# Preparation of Papers for Bulletin of Applied Mechanics (January 2008)

First A. Author, Second B. Author, Jr., and Third C. Author

Abstract—These instructions give you guidelines for preparing papers for Bulletin of Applied Mechanics. These instructions are based on IEEE Template on manuscript preparation. Use this document as a template if you are using Microsoft Word 6.0 or later. Otherwise, use this document as an instruction set. The electronic file of your paper will be formatted further. Define all symbols used in the abstract. Do not cite references in the abstract.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.

*Index Terms*—About four key words or phrases in alphabetical order, separated by commas.

#### I. INTRODUCTION

THIS document is a template for Microsoft *Word* versions 6.0 or later. If you are reading a paper or PDF version of this document, please download the electronic file, BAM-TEMP.DOC, from the Web site at <u>http://bulletin-am.fsid.cvut.cz</u> so you can use it to prepare your manuscript. If you would prefer to use LATEX, download LATEX style and sample files from the same Web page. Use these LATEX files for formatting, but please follow the instructions.

When you open BAM-TEMP.DOC, select "Page Layout" from the "View" menu in the menu bar (View | Page Layout), which allows you to see the footnotes. Then, type over sections of BAM-TEMP.DOC or cut and paste from another document and use markup styles. The pull-down style menu is at the left of the Formatting Toolbar at the top of your *Word* window (for example, the style at this point in the document is "Text"). 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.

To insert images in *Word*, position the cursor at the insertion point and either use Insert | Picture | From File or copy the image to the Windows clipboard and then Edit | Paste Special | Picture (with "float over text" unchecked).

# II. PROCEDURE FOR PAPER SUBMISSION

## A. Review Stage

Please submit your manuscript electronically for review using the web submission system of the journal.

# **B** Final Stage

When you submit your final version (after your paper has been accepted), print it in two-column format, including figures and tables. You may use *Zip* or CD-ROM disks for large files, or compress files using *Compress, Pkzip, Stuffit*, or *Gzip*.

Also, send a sheet of paper or PDF with complete contact information for all authors. Include full mailing addresses, telephone numbers, fax numbers, and e-mail addresses. This information will be used to send each author a complimentary copy of the journal in which the paper appears. In addition, designate one author as the "corresponding author." This is the author to whom proofs of the paper will be sent. Proofs are sent to the corresponding author only.

# C Figures

Format and save your graphic images using a suitable graphics processing program that will allow you to create the images as PostScript (PS), Encapsulated PostScript (EPS), or Tagged Image File Format (TIFF), sizes them, and adjusts the resolution settings. If you created your source files in one of the following you will be able to submit the graphics without converting to a PS, EPS, or TIFF file: Microsoft Word, Microsoft PowerPoint, Microsoft Excel, or Portable Document Format (PDF).

# D Electronic Image Files

If you are importing your graphics into this Word template, please use the following steps:

Under the option EDIT select PASTE SPECIAL. A dialog box will open, select paste picture, then click OK. Your figure should now be in the Word Document.

#### Sizing of Graphics

Most charts graphs and tables are one column wide (3 1/2 inches or 21 picas) or two-column width (7 1/16 inches, 43 picas wide). We recommend that you avoid sizing figures less

<sup>&</sup>lt;sup>??</sup> Manuscript received October 9, 2001. (Write the date on which you submitted your paper for review.) This work was supported in part by the U.S. Department of Commerce under Grant BS123456 (sponsor and financial support acknowledgment goes here). 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.

F. A. Author is with the National Institute of Standards and Technology, Boulder, CO 80305 USA (corresponding author to provide phone: 303-555-5555; fax: 303-555-5555; e-mail: author@ boulder.nist.gov).

S. B. Author, Jr., was with Rice University, Houston, TX 77005 USA. He is now with the Department of Physics, Colorado State University, Fort Collins, CO 80523 USA (e-mail: author@lamar.colostate.edu).

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).

than one column wide, as extreme enlargements may distort your images and result in poor reproduction. Therefore, it is better if the image is slightly larger, as a minor reduction in size should not have an adverse affect the quality of the image.

## III. MATH

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.

## IV. UNITS

Use either SI (MKS) as primary units. English units may be used as secondary units (in parentheses). **This applies to papers in data storage.** For example, write "15 Gb/cm<sup>2</sup> (100 Gb/in<sup>2</sup>)." An exception is when English units are used as identifiers in trade, such as "3<sup>1</sup>/<sub>2</sub>-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. Use the center dot to separate compound units, e.g., "A·m<sup>2</sup>."

# V. HELPFUL HINTS

# A Figures and Tables

Large figures and tables may span both columns. Place figure captions below the figures; place table titles above the tables. 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. Please do not include captions as part of the figures. Do not put captions in "text boxes" linked to the figures. Do not put borders around the outside of your figures. Use the abbreviation "Fig." even at the beginning of a sentence. Do not abbreviate "Table." Tables are numbered with Roman numerals.

