[[1]](#footnote-1)



Publication Process of 4 page Letter. (Visual Summary)

Preparation of Papers for IEEE Letters on Electromagnetic Compatibility Practice and Applications

First A. Author, *Fellow, IEEE*, Second B. Author, and Third C. Author, Jr., Member, IEEE

*Abstract*—These instructions give you guidelines for preparing manuscripts for the IEEE Letters on Electromagnetic Compatibility Practice and Applications (L-EMCPA)*.* Use this document as a template if you are using Microsoft *Word*. Otherwise, use this document just for helpful information, and prepare your paper using any word processor. The Word template is useful for estimating the length of an article (up to 3½ pages of text plus an additional ½ page for references only will be allowed – total paper length not to exceed 4 pages). If you do not use the template, 4 journal pages have a total of about 3600 words; each figure is equivalent to about 140 words. 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"). 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. The abstract must be written as one paragraph, and should not contain displayed mathematical equations or tabular material.

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***Take-Home Messages:***

(up to seven items)

* What are the innovative features of utilizing electromagnetic compatibility practice and applications in this manuscript, in one sentence?
* What is the conclusion in this manuscript, in one sentence?
* What are the targeted EMC applications, in one sentence?
* What is the significance/breakthrough of this work?
* Accomplishments in this manuscript you would like to highlight that are not mention above, for our readers, in one sentence?
* …
* …

# INTRODUCTION

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# Take-Home-Messages

In order to provide readers with a quick overview on the main technical content the L-EMCPA shows a box with Take-Home-Messages. The Take-Home-Messages are up to seven bullet points summarizing the innovative features of utilizing electromagnetic compatibility practice and applications in this manuscript. Be sure to show the Take-Home-Message box on the first page and upload it during manuscript submission.

# HELPFUL HINTS

## Units

Use either SI (MKS) or CGS as primary units. (SI units are strongly encouraged.) English units may be used as secondary units (in parentheses). This applies to papers in data storage. For example, write “15 Gbit/cm2 (100 Gbit/in2).” An exception is when English units are used as identifiers in trade, such as “3½ in disk drive.” Avoid combining SI and CGS 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 in an equation.

The SI unit for magnetic field strength H is A/m. However, if you wish to use units of T, either refer to magnetic flux density B or magnetic field strength symbolized as µ0H. Use the center dot to separate compound units, e.g., “A•m2.”

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Figure axis labels are often a source of confusion. Use words rather than symbols. As an example, write the quantity “Pressure,” or “Pressure, P,” not just “P.” However, if there is not enough room on the axis to specify the quantity, write just the symbol “P,” but define it in the figure caption. IEEE allows two ways to designate units in graphs and tables: (1) Put units in parentheses. As in Fig. 1, for example, write “Intensity (W/m2)” or “Intensity, I (W m-2)” (but not just “W/m2”). (2) Label axes with a ratio of symbols and units. For example, write “Intensity, I/(W m2)” or “Temperature, T/K” (but not “Temperature/K”).

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## References



Fig. 1. Resonance frequency as a function of time. Note that “Fig.” is abbreviated. It is good practice to explain the significance of the figure in the caption.

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Table 1: Units for Magnetic Properties

|  |  |  |
| --- | --- | --- |
| Symbol | Quantity a | Conversion from Gaussian and cgs emu to SI b |
| *Φ* | magnetic flux | 1 Mx → 10−8 Wb = 10−8 V·s |
| *B* | magnetic flux density,  magnetic induction | 1 G → 10−4 T = 10−4 Wb/m2 |
| *H* | magnetic field strength | 1 Oe → 103/(4π) A/m |
| *m* | magnetic moment | 1 erg/G = 1 emu  → 10−3 A·m2 = 10−3 J/T |
| *M* | Magnetization | 1 erg/(G·cm3) = 1 emu/cm3 → 103 A/m |
| 4π*M* | magnetization | 1 G → 103/(4π) A/m |
| *σ* | specific magnetization | 1 erg/(G·g) = 1 emu/g  → 1 A·m2/kg |
| *j* | magnetic dipole moment | 1 erg/G = 1 emu  → 4π × 10−10 Wb·m |
| *J* | magnetic polarization | 1 erg/(G·cm3) = 1 emu/cm3 → 4π × 10−4 T |
| *χρ* | specific susceptibility | 1 cm3/g → 4π × 10−3 m3/kg |
| *μ* | permeability | 1 → 4π × 10−7 H/m  = 4π × 10−7 Wb/(A·m) |
| *μr* | relative permeability | *μ* → *μ*r |
| *w, W* | energy density | 1 erg/cm3 → 10−1 J/m3 |

a No vertical lines in table.

b Gaussian 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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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).

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# ACKNOWLEDGMENT

Only the Acknowledgment and References may extend to this last column on Page 4. 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 “S.B.A. thanks ... .” This work was supported in part by the U.S. Department of Commerce under Grant BS123456 (sponsor and financial support acknowledgment goes here; spell out the full name of the sponsor).

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[9] Young M (1989), The Technical Writer’s Handbook. Mill Valley, CA: University Science.

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T. C. Author is with the Electrical Engineering Department, University of Colorado, Boulder, CO 80309 USA, on leave from the National Research Institute for Metals, Tsukuba, Japan (e-mail: author@nrim.go.jp). [↑](#footnote-ref-1)