

# Preparation of a Paper for the IEEE PowerTech 2015 Conference

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**Abstract**—Basic guidelines for the preparation of an extended abstract and/or full paper for the PowerTech 2015 Conference are presented. This L<sup>A</sup>T<sub>E</sub>X document is a “live” template. The various components of your paper [title, text, headings, etc.] are already defined in the IEEEtran document class, as illustrated by the portions given in this document. The abstract is limited to 150 words and cannot contain equations, figures, tables, or references. It should concisely state what was done, how it was done, principal results, and their significance.

**Index Terms**—The author shall provide up to 4 keywords (in alphabetical order) to help identify the major topics of the paper. The thesaurus of IEEE indexing keywords is posted at [http://www.ieee.org/organizations/pubs/ani\\_prod/keywrd98.txt](http://www.ieee.org/organizations/pubs/ani_prod/keywrd98.txt).

## I. INTRODUCTION

This template provides authors with most of the formatting specifications needed for preparing electronic versions of PowerTech 2015 Conference papers based on the IEEE PES Author’s Kit. 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

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.

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Identify applicable sponsor/s here. (*sponsors*)

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. EXTENDED ABSTRACT/FULL PAPER PREPARATION

Extended abstracts should be two to three pages long. Full papers are limited to a maximum of six pages. Please use automatic hyphenation and check your spelling. Additionally, be sure your sentences are complete and that there is continuity within your paragraphs. Make sure that all appropriate references are included. L<sup>A</sup>T<sub>E</sub>X will sort the section, figure, equation, and table numbers automatically.

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 (*Systeme Internationale d’Unités* or SI Units) is advocated. This system includes a subsystem of units based on the meter, kilogram, second, and ampere (MKSA). U.S. Customary units, or British units, may be used as secondary units (in parentheses). 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/m<sup>2</sup>” or “webers per square meter”, not “webers/m<sup>2</sup>”. 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 “cm<sup>3</sup>”, not “cc”. (*bullet list*)

### C. Equations

Equations are created using the `equation` environment. To create multileveled equations, use the `amsmath` extension package for L<sup>A</sup>T<sub>E</sub>X. 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 ...”

### D. Footnotes

Create footnotes with the `footnote` environment. Do not put footnotes in the reference list. Use letters for table footnotes, as shown in Table I.

### E. Some Common Mistakes

- The word “data” is plural, not singular.
- The subscript for the permeability of vacuum  $\mu_0$ , and other common scientific constants, is zero with subscript formatting, not a lowercase letter “o”.
- In American English, commas, semi-/colons, periods, question and exclamation marks are located within quotation marks only when a complete thought or name is cited, such as a title or full quotation. When quotation marks are used, instead of a bold or italic typeface, to highlight a word or phrase, punctuation should appear outside of the quotation marks. A parenthetical phrase or statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.)
- A graph within a graph is an “inset”, not an “insert”. The word alternatively is preferred to the word “alternately” (unless you really mean something that alternates).
- Do not use the word “essentially” to mean “approximately” or “effectively”.
- In your paper title, if the words “that uses” can accurately replace the word “using”, capitalize the “u”; if not, keep using lower-cased.
- Be aware of the different meanings of the homophones “affect” and “effect”, “complement” and “compliment”, “discreet” and “discrete”, “principal” and “principle”.
- Do not confuse “imply” and “infer”.

- The prefix “non” is not a word; it should be joined to the word it modifies, usually without a hyphen.
- There is no period after the “et” in the Latin abbreviation “et al.”.
- The abbreviation “i.e.” means “that is”, and the abbreviation “e.g.” means “for example”.

## IV. USING THE TEMPLATE

This document should be used as a template for preparing your Extended Abstract and Full Conference Paper. You may type over sections of the document, cut and paste into it, and/or use markup styles.

Duplicate the template file by using the Save As command, 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). This template was designed for two affiliations.

### 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 and, for these, it is necessary to use the `\section` command. Use `\caption` within the table and figure environments for your figure captions and table titles.

Text headings organize the topics on a relational, hierarchical basis. For example, the paper title is the primary text heading because all subsequent material relates and elaborates on this one topic. If there are two or more sub-topics, the next level heading should be used and, conversely, if there are not at least two sub-topics, then no subheadings should be introduced. The sectioning commands `\subsection`, `\subsubsection`, and `\paragraph` are prescribed.

### C. Figures and Tables

1) *Positioning Figures and Tables*: Large figures and tables may span across both columns. Figure captions should be below the figures; table headings should appear above the tables. Insert figures and tables after they are cited in the text as close to the citation as possible. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

2) *Figure Labels*: Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “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)” or “Magnetization A[m(1)]”, not just “A/m”. Do not label

TABLE I  
TABLE TYPE STYLES

Table Heading	Table Column Heading		
	Table column subheading	Subheading	Subheading
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<sup>a</sup>Example of a table footnote.

axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K. Figures and tables should be numbered consecutively.

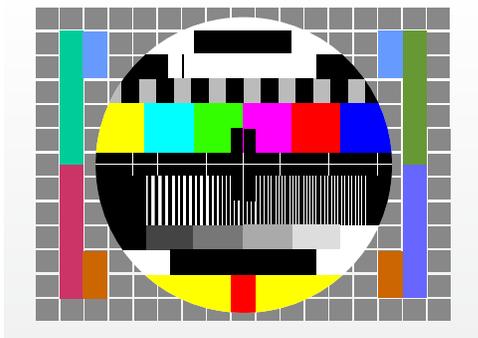


Fig. 1. Example of a figure caption.

#### ACKNOWLEDGMENT

The preferred spelling of the word “acknowledgment” in America is without an “e” after the “g”. Avoid the stilted expression, “One of us (R.B.G.) thanks. . .”. Instead, try “R.B.G. thanks. . .”. Put sponsor acknowledgments in the unnumbered footnote on the first page.

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.

#### THE REFERENCES SECTION

References are important to the reader; therefore, each citation must be complete and correct. There is no editorial check on references; therefore, an incomplete or wrong reference will be published unless caught by a reviewer and will detract from the authority and value of the paper. References should be readily available publications.

List only one reference per reference number. If a reference is available from two sources, each should be listed as a separate reference.

The template will number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Multiple references [3], [4] are each numbered with separate brackets [4]–[6]. Refer simply to the reference number, as in [7]—do not use “Ref. [7]” or “reference [7]” except at the beginning of a sentence: “Reference [7] was the first. . .”.

Unless there are six authors or more give all authors’ names; do not use “et al.”. Papers that have not been published, even if they have been submitted for publication, should be cited as “unpublished” [8]–[10]. Capitalize only the first word in a paper title, except for proper nouns and element symbols. For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [11]. Papers that have been accepted for publication, but not yet published, should be cited as “in press” [12].

Samples of the correct formats for various types of references are given below [1]–[16].

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