

Demonstration of paper preparation in L^AT_EX

using the template ACMtempl.tex

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Abstract

This document serves as a guide for authors preparing manuscripts in L^AT_EX with the aim to publish them in the journal Applied and Computational Mechanics (ACM). The document gives a short description of new and modified commands used in the L^AT_EX class file *acm.cls*. It is recommended to use the template file *amctempl.tex* as a starting document for your manuscript. Firstly, save this template as a new document with the name consisting of the surname of the first author and his/her given name in the form *Thefirst_Adam.tex* and then continue writing your manuscript according to the instructions stated in this template.

Keywords: template, demonstration, rules of writing

1 Introduction

The overall formatting of the manuscript is controlled by the specially defined class *acm.cls* in the preamble of the document `\documentclass{acm}`. This class file is based on the *article.cls* class file so that all the usual L^AT_EX commands can be used. Note that common packages such as *amssymb.sty*, *amsmath.sty*, *graphicx.sty*, *fancyhdr.sty*, *times.sty*, *bm.sty*, *array.sty* and *geometry.sty* are already loaded in the class definition. Other additional packages may be loaded by the standard command `\usepackage` in the preamble of the document, but only packages that are really used are admissible.

Overall, it is highly recommended to prepare the manuscript according to the ACM template while keeping its formatting style as simple as possible, i.e., without loading redundant L^AT_EX packages that may later lead to package collisions during layout editing.

2 The front matter

2.1 Specifying the title, authors and affiliations

The title of the paper is simply specified by using the `\title{title}` command. If necessary, a `\\` may be used to put a line break in a long title, as shown in the title of this document. Note that in accordance with the common practice, the title should be concise and informative and

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should be capitalised using sentence style (i.e., only the first word and proper nouns like names and so on should be capitalised).

Author names and affiliations are specified by the commands `\authorinfo{name}{mark}` and `\affiliation{mark}{affiliation}` that follow the `\title{title}` command in the document. The argument `name` is composed of the first letter of the author's given name and his/her surname (family name). The name of each author is specified separately by the `\authorinfo` command. The argument `mark` represents the link between one or several authors and an appropriate workplace address that is specified by the `affiliation` argument. The star symbol is added after the `mark` of the corresponding author to make a link with the footnote text that specifies his/her phone number and e-mail address. For this purpose, the `\mainauthor{phone number}{e-mail}` command is defined. This command has to be used in the document body (i.e., between `\begin` and `\end` of the document).

After specifying the title, authors, affiliations and the contact data of the corresponding author, the final step necessary for the formatting of the front matter of the paper is to use the `\maketitle` command by simply including it in the document body.

2.2 Abstract and keywords

The abstract and keywords are specified by using the command `\abstract{abstract text}{keywords}`. The abstract should be concise and factual and should briefly state the purpose of the presented work, its principal results and conclusions. The length of the abstract should be appropriate, but no longer than 15 lines. Additionally, the abstract must be able to stand alone, so references should be avoided. If really necessary, only a complete citation should be used. The abstract is followed by a **maximum of 6 keywords** that are separated by a comma and without a full stop at the end.

3 The body of the paper

The main text of the manuscript is written using Times New Roman 12 font size. To emphasise certain words or parts of the text, use the `\textit{text}` command. If the manuscript requires the inclusion of footnotes, the authors are encouraged to use the standard `\footnote{text}` command.

Section headings are set up by using standard L^AT_EX commands `\section`, `\subsection` etc. Titles of each section, subsection or paragraph should be capitalised using sentence style (i.e., only the first word and proper nouns like names and so on should be capitalised), see the titles of sections and subsections in this document. To label a section heading for cross-referencing, place `\label{key}` within the argument specifying heading and then `\ref{ref}` within the text where needed. The Acknowledgement section is set up by the starred form of the standard `\section` command to avoid section numbering and it is placed between the Conclusions section and the list of references.

Each manuscript should be written in clear and correct English (British or American, but not a mixture of them) and should have the minimum of 8 pages, in any case an even number of pages is required.

