

Preparation of Papers for *IEEE Magnetics Letters* (Revised August 2009)

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Received 1 April 2010, revised 15 April 2010, accepted 20 April 2010, published 1 June 2010 (dates will be inserted by IEEE).

Abstract—These instructions give you guidelines for preparing papers for *IEEE Magnetics Letters*. 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 or LaTeX. This template is useful for estimating the length of an article (up to 4 pages are allowed) but it is optional. The electronic file of your paper will be formatted further at IEEE. Paper titles should be written in uppercase and lowercase letters. Avoid writing long formulas with subscripts in the title; short formulas that identify the elements are fine (e.g., “Nd-Fe-B”). Do not begin a title with the word “On.” Avoid starting a title with articles like “The.” Full names of authors are much preferred but initials may be used instead. Department names are optional in the affiliations. Do not give street addresses in the affiliations (except for authors with no institutional affiliation). Define all symbols used in the abstract, and again in the text. Do not cite references in the abstract.

Index Terms—Approximately four key words or phrases in alphabetical order, separated by commas. The first one must be the article’s main subject, which also appears at the top of this page in red. Main subjects include Electromagnetics, Magnetism in Solids, Biomagnetics, Magnetochemistry, Magneto-Electronics, Spin Electronics, Magnetodynamics, Nanomagnetism, Information Storage, Soft Magnetic Materials, Hard Magnetic Materials, Coupled Phenomena, and Magnetic Instruments. More details are available at <http://mc.manuscriptcentral.com/maglet-ieee>. For a full list of IEEE index terms, send a blank e-mail to keywords@ieee.org or go to http://www.ieee.org/organizations/pubs/ani_prod/keywrd98.txt.

I. INTRODUCTION

This document is a Microsoft Word template for *IEEE Magnetics Letters*. Use of this document as a template is optional. If you are reading a paper version of this document, please download the electronic file, MAGLET.DOCX, from <http://www.ieee.org/web/publications/authors/transjnl/> so you can use it to prepare your manuscript. If you would prefer to use LaTeX, download IEEE’s LaTeX style and sample files, IEEEtran.zip, from the same Web page. Use those LaTeX files for formatting, but please follow the instructions in MAGLET.DOCX (or MAGLET.PDF).

Authors may prepare their papers for review using any word processor, one or two columns, single or double spaced. Please follow the writing style specified in this document. Most authors will find it convenient to use Microsoft Word and this template or LaTeX and the files contained in IEEEtran.zip.

When you open MAGLET.DOCX, select “Print Layout” from the “View” menu in the menu bar (View > Print Layout). Then type over sections of MAGLET.DOCX or cut and paste from another

document and then use markup styles (Home > Styles). 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. Use italics for emphasis; do not underline. Selected for improved legibility on a computer monitor, the font used for *Magnetics Letters* is Arial or Helvetica.

Even though a Letter is limited to 4 pages, please use up to two levels of section headings, which will improve the readability of most articles.

To insert images in Word, position the cursor at the insertion point and either use Insert > Picture or copy the image to the Windows clipboard and then Home > Paste. IEEE will do the final formatting of your paper, so do not worry about precisely positioning figures and tables. In fact, they are best placed at the end of the paper, with the proper insertion points indicated in the text.

If you have a question about formatting your paper, or a suggestion on improving these instructions, please contact r.goldfarb@ieee.org.

II. PROCEDURE FOR PAPER SUBMISSION

A. ScholarOne® Manuscripts

Contributions to *Magnetics Letters* must be submitted electronically on IEEE's on-line manuscript submission and peer-review system, ScholarOne® Manuscripts, at <http://mc.manuscriptcentral.com/maglet-ieee>. First check if you have an existing account. If there is none, please create a new account. (If you already have an account for *IEEE Transactions on Magnetics*, it will be available to you for *Magnetics Letters*.) After logging in, go to your Author Center and click "Submit First Draft of a New Manuscript."

Along with other information, you will be asked to select the subject from a pull-down list. There are 12 steps to the submission process; you must complete all 12 for a complete submission. At the end of each step you must click "Save and Continue"; just uploading the paper is not sufficient. After step 12 you should see a confirmation that the submission is complete. You should also receive an e-mail confirmation. For inquiries regarding the submission of your paper on ScholarOne® Manuscripts, please contact oprs-support@ieee.org or call +1 732 465 5861.

ScholarOne® Manuscripts will accept files for review in the following formats: DOC, RTF, PS, or PDF. PDF is preferred at the review stage. If you used LaTeX to prepare your document, you must generate a PDF or PS file to upload to ScholarOne® Manuscripts. Whatever format you upload, your figures should be embedded in the file, usually at the end.

You will be asked to file an electronic copyright form during the submission process. (Authors are responsible for obtaining any security clearances.) You will also have the opportunity to designate your article as "open access" in perpetuity if you agree to pay the IEEE open access fee.

