IEEE Open Journal of Engineering in Medicine and Biology

Technology Letter

Preparation of Technology Letters for the IEEE Open Journal of Engineering in Medicine and Biology (OJEMB)

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***Abstract*—— *Goal*: The purpose of this document is to illustrate how one should prepare manuscripts for submission to the IEEE Open Journal of Engineering in Medicine and Biology (OJEMB). Please notice that this is the template for TECHNOLOGY LETTERS. These are short manuscripts with primary focus on the development of new devices, methods, and technologies. The material must be organized in a main manuscript body and a section entitled Supplementary Materials. The main manuscript body should be limited to 1,000 words and the material should be organized in the following sections (in the order shown here): Introduction, Materials and Methods, Results, Discussion, Conclusions. Authors can include in the main manuscript body up to 3 display items (i.e. figures and tables). In addition, the main manuscript body should include an abstract and up to 20 references. The references are not considered in the 1,000-word count. The abstract should be organized in subsections as shown here (i.e., Goal, Methods, Results, Conclusions). An impact statement should be included. The impact statement should be a short paragraph of no more than 30 words. Additional material should be included in the Supplementary Materials section of the manuscript. The Supplementary Materials section should either be organized in sections as per the main manuscript body (using up to 4,000 words) or it should be used to provide readers with a set of up to 10 additional display items (i.e. figures and tables). *Methods*: Use this document as a template if you are using Latex. Otherwise, use this document as an instruction set. *Results*: Paper titles should be written in uppercase and lowercase letters as shown above. Do not cite references in the abstract. Do not delete the blank line immediately above the abstract; it sets the footnote at the bottom of this column. The abstract should not exceed 150 words. *Conclusions*: Preparing carefully your manuscript will lead to enhanced readability.**

***Index Terms*—Enter up to 5 keywords in alphabetical order, separated by commas.**

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I. Introduction

THIS document is a Latex template for Technology Letters to be submitted to IEEE OJEMB. Submissions must have the sections listed in the following exactly in the order shown here: Introduction, Materials and Methods, Results, Discussion, Conclusions. Manuscripts to be submitted to IEEE OJEMB as a Science Letters must use a different template. For both types of manuscript, the authors can opt to add a Supplementary Materials section.

II. Materials and Methods

To use this template, type over sections of the template or cut and paste from another document. Highlight a section that you want to designate with a certain style, then select the appropriate name on the style menu. The style will adjust your fonts and line spacing. Do not change the font sizes or line spacing to squeeze more text into a limited number of pages. Use italics for emphasis; do not underline. IEEE will do the final formatting of your paper. However, you should format your manuscript for submission to IEEE OJEMB for review and also for preparing for preprint that will be e-published several days after you upload the final version of an accepted manuscript.

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).

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If you are using *Word*, use either the Microsoft Equation Editor or the *MathType* add-on (*http://www.mathtype.com*) for equations in your paper (Insert — Object — Create New — Microsoft Equation or MathType Equation). "Float over text" should *not* be selected. [**?**]

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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

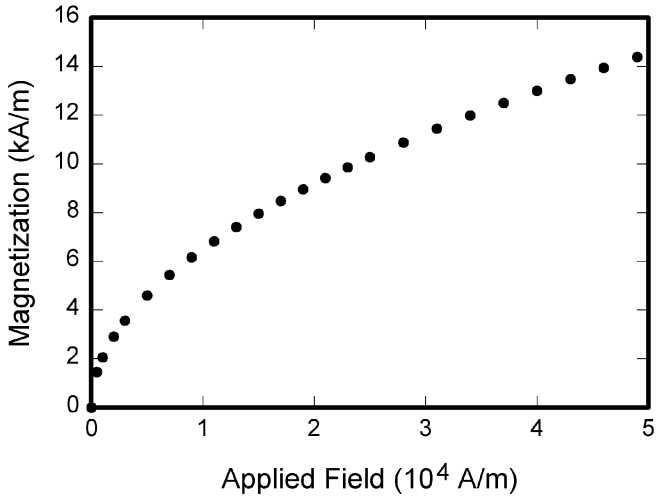

Fig. 1. Magnetization as a function of applied field. Note that "Fig." is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

"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

$$\int_0^{r_2} F(r,\varphi)drd\varphi = [\sigma r_2/(2\mu_0)] \int_0^{+\infty} exp(-\lambda|z_j - z_i|)\lambda^{-1}J_1(\lambda r_2)J_0(\lambda r_1)d\lambda \quad (1)$$

Be sure that the symbols in your equation have been defined before the equation appears or immediately following. Italicize symbols (T might refer to temperature, but T is the unit tesla). Refer to "(1)," not "Eq. (1)" or "equation (1)," except at the beginning of a sentence: "Equation (1) is ... ." A general IEEE styleguide is available at *http://www.ieee.org/web/publications/authors/transjnl/index.html*

IV. Discussion

Figure **??** shows a standard figure.

A. Sizing of Graphics

Most charts, graphs, and tables are one column wide (3.5 inches / 88 millimeters / 21 picas) or page wide (7.16 inches / 181 millimeters / 43 picas). The maximum depth a graphic can be is 8.5 inches (216 millimeters / 54 picas). When choosing the depth of a graphic, please allow space for a caption. Figures can be sized between column and page widths if the author chooses, however it is recommended that figures are not sized less than column width unless when necessary.