Note that every submitted manuscript will undergo an **initial review** that will evaluate its originality (using *Crossref Similarity Check*), content, quality of English, and interest to the ACM readers, before being sent for a standard peer-review.

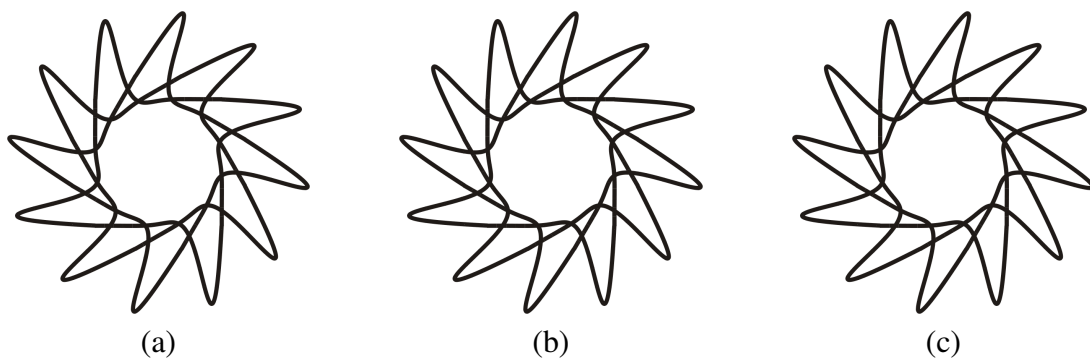


Fig. 1. Picture caption

4 Figures, tables and equations

All figures and tables should be embedded in the text at appropriate positions. Both colour or grayscale figures can be provided, but the colour ones will be used only for the online version of the journal. Keep in mind that figures and the results they present should be clearly visible and distinguishable also when printed in grayscale. If necessary, you are encouraged to submit additional figures suitable for grayscale printing only. **You are requested to provide all figures in separate files in vector format (eps, pdf or ps) or at least at 300dpi resolution (png, jpeg or tiff).**

All figures should be inserted using the command `\includegraphics[parameters]{figure name}`. To insert several figures side by side or below each other, the standard `minipage` environment can be used. Tables are specified by using the standard `table` environment. Only single lines should be used for framing each table cell. Additionally, the text in each table cell should be centred or left-aligned horizontally and centred vertically. Captions of figures (tables) are created by the `\caption` command and they are always centred *below* (*above*) the corresponding object. In these captions, please omit the use of a full stop at the end.

All equations in the paper should be centred and integrated into sentences. For the simplest type of displayed numbered one-line equation use the `equation` environment. For a single one-line unnumbered display equation use `\[...\]`. When more than one consecutive equation is needed, it is recommended to use the `align` environment. Bold symbols in math mode are set up by using the `\bm{text}` command from the *bm.sty* package. An equation (in this case in matrix form) that is a part of a sentence, for example,

$$\mathbf{x} = \mathbf{A}^+ \mathbf{y}, \quad \mathbf{y} = [\sin \omega t, \cos \omega t]^T, \quad (1)$$

is separated by comma and followed by a standard punctuation at the end if appropriate.

5 Cross-referencing of figures, tables and equations

All labels of figures and tables defined by the `\label{label}` command are referred to in the text by using the `\ref{label}` command. For example, the sequences `Fig.~\ref{F1}` and `Table~\ref{T1}` will generate Fig. 1 and Table 1, respectively. Overall, when referring to certain figures or tables in your manuscript, you should use the following formatting styles: Fig. 1, Fig. 1a-c, Figs. 1 and 3, Figs. 1a and 2c, Figs. 1–5, Table 1, Tables 1 and 2, Tables 1–3.