B. Final Submission

After your paper is accepted, you will be asked to upload final files to ScholarOne® Manuscripts. These will include your DOC, RTF, or LaTeX document source file with embedded figures; an additional PS or PDF file if your source is LaTeX; and separate, individual figure files. These individual files may be in any of the following formats: TIF (preferred), PDF (preferred), JPG, GIF, EPS, DOC (MS Word, especially good for tables), or PPT (MS PowerPoint, commonly used to make figures). If you own Adobe Acrobat, please convert your DOC tables and PPT figures to PDF (or click on "Create Adobe PDF Online" at <http://www.adobe.com>). Figure and table files should be named following this convention: FIG1.TIF, FIG2.PPT, FIG3.PDF, etc. See more about figure preparation in Section III below.

Also upload a file with complete contact information for all authors. Include full mailing addresses, telephone numbers, fax numbers, and e-mail addresses. Designate the author who submitted the manuscript on ScholarOne® Manuscripts as the "corresponding author." This is the only author to whom proofs of the paper will be sent.

C. Publication

When your files are all uploaded and checked by the *Magnetics Letters* editorial office, your paper will be sent to IEEE for typesetting. PDF page proofs will be sent by e-mail to the corresponding author in 4 to 6 weeks. The article should appear on IEEE Xplore® a few days after you return your proofs.

III. ADVANCED INFORMATION ON CREATION OF ELECTRONIC IMAGE FILES

Most authors will be able to prepare images in one of the allowed formats listed above. This section provides additional information on preparing PS, EPS, and TIFF files. No matter how you convert your images, it is a good idea to print the files to make sure nothing was lost in the process.

For more information on graphics files, please go to <http://www.ieee.org/web/publications/authors/transjnl/> and click on the link "Using Microsoft Products or PDFs to Submit Graphics."

A. IEEE Graphics Checker

Graphics Checker is part of the IEEE's "Author Digital Toolbox," a collection of tools for authors at <http://www.ieee.org/web/publications/authors/transjnl/>. The direct link for Graphics Checker is <http://graphicsqc.ieee.org/>. You can upload image files in batches of up to 10 to be analyzed and compared to IEEE's requirements for metadata, file size, file type, file naming, resolution parameters, and color format. You will receive a detailed report on the usability of each image analyzed. The report will include an explanation of any error found, along with, when possible, application-specific tips on how to fix the image. (You may ignore warnings that the author's name is not part of the file name.) For more Information, contact the IEEE Graphics Help Desk at graphics@ieee.org. You will receive an e-mail response and sometimes a request for a sample graphic for IEEE to check.

B. Scanning Images to PS and EPS

If you have a scanner, a quick way to prepare figure files is to print your figures on paper exactly as you want them to appear, scan them, and then save them to a file in PostScript (PS) or Encapsulated PostScript (EPS) formats. Use a separate file for each image. File names should be of the form FIG1.PS or FIG2.EPS.

C. Scanning Images to TIFF

Using a scanner as above, you may save the images in TIFF format. The following specifications are the minimum requirements for TIFF images; you may use higher resolution. As a rule, if your image file size is below 500 kB, your TIFF image probably does not have enough resolution.

High-contrast line figures and tables should be prepared with at least 600 dpi resolution and saved with no compression, 1 bit per pixel (monochrome), with file names of the form FIG3.TIF. To obtain a 3.45 inch figure (one column width) at 600 dpi, the figure requires a horizontal size of 2070 pixels.

Photographs and grayscale figures should be prepared with at least 220 dpi resolution and saved with no compression, 8 bits per pixel (grayscale). To obtain a 3.45 inch figure (one column width) at 220 dpi, the figure should have a horizontal size of 759 pixels.

Color figures should be prepared with at least 400 dpi resolution and saved with no compression, 8 bits per pixel (palette or 256 color). To obtain a 3.45 inch figure (one column width) at 400 dpi, the figure should have a horizontal size of 1380 pixels.

D. Printing Images to PS Files

You may create PostScript figures by "printing" them to files. First, download a PostScript printer driver from

<http://www.adobe.com/products/printerdrivers/> (for Windows and Macintosh) and also install the “PPD Files: Adobe” printer definition. In Word, paste your figure into a new document. Print to a file using the PostScript printer driver. File names should be of the form FIG5.PS. Use “Open Type” fonts when creating your figures, if possible: Times Roman, Helvetica, Helvetica Narrow, Courier, Symbol, Palatino, Avant Garde, Bookman, Zapf Chancery, Zapf Dingbats, and New Century Schoolbook.

E. Converting PDF to TIFF

Experienced computer users can convert figures and tables from their original format to TIFF. Some useful image converters are Adobe Photoshop, Corel Draw, Microsoft Photo Editor (part of Office 97 through Office XP), and Microsoft Office Picture Manager.