Figure axis labels are often a source of confusion. Use words rather than symbols. As an example, write the quantity "Force," or "Force F," not just "F." 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<sup>21</sup>)," 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 especially confusing. Write "Magnetization (kA/m)" or "Magnetization  $(10^3 A/m)$ ." Do not write "Magnetization (A/m)? 1000" because the reader would not know whether the top axis label in Fig. 1 meant 16000 A/m or 0.016 A/m. Figure labels should be legible, approximately 8 to 12 point type.

# **B** 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 [1]–[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: "Reference [3] shows ... ." Please do not use automatic endnotes in *Word*, rather, type the reference list at the end of the paper using the "References" style.

2

Number footnotes separately in superscripts (Insert | Footnote).<sup>1</sup> 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).

Please note that the references at the end of this document are in the preferred referencing style. Give all authors' names; do not use "*et al.*" unless there are six authors or more. Use a space after authors' initials. Papers that have not been published should be cited as "unpublished" [4]. Papers that have been accepted for publication, but not yet specified for an issue should be cited as "to be published" [5]. Papers that have been submitted for publication should be cited as "submitted for publication" [6]. Please give affiliations and addresses for private communications [7].

Capitalize only the first word in a paper title, except for proper nouns and element symbols. For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [8].

# C 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 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.

# D Equations

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

$$1 + \alpha^2 = \psi \tag{1}$$

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),"

<sup>&</sup>lt;sup>1</sup>It is recommended that footnotes be avoided (except for the unnumbered footnote with the receipt date on the first page). Instead, try to integrate the footnote information into the text.

except at the beginning of a sentence: "Equation (1) is ... ."

#### E Other Recommendations

Use one space after periods and colons. Hyphenate complex modifiers: "zero-field-cooled magnetization." Avoid dangling participles, such as, "Using (1), the potential was calculated." [It is not clear who or what used (1).] Write instead, "The potential was calculated by using (1)," or "Using (1), we calculated the potential."

Use a zero before decimal points: "0.25," not ".25." Use "cm<sup>3</sup>," not "cc." Indicate sample dimensions as "0.1 cm ? 0.2 cm," not "0.1 ? 0.2 cm<sup>2</sup>." The abbreviation for "seconds" is "s," not "sec." Do not mix complete spellings and abbreviations of units: use "Wb/m<sup>2</sup>" or "webers per square meter," not "webers/m<sup>2</sup>." 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 ..." or "We observed that ..." instead of "It was observed that ..."). Remember to check spelling. If your native language is not English, please get a native English-speaking colleague to carefully proofread your paper.

#### VI. Some Common Mistakes

The word "data" is plural, not singular. The subscript for the permeability of vacuum  $\mu_0$  is zero, not a lowercase letter "o." The term for residual magnetization is "remanence"; the adjective is "remanent"; do not write "remnance" or "remnant." Use the word "micrometer" instead of "micron." A graph within a graph is an "inset," not an "insert." The word "alternatively" is preferred to the word "alternately" (unless you really mean something that alternates). Use the word "whereas" instead of "while" (unless you are referring to simultaneous events). Do not use the word "essentially" to mean "approximately" or "effectively." Do not use the word "issue" as a euphemism for "problem." When compositions are not specified, separate chemical symbols by en-dashes; for example, "NiMn" indicates the intermetallic compound Ni0.5 Mn0.5 whereas "Ni-Mn" indicates an alloy of some composition Ni<sub>x</sub>Mn<sub>1-x</sub>.

Be aware of the different meanings of the homophones "affect" (usually a verb) and "effect" (usually a noun), "complement" and "compliment," "discreet" and "discrete," "principal" (e.g., "principal investigator") and "principle" (e.g., "principle of measurement"). Do not confuse "imply" and "infer."

Prefixes such as "non," "sub," "micro," "multi," and "ultra" are not independent words; they should be joined to the words they modify, usually without a hyphen. There is no period after the "et" in the Latin abbreviation "*et al.*" (it is also italicized). The abbreviation "i.e.," means "that is," and the abbreviation "e.g.," means "for example" (these abbreviations are not italicized).

An excellent style manual and source of information for science writers is [9].

# VII. CONCLUSION

A conclusion section is not 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 importance of the work or suggest applications and extensions.

#### Appendix

Appendixes, if needed, appear before the acknowledgment.

## Acknowledgment

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 placed in the unnumbered footnote on the first page, not here.

