[[1]](#footnote-1)

Preparation of Papers - Paper Title

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

*Abstract*—These instructions give you guidelines for preparing papers for conferences or journals*.* Use this document as a template if you are using Microsoft Word. 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 Do not cite references in the abstract.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. Page margins are 1,78 cm top and down; 1,65 cm left and right. Each column width is 8,89 cm and the separation between the columns is 0,51 cm.

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

# INTRODUCTION

T

HIS document is a template for *Word (doc, docx)* versions. If you are reading a paper version of this document, so you can use it to prepare your manuscript.

When you open **template.docx**, 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 **template.docx** or cut and paste from another document and then 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.***

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# Procedure for Paper Submission

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Please submit your manuscript electronically for review as e-mail attachments. When you submit your initial full paper version, prepare it in two-column format, including figures and tables.

## Figures

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# 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.

# 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 Gb/cm2 (100 Gb/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 µ0*H*. Use the center dot to separate compound units, e.g., “A·m2.”

# Helpful Hints

## 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.

**The paper is only printed in black-white color.** 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 (Am−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 especially confusing. Write “Magnetization (kA/m)” or “Magnetization (103 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.



Fig. 3 Mapping nonlinear data to a higher dimensional feature space

## 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 ....” Unfortunately the document translator cannot handle automatic endnotes in *Word*; therefore, type the reference list at the end of the paper using the “References” style.

Number footnotes separately in superscripts (Insert | Footnote).[[2]](#footnote-2) 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 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 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].

## 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 IES, 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.

TABLE I

Units for Magnetic Properties

|  |  |  |
| --- | --- | --- |
| Symbol | Quantity | Conversion from Gaussian andCGS EMU to SI a |
| 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 |
| χ*,* κ | susceptibility | 1 → 4π |
| χρ | mass 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 → μr |
| *w, W* | energy density | 1 erg/cm3 → 10−1 J/m3 |
| *N, D* | demagnetizing factor | 1 → 1/(4π) |

No vertical lines in table. Statements that serve as captions for the entire table do not need footnote letters.

aGaussian 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.

## 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)

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 ... .”

## 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 “cm3,” not “cc.” Indicate sample dimensions as “0.1 cm × 0.2 cm,” not “0.1 × 0.2 cm2.” The abbreviation for “seconds” is “s,” not “sec.” Do not mix complete spellings and abbreviations of units: use “Wb/m2” or “webers per square meter,” not “webers/m2.” 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 proofread your paper.**

# Some Common Mistakes

The word “data” is plural, not singular. The subscript for the permeability of vacuum µ0 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 Ni0.5Mn0.5 whereas “Ni–Mn” indicates an alloy of some composition NixMn1-x.

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]. A generalstyle guide, *Information for Authors,* is available at the web site.

# Editorial Policy

Submission of a manuscript is not required for participation in a conference. Do not submit a reworked version of a paper you have submitted or published elsewhere. Do not publish “preliminary” data or results. The submitting author is responsible for obtaining agreement of all coauthors and any consent required from sponsors before submitting a paper. Westrongly discourages courtesy authorship. It is the obligation of the authors to cite relevant prior work.

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At least two reviews are required for every paper submitted. For conference-related papers, the decision to accept or reject a paper is made by the conference editors and publications committee; the recommendations of the referees are advisory only. Undecipherable English is a valid reason for rejection. Authors of rejected papers may revise and resubmit them to as regular papers, whereupon they will be reviewed by two new referees.

# Publication Principles

The contents are peer-reviewed and archival. Wepublish scholarly articles of archival value as well as tutorial expositions and critical reviews of classical subjects and topics of current interest.

Authors should consider the following points:

1. Technical papers submitted for publication must advance the state of knowledge and must cite relevant prior work.
2. The length of a submitted paper should be commensurate with the importance, or appropriate to the complexity, of the work. For example, an obvious extension of previously published work might not be appropriate for publication or might be adequately treated in just a few pages.
3. Authors must convince both peer reviewers and the editors of the scientific and technical merit of a paper; the standards of proof are higher when extraordinary or unexpected results are reported.
4. Because replication is required for scientific progress, papers submitted for publication must provide sufficient information to allow readers to perform similar experiments or calculations and use the reported results. Although not everything need be disclosed, a paper must contain new, useable, and fully described information. For example, a specimen's chemical composition need not be reported if the main purpose of a paper is to introduce a new measurement technique. Authors should expect to be challenged by reviewers if the results are not supported by adequate data and critical details.
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.

# 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.

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**First A. Author** (M’76–SM’81–F’87) and the other authors may include biographies at the end of regular papers. Biographies are often not included in conference-related papers. The first paragraph may contain a place and/or date of birth (list place, then date). Next, the author’s educational background is listed. The degrees should be listed with type of degree in what field, which institution, city, state or country, and year degree was earned. The author’s major field of study should be lower-cased.