The reference to an equation is created analogously and consists only of its number closed in parentheses, e.g., the sequence `(\ref{E1})` will generate (1). In the text, avoid the use of

Table 1. The list of new user commands in the `acm.cls` class file

<code>\authorinfo{name}{mark}</code>	specify one author and the mark of his/her affiliation
<code>\affiliation{mark}{affiliation}</code>	specify an affiliation to corresponding mark
<code>\mainauthor{phone number}{e-mail}</code>	specify phone number and e-mail of main (corresponding) author
<code>\abstract{abstract text}{keywords}</code>	specify an abstract and keywords

"eq.", "eqs.", "equation", "equations" etc. when referring to a specific equation(s). In other words, you should write "as stated in (1)" instead of "as stated in equation (1)". The only exception is if the context calls for it (e.g., "In this case, equation (1) can be simplified ...") or if the equation(s) number would begin a sentence. In such a case, "Equation" or "Equations" preceding the equation(s) numbers should be used in order to avoid the awkwardness of beginning a sentence with a numeral.

6 List of references and citations

References should be cited in the text by the standard `\cite{key}` command, for example: "Recent works [1, 2, 7] showed ...", "... recently [4] and [6] solved ...", "... as was stated in [3, 5] or [8] ...", "... Bathe and Zhang [1] introduced ..." or "... Lee et al. in [5] showed ...". References generated using the standard `thebibliography` environment¹ should be **listed in alphabetical order** according to the surname (family name) of the first author at the end of the manuscript.

The requested format of the references is shown in the References section at the end of this document. **All reference titles need to be capitalised using sentence style** (i.e., only the first word and proper nouns like names should be capitalised); journal names should be written in full using the title case capitalisation (**abbreviations are not allowed**), DOI numbers (if applicable) and other reference data like page numbers, year, volume, publisher etc. have to be included in the requested format.

Another possibility how to prepare a formatted list of references is to use the reference management software Bib_TE_X. For this purpose, the authors are encouraged to use the provided style file (*ACM_biblio.bst*) and to submit their *.bib file together with the other source files.

Regardless of the chosen formatting method, note that **all references stated in the list of references have to be cited in the manuscript and vice versa**.

7 Conclusions

This section should summarise the main conclusions of the study, its novelty and contributions should be emphasised, advantages and disadvantages of the presented methods or approaches can be pointed out, further work in progress can be mentioned etc.

Finally, we would like to point out that only manuscripts in **PDF** format can be considered for publication. To submit the final version of your manuscript, you have to **pack** the file including all source files (*.tex and *.bib if appropriate) and all figures (i.e., each figure in a

¹The default value of the `itemsep` argument is changed to -4pt and small font size is used.

separate graphic file in the aforementioned vector or bitmap formats, see Section 4) and upload the **zip** file using the on-line form at <http://www.kme.zcu.cz/acm> after logging in.

Acknowledgement(s)

The acknowledgement(s) should be stated here, for example: The work has been supported by the grant project ... and by the research project ...

References

- [1] Bathe, K.-J., Zhang, L., The finite element method with overlapping elements – A new paradigm for CAD driven simulations, *Computers & Structures* 182 (2017) 526–539. <https://doi.org/10.1016/j.compstruc.2016.10.020>.
- [2] ECCOMAS – European Community on Computational Methods in Applied Sciences, Welcome webpage, <https://www.eccomas.org/>.
- [3] Einstein, A., Correction to my paper: A new determination of molecular dimensions, *Annalen der Physik* 339 (3) (1911) 591–592. (in German).
- [4] Lai, W. M., Rubin, D., Krempel, E., Introduction to continuum mechanics, New York, Butterworth-Heinemann, 2010. <https://doi.org/10.1016/B978-0-7506-8560-3.X0001-1>.
- [5] Lee, Y., Korpela, S. A., Horne, R. N., Structure of multi-cellular natural convection in a tall vertical annulus, *Proceedings of the 7th International Heat Transfer Conference*, Varna, Bulgarian Publisher, 1973, pp. 45–52.
- [6] Sparrow, E., Forced convection heat transfer in a duct having spanwise-periodic rectangular protuberances, *Numerical Heat Transfer* 3 (2) (1989) 149–167. <https://doi.org/10.1080/01495728008961752>.
- [7] Tung, C. Y., Yang, Y., Evaporative heat transfer in the contact line of a mixture, Ph.D. thesis, Rensselaer Polytechnic Institute, Beijing, 1982.
- [8] Wong, Y., Evaluation of force and particle velocity at the heated end of the rod, Brown University Technical Report No.5, Chicago, 1964.