Units for Magnetic Properties

Symbol	Quantity	Conversion from Gaussian and CGS EMU to SI[a]
Φ	magnetic flux	$1\ Mx \rightarrow 10^{-8}\ Wb = 10^{-8}\ V\cdot\ S$
B	magnetic flux density, magnetic induction	$1\ G \rightarrow 10^{-4}\ T = 10^{-4}\ Wb/m^2$
H	magnetic field strength	$1\ Oe \rightarrow 10^3/(4\pi)\ A/m$
m	magnetic moment	$1\ erg/G = 1\ emu \rightarrow 10^{-3}\ A\cdot\ m^2 = 10^{-3}A/m$
M	magnetization	$1\ erg/(G\cdot\ cm^3) = 1\ emu/cm^3 \rightarrow 10^3\ A/m$
4πM	magnetization	$1\ G \rightarrow 10^3/(4\pi)\ A/m$
σ	specific magnetization	$1\ erg/(G\cdot g) = 1\ emu/g \rightarrow 1\ A\cdot\ m^2/kg$
j	magnetic dipole moment	$1\ erg/G = 1\ emu \rightarrow 4\pi\times 10^{-10}\ Wb\cdot\ m$
J	magnetic polarization	$1\ erg/(G\cdot cm^3) = 1\ emu/cm^3 \rightarrow 4\pi\times 10^{-4}\ T$
χ,κ	susceptibility	$1 \rightarrow 4\pi$
χ_ρ	mass susceptibility	$1\ cm^3/g \rightarrow 4\pi\times 10{-}3\ m^3/kg$
μ	permeability	$1 \rightarrow 4\ \pi\times 10^{-7}\ H/m = 4\pi\times 10{-}7\ Wb/(A\cdot\ m)$
μ_ρ	relative permeability	$\mu \rightarrow \mu_r$
w,W	energy density	$1\ erg/cm^3 \rightarrow 10^{-1}\ J/m^3$
N,D	demagnetizing factor	$1 \rightarrow 1/(4\pi)$

TABLE I. Vertical lines are optional in tables. Statements that serve as captions for the entire table do not need footnote letters.
[a]Gaussian units are the same as cg 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.

B. Using Labels Within Figures

1) Figure Axis labels: 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 (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." Figure labels should be legible, approximately 8 to 10 point type.

2) Subfigure Labels in Multipart Figures and Tables: Multipart figures should be combined and labeled before final submission. Labels should appear centered below each subfigure in 8 point Times New Roman font in the format of (a) (b) (c).

C. Referencing a Figure or Table Within Your Paper

When referencing your figures and tables within your paper, use the abbreviation "Fig." even at the beginning of a sentence. Do not abbreviate "Table." Tables should be numbered with Roman Numerals.

D. Checking Your Figures: The IEEE Graphics Checker

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V. Conclusion

A conclusion section is required. 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 major findings and significance of the work or suggest applications and extensions. Do not exceed 300 words for the conclusion section.

Supplementary Materials

Supplementary materials are encouraged. Please use the Supplementary Materials template. If you have Supplementary Materials, please use this section to direct readers to the Supplementary Materials and give them a brief overview of what they can expect to find in the Supplementary Materials.

Acknowledgment

Write "F. A. Author thanks ... ." In most cases, sponsor and financial support acknowledgments are placed in the unnumbered footnote on the first page, not here.

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A. References

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Number footnotes separately in superscripts[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 I).

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2) The length of a submitted paper should be commensurate with the importance, or appropriate to the complexity, of the work.
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the standards of proof are higher when extraordinary or unexpected results are reported.

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5) Papers that describe ongoing work or announce the latest technical achievement, which are suitable for presentation at a professional conference, may not be appropriate for publication.

REFERENCES

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[4] **Basic Format for Periodicals:** J. K. Author, "Name of paper", *Abbrev. Title of Periodical*, vol. x, no. x, pp. xxx-xxx, Abbrev. Month, year.

[5] *Example Periodical 1:* J. U. Duncombe, "Infrared navigation—Part I: An assessment of feasibility", *IEEE Trans. Electron Devices*, vol. ED-11, no. 1, pp. 34–39, Jan. 1959.

[6] *Example Periodical 2:* E. P. Wigner, "Theory of traveling-wave optical laser", *Phys. Rev.*, vol. 134, pp. A635–A646, Dec. 1965.

[7] *Example Periodical 3:* E. H. Miller et al., "A note on reflector arrays", *IEEE Trans. Antennas Propagat.*, to be published.

[8] **Basic Format for Handbooks:** *Name of Manual/Handbook*, x ed., Abbrev. Name of Co., City of Co., Abbrev. State, year, pp. xxx-xxx.

[9] *Example Handbook 1: Transmission Systems for Communications*, 3rd ed., Western Electric Co., Winston-Salem, NC, 1985, pp. 44–60.

[10] *Example Handbook 2: Motorola Semiconductor Data Manual*, Motorola Semiconductor Products Inc., Phoenix, AZ, 1989.

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[18] *Example Report Available Online 1:* S.L.Talleen. (1996, Apr.). The Intranet Architecture: Managing information in the new paradigm. Amdahl Corp., CA. [Online]. Available: http://www.amdahl.com/doc/products/bsg/intra/infra/html

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[19] *Example Program Available Online 1:* A. Harriman. (1993, June). Compendium of genealogical software. *Humanist*. [Online]. Available e-mail: HUMANIST@NYVM.ORG Message: get GENEALOGY REPORT

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[21] Example Patent Available Online 1: Musical toothbrush with adjustable neck and mirror, by L.M.R. Brooks. (1992, May 19). *Patent D326189* [Online]. Available: NEXIS Library: LEXPAT File: DESIGN