Preparation of Papers for IEEE Computer Society TRANSACTIONS

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**Abstract**—These instructions give you guidelines for preparing papers for IEEE Computer Society Transactions. Use this document as a template if you are using Microsoft Word 6.0 or later. Otherwise, use this document as an instruction set. Please note that use of IEEE Computer Society templates is meant to assist authors in correctly formatting manuscripts for final submission and does not guarantee how the final paper will be formatted by IEEE Computer Society staff. This template may be used for initial submissions; however, please consult the author submission guidelines for formatting instructions as most journals prefer single column format for peer review. An abstract should be 100 to 200 words for regular papers, no more than 50 words for short papers and comments, and should clearly state the nature and significance of the paper. Abstracts *must not* include mathematical expressions or bibliographic references. Please note that abstracts are formatted as left justified in our editing template (as shown here).

**Index Terms**—Keywords should be taken from the taxonomy (http://www.computer.org/mc/keywords/keywords.htm). Keywords should closely reflect the topic and should optimally characterize the paper. Use about four key words or phrases in alphabetical order, separated by commas (there should not be a period at the end of the index terms)

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# 1 Introduction

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For display equations as seen below, number equations consecutively with equation numbers in parentheses flush with the right margin, as in (1). First, use the equation editor to create the equation. Then, select the “Equation” markup style. Press the tab key and write the equation number in parentheses. To make your equations more compact, you may use the solidus ( / ), the exp function, or appropriate exponents. Use parentheses to avoid ambiguities in denominators. Punctuate equations when they are part of a sentence, as in

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# 6 Helpful Hints

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Place figure captions below the figures; place table titles above the tables. Figure captions appear as left justified. Table captions are restricted to one sentence and are formatted as title case. Any additional sentence in a table caption will be formatted as a footnote below the table (see Table 1 in this document). If your figure has two parts, include the labels “(a)” and “(b)” as part of the artwork. Please verify that the figures and tables you mention in the text actually exist. Figures and tables should be called out in sequential order, as this is how they will be placed in your paper. For example, avoid referring to figure “8” in the first paragraph of the article unless figure 8 will again be referred to after the reference to figure 7. **Please do not include figure captions as part of the figure. Do not put captions in “text boxes” linked to the figures. Do not put borders around the outside of your figures.** Per IEEE Computer Society, please use the abbreviation “Fig.” even at the beginning of a sentence. Do not abbreviate “Table.” Tables are numbered numerically.

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Fig. 1. Magnetization as a function of applied field. Note that “Fig.” is abbreviated. There is a period after the figure number, followed by one space. It is good practice to briefly explain the significance of the figure in the caption.

Figure axis labels are often a source of confusion. Use words rather than symbols. As an example, write the quantity “Magnetization,” or “Magnetization *M*,” not just “*M*.” Put units in parentheses. Do not label axes only with units. As in Fig. 1, for example, write “Magnetization (A/m)” or “Magnetization (Am−1),” not just “A/m.” Do not label axes with a ratio of quantities and units. For example, write “Temperature (K),” not “Temperature/K.” Table 1 shows some examples of units of measure.

Multipliers can be especially confusing. Write “Magnetization (kA/m)” or “Magnetization (103 A/m).” Do not write “Magnetization (A/m) × 1,000” because the reader would not know whether the top axis label in Fig. 1 meant 16,000 A/m or 0.016 A/m. Figure labels should be legible, approximately 8 to 12 point type. When creating your graphics, especially in complex graphs and charts, please ensure that line weights are thick enough that when reproduced at print size, they will still be legible. We suggest at least 1 point.

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Number footnotes separately in superscripts (Insert | Footnote)[[1]](#footnote-1). Place the actual footnote at the bottom of the column in which it is cited; do not put footnotes in the reference list (endnotes). Use letters for table footnotes (see Table 1). Please do not include footnotes in the abstract and avoid using a footnote in the first column of the article. This will cause it to appear above the affiliation box, making the layout look confusing.

TABLE 1  
Units for Magnetic Properties



Statements that serve as captions for the entire table do not need footnote letters.

aGaussian units are the same as cgs emu for magnetostatics; Mx = maxwell, G = gauss, Oe = oersted; Wb = weber, V = volt, s = second, T = tesla, m = meter, A = ampere, J = joule, kg = kilogram, H = henry.

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1. Items will be set outside of the paragraphs.
2. Items will be punctuated as sentences where it is appropriate.
3. Items will be numbered, followed by a period.

## 6.5 Theorems and Proofs

Theorems and related structures, such as axioms corollaries, and lemmas, are formatted using a hanging indent paragraph. They begin with a title and are followed by the text, in italics.

**Theorem 1.** *Theorems, corollaries, lemmas, and related structures follow this format. They do not need to be numbered, but are generally numbered sequentially.*

Proofs are formatted using the same hanging indent format. However, they are not italicized.

**Proof.** The same format should be used for structures such as remarks, examples, and solutions (though these would not have a Q.E.D. box at the end as a proof does). 

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## Appendices

Appendices, if present, appear online as supplemental material. In the event multiple appendices are required, they will be labeled “Appendix A,” “Appendix B, “ etc.

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## 7.2 Acknowledgments

The preferred spelling of the word “acknowledgment” in American English is without an “e” after the “g.” Use the singular heading even if you have many acknowledgments. Avoid expressions such as “One of us (S.B.A.) would like to thank ... .” Instead, write “F. A. Author thanks ... .” Sponsor and financial support acknowledgments are included in the acknowledgment section. For example: This work was supported in part by the US Department of Commerce under Grant BS123456 (sponsor and financial support acknowledgment goes here). Researchers that contributed information or assistance to the article should also be acknowledged in this section. Also, if corresponding authorship is noted in your paper it will be placed in the acknowledgment section. Note that the acknowledgment section is placed at the end of the paper before the reference section.

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Additional information on formatting and style issues can be obtained in the IEEE Computer Society Style Guide, which is posted online at: <http://www.computer.org/portal/web/publications/styleguide>. Click on the appropriate topic under the Special Sections link.

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Although a conclusion may review the main points of the paper, do not replicate the abstract as the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions. Authors are strongly encouraged not to reference multiple figures or tables in the conclusion—these should be referenced in the body of the paper.

**Acknowledgment**

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