

Guidelines for an IEDM Paper

T. Grasser¹, B. DeSalvo², and S. Datta³

¹Institute for Microelectronics, TU Wien, Vienna Austria, email: tibor.grasser@tuwien.ac.at

²Facebook Inc, Menlo Park, CA, USA, ³University of Notre Dame, Notre Dame, IN, USA

Abstract—Basic guidelines for the preparation of a technical paper for an IEEE International Electron Device Meeting are presented. This electronic document is a “live” template, meaning that it might see occasional updates aimed at clarification. The various components of your paper [title, text, headings, etc.] are already defined, as illustrated by the portions given in this document. The maximum paper length is 4 pages consisting of up to 2 pages of text and up to 2 pages of figures. It should concisely state what was done, how it was done, principal results, and their significance.

I. INTRODUCTION

This template provides authors with most of the formatting specifications needed for preparing electronic versions of IEDM papers. All standard paper components have been specified for three reasons: (1) ease of use when formatting individual papers, (2) automatic compliance to electronic requirements that facilitate the concurrent or later production of electronic products, and (3) conformity of style throughout a conferences proceedings. Margins, column widths, line spacing, and type styles are built-in; examples of the type styles are provided throughout this document and are identified in italic type, within parentheses, following the example. Some components, such as multi-leveled equations, graphics, and tables are not prescribed, although the various table text styles are provided. The formatter will need to create these components, incorporating the applicable criteria that follow.

II. EASE OF USE

A. Template (Heading 2)

This template has been tailored for output on US letter-sized paper.

B. Maintaining the Integrity of the Specifications

The template is used to format your paper and style the text. All margins, column widths, line spaces, and text fonts are prescribed; please do not alter them. You may note peculiarities. For example, the heading margin in this template measures proportionately more than is customary. This measurement and others are deliberate, using specifications that anticipate your paper as one part of the entire proceedings, and not as an independent document. Please do not revise any of the current designations.

III. CONFERENCE PAPER PREPARATION

The maximum length of a paper for all invited, regular and late news is 4 pages, consisting of up to 2 pages of text and up to 2 pages of figures. Please use automatic hyphenation.

Be sure your sentences are complete and that there is continuity within your paragraphs. Check the numbering of your graphics (figures and tables) and make sure that all appropriate references are included.

Please take note of the following items when proofreading spelling and grammar:

A. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have been defined in the abstract. Abbreviations such as IEEE, SI, ac, dc, and rms do not have to be defined. Do not use abbreviations in the title or section headings unless they are unavoidable.

B. Units

- Metric units are preferred for use in IEEE publications in light of their global readership and the inherent convenience of these units in many fields. In particular, the use of the International System of Units (SI Units) is advocated. An exception is when U.S. Customary units are used as identifiers in trade, such as 3.5-inch disk drive.
- Avoid combining SI and U.S. Customary units, such as current in amperes and magnetic field in oersteds. This often leads to confusion because equations do not balance dimensionally. If you must use mixed units, clearly state the units for each quantity that you use in an equation.
- Do not mix complete spellings and abbreviations of units: “Wb/m²” or “webers per square meter”, not “webers/m²”. Spell out units when they appear in text: “...a few henries”, not “...a few H”.
- Use a zero before decimal points: “0.25”, not “.25”. Use “cm³”, not “cc”. (*bullet list*)

C. Equations

Most equations can be typeset with the familiar \TeX commands, although for some environments (including equation arrays) IEEE provides its own custom macros in order to achieve the desired formatting and appearance (please see the “IEEEtran_HOWTO” \LaTeX template manual for details).

\LaTeX will automatically number the equations consecutively and will display equation numbers within parentheses positioned flush right. To make your equations more compact, you

may use the solidus (/), the exp function, or appropriate exponents. Punctuate equations with commas or periods when they are part of a sentence, as in

$$\alpha - \beta + \delta = \chi. \quad (1)$$

Be sure that the symbols in your equation have been defined before or immediately following the equation. Use “(1)”, not “Eq. (1)” or “equation (1)”, except at the beginning of a sentence: “Equation (1) is ...”