The second paragraph uses the pronoun of the person (he or she) and not the author’s last name. It lists military and work experience, including summer and fellowship jobs. Job titles are capitalized. The current job must have a location; previous positions may be listed without one. Information concerning previous publications may be included. Try not to list more than three books or published articles. The format for listing publishers of a book within the biography is: title of book (city, state: publisher name, year) similar to a reference. Current and previous research interests ends the paragraph.

The third paragraph begins with the author’s title and last name (e.g., Dr. Smith, Prof. Jones, Mr. Kajor, Ms. Hunter). List any memberships in professional societies. Finally, list any awards and work committees and publications. If a photograph is provided, the biography will be indented around it. The photograph is placed at the top left of the biography. Personal hobbies will be deleted from the biography.

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2. **Text** should be written Times New Roman **9** pts.
3. The abstract should be self-contained. Do not cite references in the abstract.
4. The abstract should not exceed 500 words.
5. Paragraph - Line Spacing- Single
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8. Add about four keywords or phrases in alphabetical order, separated by commas.
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Fig. 1 Values for text

1. **Heading 1:** Times New Roman, **10** pt, Centered

**1st Step:** Capitalize each word. Example: Steps in Modeling and Simulation

**2nd Step:** Choose and Right click - Font- Effects - Small caps

# Steps in Modeling and Simulation

1. **Heading 2:** Times New Roman Italic, **10** pt, Capitalize each word. **Example:**

## Definition of Parallel Manipulator

**Choose Paragraph:** Values should be as in Fig. 1:



Fig. 2 Values for Heading 2

**COMMON MISTAKES:** 1.1 Definition of Parallel Manipulator, 2.3 Definition of Parallel Manipulator etc…

1. **Heading 3:** Times New Roman, **10** pt, Capitalize each word. Values should be as in Fig. 1. **Example:**

1. Mobility Equation

1. **Introduction Part:** First letter should be Times New Roman **28** pts. Whole word should be written in “Upper Case”.
2. **Affiliation:** Times New Roman, **8** pt. Affiliation part should be written at the bottom of the first page on the left as:

Sponsor and financial support acknowledgments can be written here.

Name Surname is with the National Institute of Standards and Technology, Boulder, CO 80305 USA (corresponding author to provide phone: 505-555-5555; fax: 505-555-5555; e-mail: author@ boulder.nist.gov).

1. **Figures:** Large figures may span both columns. If your figure has two parts, include the labels “(a)” and “(b)” as part of the artwork. (Ex: Fig. 3 (a) Mapping nonlinear data...)

# Figures should be centered.

# All figures should be captioned. Captions should be written “Times New Roman, **9** pt., centered”

# 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.

WRONG: Figure 2.1 represents... CORRECT: Fig. 2 represents…



Fig. 3 Values for figures

1. **Tables:** Large tables may span both columns.

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# All tables should be captioned. Captions should be written “Times New Roman, **8** pt., centered”

# Please do not include captions as part of the tables.

# Word “TABLE”: Upper case, Number: Tables are numbered with Roman numerals

# Caption: Capitilize each word: Units for Magnetic Properties THEN Font-Effects-Small Caps

**Result:**

TABLE I

Units for Magnetic Properties

**COMMON MISTAKES:** Table 1, Table 2.1 etc..

1. **Equations:**
2. Number equations consecutively with equation numbers in parentheses flush with the right margin, as in (1).
3. Refer to “(1),” not “Eq. (1)” or “equation (1),” except at the beginning of a sentence: “Equation (1) is ... .”

 (1)

(Align equation to the right)

1. **References:**
2. Number citations consecutively in square brackets [1].
3. The sentence punctuation follows the brackets [2].
4. Multiple references [2], [3] are each numbered with separate brackets [1]–[3].
5. When citing a section in a book, please give the relevant page numbers [2].
6. In sentences, refer simply to the reference number, as [3].
7. Do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence: “Reference [3] shows ....”

**COMMON MISTAKE**S: ……. load carrying capacity of the weld (Mellor, 99).

1. **Acknowledgment:**

**COMMON MISTAKE**S: Acknowledgement

Correct form: Acknowledgment (No “e” after “g”)

Avoid expressions such as “One of us (S.B.A.) would like to thank ... .”

1. Do not change the font sizes or line spacing to squeeze more text. There is no page limitation.
2. Use italics for emphasis; do not underline.
3. Text should be written in the third person to avoid sounding like an autobiographical account penned by a narcissistic author.

Prefer: “It is possible to ..” than to say “One could ...”.

1. Avoid using *above* (“the above method,” “mentioned above,” etc.) or *below* (in the figure below)*.* Be specific.
2. The following link includes some of the troublesome words, terms, and expressions most frequently found in Experiment Station journal paper and bulletin manuscripts: http://www.ag.iastate.edu/aginfo/checklist.php
1. F. A. Author is with the National Institute of Standards and Technology, Boulder, CO 80305 USA (corresponding author, 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). [↑](#footnote-ref-1)
2. 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. [↑](#footnote-ref-2)