

Instruction Details and Hints for COMPUMAG 2023

Two-page Short Paper Preparation

First A. Author^{1,2}, Second B. Author, Jr.², and Third C. D. Author^{3,4}, *Fellow, IEEE*

¹National Institute of Standards and Technology, Boulder, CO 80305 USA, xxx@yyy.zz

²Physics Department, University of Colorado, Boulder, CO 80309 USA, xxx@yyy.zz

³MMM Department, Colorado School of Mines, Golden, CO 80401 USA, xxx@yyy.zz

⁴National Institute for Materials Science, Tsukuba, Ibaraki 305, Japan, xxx@yyy.zz

These instructions give you guidelines for preparing the two-page short paper for the 24th International Conference on Computation of Electromagnetic Fields (Compumag 2023), which will be held on 22–26 May 2023 in Kyoto, Japan. The general layout is almost identical to the standard template of the *IEEE Transactions on Magnetics*, except that the short papers are limited to two pages. You should use this document as a template for preparing your contributions. You may also download a Template for IEEE Transactions on Magnetics (Revised May 2015) from http://www.ieee.org/publications_standards/publications/authors/author_templates.html. Do not use older versions or versions used at Compumag conferences before Montreal 2015. Accepted short papers will be included in the book of conference proceedings. Papers presented at the conference will be considered for publication in the *IEEE Transactions on Magnetics* after a second peer-review process. Please carefully follow the instructions contained in this document in order to ensure legibility and uniformity of short papers. **To qualify for the conference, the abstract must clearly state the novelty of the work regarding the numerical computation of electromagnetic fields.**

Index Terms—About four key words or phrases in alphabetical order, separated by commas. For a list of suggested keywords, go to http://www.ieee.org/documents/taxonomy_v101.pdf.

I. INTRODUCTION

THIS DOCUMENT is a template for L^AT_EX using IEEEtran.cls version 1.8 or later. This template can be downloaded from the COMPUMAG 2023 website <http://www.compumag2023.com>.

II. GENERAL LAYOUT OF THE TWO-PAGE SHORT PAPER

Please prepare the camera-ready copy on a regular size paper (8.5 in x 11 in = 21.6 cm x 27.9 cm) or A4 paper (21.0 cm x 29.7 cm). The short paper should be prepared in double-column format, except for the title and the abstract, as shown above. The total text height should be 9.6 in (24.4 cm). The total width should be 7.2 in (18.3 cm) with a separation of 0.2 in (0.5 cm) between the columns. Please provide a top margin of 0.7 in (1.8 cm) and a left margin of 0.65 in (1.65 cm). Paragraphs follow the indented paragraph format with left and right justification. Use 0.36 cm for paragraph indentation. Do not leave space between the paragraphs. **The required line spacing within each paragraph is ‘Multiple’ at ‘1.05’ (rather than ‘Single’).**

Please number section headings with Roman numerals and center them in the column. The spacing before and after the section headings should be 12 pt and 4 pt, respectively. Please number the subheadings with alphabetical letters. The spacing before and after the subheadings is 6 pt and 3 pt, respectively. The indentation for subheadings is 0.1 in (0.25 cm).

III. TYPES AND SIZE OF FONTS

Please use Times New Roman typeface and follow the type size specified in Table I as closely as possible. If you use nonstandard fonts for special symbols, please embed them in the PDF (export option).

TABLE I
TYPE SIZES FOR CAMERA READY PAPERS

Item	Type Size (points)	Appearance
Title	17	Bold
Author's Name	11	Regular
Author's Affiliations, mailing address and E-mail	10	Regular
Abstract	9	Bold
Section Titles	10	Small capitals, centered in column, Roman numerals
Subheadings	10	Italics, alphabetical numerals
Main text	10	Regular
Subscripts and Superscripts in the Main text	10	Regular
Equations	10	Regular
Figure Captions	8	Regular, centered in column, Arabic numerals
Table Captions	8	Small capitals, title case, centered in column, Roman numerals
Table Name/Description	8	Small capitals, title case, centered in column, Roman numeral
Table Text	8	Regular
Subscripts and Superscripts in Table text	6	Regular
References	8	Regular

No vertical lines in table. Statements that serve as captions for the entire table do not need footnote letters. A longer description of the table would go here.

IV. USEFUL HINTS

A. Abbreviations and Acronyms

Define abbreviations and acronyms the first time they are used, even after they have been defined in the abstract. Commonly acceptable abbreviations such as IEEE, SI, MKS, ac,

and dc do not have to be defined. Do not use abbreviations in the title unless they are unavoidable.