If you own Adobe Acrobat, you may convert many types of files to PDF. For example, you may print a PowerPoint PPT file to PDF. You may then convert a figure in the PDF file to TIFF with Adobe Acrobat or Reader: View > Zoom to a large magnification (e.g., 1600%). Use the Snapshot Tool to select the figure and copy it to the Windows clipboard. Open Microsoft Photo Editor, Edit > Paste as New Image, crop, and adjust resolution as above. (If using Microsoft Office Picture Manager, use Picture > Crop, Picture > Resize, File > Export.)

Alternatively, you may open the PDF in PhotoShop. Set the resolution to open at 1200 dpi. Note that the obvious way to convert PowerPoint PPT to TIFF gives poor results, i.e., File > Save As > Save as type TIFF.

F. Saving Files in TIFF

Most graphing programs allow you to save graphs in TIFF; however, you often have no control over compression or number of bits per pixel. You should open these image files in a program such as Microsoft Photo Editor and re-save them using no compression, either 1 or 8 bits, and either 600 or 220 dpi resolution (File > Properties; Image > Resize). See Section III.C for an explanation of number of bits and resolution.

G. Using Print Screen

If your graphing program cannot export to TIFF, you can use the Print Screen function. Set your monitor to its highest resolution. Adjust the magnification so that you can view the entire image on the screen. (In PowerPoint, you may use Slide Show to get a full-screen image.) Move the cursor so it is out of the way. Press “Print Screen” on your keyboard; this copies the screen image to the Windows clipboard. Open Microsoft Photo Editor and click Edit > Paste as New Image. Crop the image (click Select button; select the part you want, then Image > Crop). Adjust the properties of the image (File > Properties) to get a width of 3.45 inches. Save the file (File > Save As) in TIFF with no compression (click “More” button).

H. Converting WMF to TIFF

A way to convert a figure from Windows Metafile (WMF) to TIFF is to paste it into Microsoft PowerPoint, save it in JPG format, open it with Microsoft Photo Editor or similar converter, and re-save it as TIFF.

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 $\mu_0 H$. Use the center dot to separate compound units, e.g., “A·m².”

V. HELPFUL HINTS

A. Editing Service

IEEE has partnered with SPi Publisher Services to offer pre-submission professional editing services to IEEE authors. SPi copyedits and typesets more than 1 million pages per year for over 600 journals. Authors who would like assistance with English grammar and usage prior to submitting their manuscripts for review or during the review process can go to <http://www.prof-editing.com/ieee/> to submit a manuscript for copyediting. A link is provided on the Manuscript Central Web site. SPi copyeditors will edit for grammar, usage, organization, and clarity. Authors can use the service, at their own expense, as often as desired. Cost estimates are available on-line, typically about \$100 for a four-page article. Edited manuscripts are generally returned to the authors within two weeks of submission.

B. Figures and Tables

Because IEEE will do the final formatting of your paper, you do not need to position figures and tables at the tops and bottoms of columns. In fact, all figures, figure captions, and tables can be at the end of the paper. Please mark in the text where the figures and tables are supposed to appear. 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, for example, include the labels “(a)” and “(b)” as part of the artwork. Please verify that figures and tables that 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 Arabic numerals.

TABLE 1 HERE

C. Color Figures

There is no charge for color figures. Since a black-and-white print compilation of *Magnetics Letters* is published annually, please be certain that your figures are generally understandable without the color information.

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 .” However, if

IV. UNITS

there is not enough room on the axis to specify the quantity, write just the symbol “ M ,” 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 “Magnetization (A/m)” or “Magnetization, M (A·m⁻¹)” (but not just “A/m”). (2) Label axes with a ratio of symbols and units. For example, write “Magnetization, $M/(A·m^{-1})$ ” or “Temperature, T/K ” (but 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 10 point type when reduced to journal column width.

FIG. 1 HERE

D. References

Magnetics Letters uses an unnumbered reference style, different from most other IEEE journals. Cite articles by first author and year in square brackets [Eason 1955]. The sentence punctuation follows the brackets. Multiple references are combined within brackets [Eason 1955, Maxwell 1892]. When citing a section in a book, please give the relevant page numbers [Maxwell 1892]. If the reference is part of the sentence, refer to the authors with the year in brackets, as shown by Eason et al. [1955] and Jacobs and Bean [1963]. Unfortunately the IEEE 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 (References > Insert Footnote). 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 1).¹

In the reference list, 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” [Gilbert 1956]. Papers that have been submitted for publication should be cited as “submitted for publication” [Arnold]. (Since the paper may not be accepted, it is best to not specify the journal.) Papers that have been accepted for publication but not yet assigned to an issue should be cited as “to be published” [Demokritov]. Please give affiliations and addresses for private communications [Kaufman 2004].