#### References

- G. O. Young, "Synthetic structure of industrial plastics (Book style with paper title and editor)," in *Plastics*, 2nd ed. vol. 3, J. Peters, Ed. New York: McGraw-Hill, 1964, pp. 15–64.
- [2] W.-K. Chen, *Linear Networks and Systems* (Book style). Belmont, CA: Wadsworth, 1993, pp. 123–135.
- [3] H. Poor, An Introduction to Signal Detection and Estimation. New York: Springer-Verlag, 1985, ch. 4.
- [4] B. Smith, "An approach to graphs of linear forms (Unpublished work style)," unpublished.
- [5] E. H. Miller, "A note on reflector arrays (Periodical style—Accepted for publication)," *IEEE Trans. Antennas Propagat.*, to be published.
- [6] J. Wang, "Fundamentals of erbium-doped fiber amplifiers arrays (Periodical style—Submitted for publication)," *IEEE J. Quantum Electron.*, submitted for publication.
- [7] C. J. Kaufman, Rocky Mountain Research Lab., Boulder, CO, private communication, May 1995.
- [8] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interfaces (Translation Journals style)," *IEEE Transl. J. Magn.Jpn.*, vol. 2, Aug. 1987, pp. 740–741 [*Dig. 9<sup>th</sup> Annu. Conf. Magnetics* Japan, 1982, p. 301].
- [9] M. Young, *The Techincal Writers Handbook*. Mill Valley, CA: University Science, 1989.
- [10] J. U. Duncombe, "Infrared navigation—Part I: An assessment of feasibility (Periodical style)," *IEEE Trans. Electron Devices*, vol. ED-11, pp. 34–39, Jan. 1959.
- [11] S. Chen, B. Mulgrew, and P. M. Grant, "A clustering technique for digital communications channel equalization using radial basis function networks," *IEEE Trans. Neural Networks*, vol. 4, pp. 570– 578, Jul. 1993.
- [12] R. W. Lucky, "Automatic equalization for digital communication," Bell Syst. Tech. J., vol. 44, no. 4, pp. 547–588, Apr. 1965.
- [13] S. P. Bingulac, "On the compatibility of adaptive controllers (Published Conference Proceedings style)," in *Proc. 4th Annu. Allerton Conf. Circuits and Systems Theory*, New York, 1994, pp. 8–16.
- [14] G. R. Faulhaber, "Design of service systems with priority reservation," in Conf. Rec. 1995 IEEE Int. Conf. Communications, pp. 3–8.
- [15] W. D. Doyle, "Magnetization reversal in films with biaxial anisotropy," in 1987 Proc. INTERMAG Conf., pp. 2.2-1–2.2-6.

4

- [16] G. W. Juette and L. E. Zeffanella, "Radio noise currents n short sections on bundle conductors (Presented Conference Paper style)," presented at the IEEE Summer power Meeting, Dallas, TX, Jun. 22–27, 1990, Paper 90 SM 690-0 PWRS.
- [17] J. G. Kreifeldt, "An analysis of surface-detected EMG as an amplitudemodulated noise," presented at the 1989 Int. Conf. Medicine and Biological Engineering, Chicago, IL.
- [18] J. Williams, "Narrow-band analyzer (Thesis or Dissertation style)," Ph.D. dissertation, Dept. Elect. Eng., Harvard Univ., Cambridge, MA, 1993
- [19] N. Kawasaki, "Parametric study of thermal and chemical nonequilibrium nozzle flow," M.S. thesis, Dept. Electron. Eng., Osaka Univ., Osaka, Japan, 1993.
- [20] J. P. Wilkinson, "Nonlinear resonant circuit devices (Patent style)," U.S. Patent 3 624 12, July 16, 1990.
- [21] IEEE Criteria for Class IE Electric Systems (Standards style), IEEE Standard 308, 1969.
- [22] Letter Symbols for Quantities, ANSI Standard Y10.5-1968.
  [23] R. E. Haskell and C. T. Case, "Transient signal propagation in lossless isotropic plasmas (Report style)," USAF Cambridge Res. Lab., Cambridge, MA Rep. ARCRL-66-234 (II), 1994, vol. 2. [24] E. E. Reber, R. L. Michell, and C. J. Carter, "Oxygen absorption in the
- Earth's atmosphere," Aerospace Corp., Los Angeles, CA, Tech. Rep. TR-0200 (420-46)-3, Nov. 1988.
- [25] (Handbook style) Transmission Systems for Communications, 3rd ed., Western Electric Co., Winston-Salem, NC, 1985, pp. 44-60.
- Motorola Semiconductor Data Manual, Motorola Semiconductor [26] Products Inc., Phoenix, AZ, 1989.
- [27] (Basic Book/Monograph Online Sources) J. K. Author. (year, month, day). Title (edition) [Type of medium]. Volume (issue). Available: http://www.(URL)
- [28] J. Jones. (1991, May 10). Networks (2nd ed.) [Online]. Available: http://www.atm.com
- [29] (Journal Online Sources style) K. Author. (year, month). Title. Journal [Type of medium]. Volume(issue), paging if given. Available: http://www.(URL)
- [30] R. J. Vidmar. (1992, August). On the use of atmospheric plasmas as electromagnetic reflectors. IEEE Trans. Plasma Sci. [Online]. 21(3). pp. 876-880. Available: http://www.halcyon.com/pub/journals/21ps03vidmar