IV. USING THE TEMPLATE

This document is highly recommended to use as a template for preparing your Conference paper. You may type over sections of the document, cut and paste into it, and/or use markup styles.

Duplicate the template file and use the naming convention prescribed by your conference for the name of your paper.

A. Authors and Affiliations

The template is designed so that author affiliations are not repeated each time for multiple authors of the same affiliation. Please keep your affiliations as succinct as possible (for example, do not differentiate among departments of the same organization. Acronyms also acceptable).

B. Identify the Headings

Headings are organizational devices that guide the reader through your paper. There are two types: component headings and text headings.

Component headings identify the different components of your paper and are not topically subordinate to each other. Examples include ACKNOWLEDGMENTS and REFERENCES. Run-in headings, such as “Abstract” may have their own style applied (in this case, bold italic) to differentiate the heading from the text.

Text headings organize the topics on a relational, hierarchical basis. If there are two or more subtopics, the `\section` and `\subsection` environments should be used.

C. Figures and Tables

Positioning Figures and Tables: Large figures and tables may span across both columns. Captions should be below the figure or table. You can have up to 2 pages of figures and tables following your 2 pages of text. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

Figure Labels: Use 8 point Times New Roman for Figure labels and make them verbatim, such as “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K”.

Figures and tables should be numbered consecutively. Use Arabic numerals for figures and Roman numerals for tables.

Fig. 1. Example of a figure caption. (*figure caption*)

ACKNOWLEDGMENT

The following is an example of an acknowledgment.

The authors gratefully acknowledge the contributions of T. Edison, G. Westinghouse, N. Tesla, A. Volta and A. Ampere to the electric power industry.

DISCLAIMER ABOUT THIS L^AT_EX TEMPLATE

The .tex template file was prepared based on the IEEEtran class and bibliography style as volunteer effort by Bjorn Vermeersch (imec, Belgium).

It is neither affiliated with nor officially endorsed by the IEDM organisers; it merely aims to provide a workable document that can help fellow L^AT_EX users in preparing their IEDM manuscripts that closely reproduce the look of the Word template.

To compile the PDF output from the template files, run the following command sequence:

```
pdflatex IEDM_template.tex
bibtex IEDM_template
pdflatex IEDM_template.tex
pdflatex IEDM_template.tex
```

For detailed information about IEEEtran, please refer to the official IEEE L^AT_EX resources and documentation available at <https://www.ieee.org/conferences/publishing/templates.html>.

REFERENCES

- [1] The template will automatically typeset the reference list in 8pt font as appropriate.
- [2] J. F. Fuller, E. F. Fuchs, and K. J. Roesler, “Influence of harmonics on power distribution system protection,” *IEEE Trans. Power Delivery*, vol. 3, pp. 549–557, Apr. 1988.
- [3] R. J. Vidmar, “On the use of atmospheric plasmas as electromagnetic reflectors,” *IEEE Trans. Plasma Sci.*, vol. 21 (3), p. [Online], Aug. 1992.
- [4] E. Clarke, *Circuit Analysis of AC Power Systems*, vol. I. New York: Wiley, 1950, p. 81.
- [5] E. E. Reber, R. L. Mitchell, and C. J. Carter, “Oxygen absorption in the earth’s atmosphere,” in *Tech. Rep. TR-0200 (4230-46)-3*, Aerospace Corp., Los Angeles, CA, Nov. 1968.
- [6] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, “Electron spectroscopy studies on magneto-optical media and plastic substrate interface,” *IEEE Transl. J. Magn. Japan*, vol. 2, pp. 740–741, August 1987.
- [7] L. Alqueres and J. C. Praca, “The brazilian power system and the challenge of the amazon transmission,” in *Proc. 1991 IEEE Power Engineering Society Transmission and Distribution Conf.*, pp. 315–320.