## Preparation of Papers for IEEE TRANSATIONS and JOURNALS (February 2017)

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Abstract—These instructions give you guidelines for preparing papers for IEEE Transactions and Journals. Use this document as a template if you are using LaTeX. Otherwise, use this document as an instruction set. The electronic file of your paper will be formatted further at IEEE. Paper titles should be written in uppercase and lowercase letters, not all uppercase. Avoid writing long formulas with subscripts in the title; short formulas that identify the elements are fine (e.g., "Nd-Fe-B"). Do not write "(Invited)" in the title. Full names of authors are preferred in the author field, but are not required. Put a space between authors' initials. The abstract must be a concise yet comprehensive reflection of what is in your article. In particular, the abstract must be self-contained, without abbreviations, footnotes, or references. It should be a microcosm of the full article. The abstract must be between 150-250 words. Be sure that you adhere to these limits; otherwise, you will need to edit your abstract accordingly. The abstract must be written as one paragraph, and should not contain displayed mathematical equations or tabular material. The abstract should include three or four different keywords or phrases, as this will help readers to find it. It is important to avoid over-repetition of such phrases as this can result in a page being rejected by search engines. Ensure that your abstract reads well and is grammatically correct.

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## I. Introduction

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## A. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used in the text, even after they have already been defined in the abstract. Abbreviations such as IEEE, SI, ac, and dc do not have to be defined. Abbreviations that incorporate periods should not have spaces: write C.N.R.S.," not C. N. R. S." Do not use abbreviations in the title unless they are unavoidable (for example, IEEE" in the title of this article).

## B. Other Recommendations

Use one space after periods and colons. Hyphenate complex modifiers: zero-field-cooled magnetization." Avoid dangling participles, such as, Using eqref{eq}, the potential was calculated." [It is not clear who or what used eqref{eq}.] Write instead, The potential was calculated by using eqref{eq}," or Using eqref{eq}, we calculated the potential."

Use a zero before decimal points: "0.25," not .25." Use "cm³," not cc." Indicate sample dimensions as 0.1 cm  $\times$  0.2 cm," not 0.1  $\times$  0.2 cm²." The abbreviation for seconds" is s," not sec." Use Wb/m $^{\{2\}}$ " or webers per square meter," not webers/m $^{\{2\}}$ ." When expressing a range of values, write 7 to 9" or 7–9," not "7~9."

A parenthetical statement at the end of a sentence is punctuated outside of the closing parenthesis (like this). (A parenthetical sentence is punctuated within the parentheses.) In American English, periods and commas are within quotation marks, like this period." Other punctuation is outside"! Avoid contractions; for example, write do not" instead of don't." The serial comma is preferred: A, B, and C" instead of A, B and C."

If you wish, you may write in the first person singular or plural and use the active voice (I observed that l..." or We observed that l..." instead of It was observed that l..."). Remember to check spelling. If your native language is not English, please get a native English-speaking colleague to carefully proofread your paper.

Try not to use too many typefaces in the same article. You're writing scholarly papers, not ransom notes. Also please remember that MathJax can't handle really weird typefaces.

References