B. Figures and tables

Place figures and tables in the middle of columns. Figure captions should be left justified below the figures; table captions should be centered above the tables. Please use words rather than symbols to label the axes. 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 (A·m⁻¹),” not just “A/m.” Do not label axes with a ratio of quantities and units. For example, write “Temperature (K),” not “Temperature/K.” Multipliers can be confusing. Write “Magnetization (kA/m)” or “Magnetization (10³ A/m),” not “Magnetization (A/m×1000)” because readers would not know whether the top axis label meant 16000 A/m or 0.016 A/m.

Figure labels should be legible, 8 to 12 point type when reduced to column width. Note that “Fig.” is abbreviated. There is a period after the figure number, followed by two spaces.

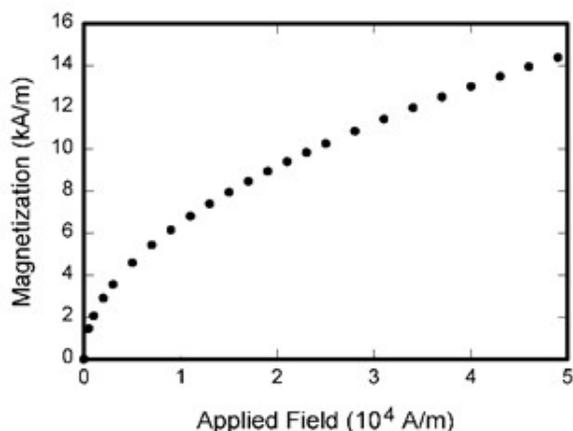


Fig. 1. Magnetization as a function of applied field.

C. Equations

Number equations consecutively with equation numbers in parentheses flush with the right margin, as in (1). To make your equation 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

$$\int_0^{r_2} F(r, \varphi) dr d\varphi = [\sigma r_2 / (2\mu_0)] \cdot \int_0^\infty \exp(-\lambda|z_j - z_i|) \lambda^{-1} J_1(\lambda r_2) J_0(\lambda r_i) d\lambda. \quad (1)$$

Be sure that the symbols in your equation have been defined before the equation appears or immediately following. Refer to “(1),” not “Eq. (1)” or “equation (1)” except at the beginning of a sentence: “Equation (1) is...”. Please confine equations to one column width and break equations at appropriate algebraic symbols.

D. Units

Use either SI (MKS) or CGS as primary units. SI units are strongly recommended. Avoid combining SI and CGS units, such as current in Ampere and magnetic field in Oersted. If you must use mixed units, clearly state the units for each quantity in an equation.

E. Conclusion

A conclusion section is not required. Although a conclusion may review the main points of the paper, do not replicate the abstract in the conclusion. A conclusion might elaborate on the importance of the work or suggest applications and extensions.

F. References

Number citations consecutively in square brackets [1]. The sentence punctuation follows the brackets [2]. Multiple references [2], [3] are each numbered with separate brackets [2]-[3]. When citing a section in a book, please give the relevant page numbers [2]. In sentences, refer simply to the reference number, as in [3]. Do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence. Papers that have not been published should be cited as “unpublished” [4]. Papers that have been submitted for publication should be cited as “submitted for publication” [5]. Papers that have been accepted for publication but not yet specified for an issue should be cited as “to be published” [6]. Please give affiliations and address for private communications [7]. Use a space after authors’ initials. Capitalize only the first word in a paper title, except for proper nouns and element symbols.

Adequacy of references is one of many factors considered by COMPUMAG paper reviewers. The editors of Magnetics Society journals and conference proceedings are opposed to all forms of bibliometric (impact factor) manipulation. Do not include gratuitous or irrelevant references. In the same spirit, the editors expect authors to not excessively cite their own prior publications.

G. Language

The use of grammar and spelling checker is strongly recommended. It is also suggested that you have the short paper proofread by a native English-speaking colleague if your native language is not English.

REFERENCES

- [1] G. Eason, B. Noble, and I. N. Sneddon, “On certain integrals of Lipschitz-Hankel type involving products of Bessel functions,” *Phil. Trans. Roy. Soc. London*, vol. A247, pp. 529-551, Apr. 1955.
- [2] J. Clerk Maxwell, *A Treatise on Electricity and Magnetism*, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp. 68-73.
- [3] I. S. Jacobs and C. P. Bean, “Fine particles, thin films and exchange anisotropy,” in *Magnetism*, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271-350.
- [4] T. L. Gilbert, *Formulation, Foundations and Applications of the Phenomenological Theory of Ferromagnetism*, Ph.D. dissertation, Illinois Inst. Tech., Chicago, IL, 1956, unpublished.
- [5] S. O. Demokritov, “Brillouin light scattering spectroscopy of magnetic nanostructures,” *IEEE Trans. Magn.*, submitted for publication.
- [6] E. H. Miller, “A note on reflector arrays,” *IEEE Trans. Antennas Propagat.*, to be published.
- [7] C. J. Kaufman, Rocky Mountain Research Laboratories, Boulder, CO, private communication, 2014.