braces. Numbering of sections is done *automatically* in the headings: sections will be numbered 1, 2, 3, etc, subsections will be numbered 2.1, 2.2, 3.1, etc, and subsubsections will be numbered 2.3.1, 2.3.2, etc. It is recommended cross references to other sections in the text to be made using labels (using command `\cite{reference label}`) e.g. `\cite{LandauElelectro}` cites [3] in the reference list of this document. Sections have a bold heading, subsections an italic heading and subsubsections an italic heading with the text following on directly.

```
\section{This is the section title}
\subsection{This is the subsection title}
```

The first section is normally an introduction, which should state clearly the object of the work, its scope and the main advances reported, with brief references to relevant results by other workers. In long papers it is helpful to indicate the way in which the paper is arranged and the results presented.

Footnotes should be avoided whenever possible and can often be included in the text as phrases or sentences in parentheses. If required, they should be used only for brief notes that do not fit conveniently into the text. The use of displayed mathematics in footnotes should be avoided wherever possible and no equations within a footnote should be numbered. The standard LATEX macro `\footnote` should be used.

Acknowledgement

Authors wishing to acknowledge assistance or encouragement from colleagues, special work by technical staff or financial support from organizations should do so in an unnumbered 'Acknowledgments' section immediately following the last numbered section of the paper. The command `\ack` sets the acknowledgments heading as an unnumbered section.

4.2. Appendices

The command `\appendix` is used to signify the start of the appendices. Thereafter `\section`, `\subsection`, etc, will give headings appropriate for an appendix. To obtain a simple heading of 'Appendix' use the code `\section*{Appendix}`. If it contains numbered equations, figures or tables the command `\appendix` should precede it and `\setcounter{section}{1}` must follow it.

References

[1] M. Goosens, S. Rahtz and F. Mittelbach, *The LATEX Graphics Companion* Reading, MA: Addison-Wesley (1997).

[2] K. Reckdahl (1997) *Using Imported Graphics in LATEX* (search CTAN for the file 'epslatex.pdf').

[3] L. D. Landau and I. M. Lifshits, *Electrodynamics of continuous media*, Pergamon Press, New York (1982).

[4] R. Peierls, *Proc. Royal Soc. A* (1976) **347** 475.

[5] M. Petrov, in: Proc. Int. Conf. High-nitrogen steels, Varna, 1989, pp. 88-92.