Capitalize only the first word in a paper title, except for proper nouns and element symbols. If you are short of space, you may omit paper titles. However, paper titles are helpful to your readers and are recommended. For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [Yorozu 1987]. Adequacy of references is one of the many factors considered by the reviewers.

¹ It is recommended that footnotes be avoided (except for the unnumbered footnote with the e-mail address of the corresponding author on the first page). Instead, try to integrate the footnote information into the text.

E. 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).

F. Equations

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 > Equation). Fit the equation into one column by breaking it as you wish it to appear when typeset. You may find it convenient to create a new “equation” for each section of the equation.

Number equations consecutively with equation numbers in parentheses in the vicinity of the equation, as in (1). 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

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

(1)

The font for symbols should be similar to Times New Roman, not Arial. Use the “Symbol” style. Be sure that the symbols in your equation have been defined either 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 ...”

Please confine equations to one column width and break equations at appropriate algebraic symbols.

G. 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 (use the singular if you are the only author) and use the active voice (“I observed that ...” or “We observed that ...” instead of “It was observed that ...”). Better still, omit statements of observation and just report what you measured: “The susceptibility decreased with temperature” instead of “We observed that the susceptibility decreased with temperature.”

Remember to check spelling. If you are not fluent in English, please get a colleague to proofread your paper.

VI. SOME COMMON MISTAKES

The word “data” is plural, not singular. The subscript for the permeability of vacuum μ_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 hyphens; for example, “NiMn” indicates the intermetallic compound $\text{Ni}_{0.5}\text{Mn}_{0.5}$ whereas “Ni-Mn” indicates an alloy of some composition $\text{Ni}_x\text{Mn}_{1-x}$.

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,” 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.” The abbreviation “i.e.” means “that is,” and the abbreviation “e.g.” means “for example.”

An excellent style manual and source of information for science writers is Young [1989]. A general IEEE style guide, *Information for Authors*, is available at <http://www.ieee.org/web/publications/authors/transjnl/>. (The style for *Magnetics Letters* differs in many respects.)

VII. EDITORIAL POLICY

Do not submit a reworked version of a paper you have submitted or published elsewhere, including conference papers. Do not submit “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. *Magnetics Letters* strongly discourages courtesy authorship. It is the obligation of the authors to cite relevant prior work. Submitted articles should be timely and should cite recent publications. IEEE’s plagiarism (and self-plagiarism) guidelines are described in detail at <http://www.ieee.org/web/publications/rights/>.

At least two favorable reviews are required for a paper to be accepted for publication. In the event of an unfavorable review, it is

at the discretion of the editor whether to seek additional reviews. The editors additionally make a determination of suitability, which is different from a judgment of whether a paper is sound or flawed. The editors consider whether a paper contributes significant new material, is within the scope of the journal, or is more suited to another journal. Undecipherable English is a valid reason for rejection.

VIII. PUBLICATION PRINCIPLES

Magnetics Letters is a rapid-publication, primarily electronic, peer-reviewed, archival journal dedicated exclusively to magnetism articles of substantial 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 not exceed four 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 in *Magnetics Letters*.

IX. 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.

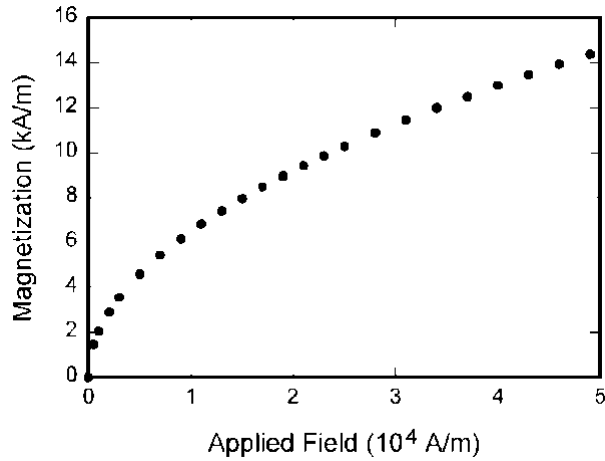
ACKNOWLEDGMENT

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 “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).

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Fig. 1. Magnetization as a function of applied field. Note that "Fig." is abbreviated. It is good practice to explain the significance of the figure in the caption.



Symbol	Quantity ^a	Conversion from Gaussian and cgs emu to SI ^b
Φ	magnetic flux	1 Mx \rightarrow 10^{-8} Wb = 10^{-8} V·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·m ² = 10^{-3} J/T
M	magnetization	1 erg/(G·cm ³) = 1 emu/cm ³ \rightarrow 10^3 A/m
$4\pi M$	magnetization	1 G \rightarrow $10^3/(4\pi)$ A/m
σ	specific magnetization	1 erg/(G·g) = 1 emu/g \rightarrow 1 A·m ² /kg
j	magnetic dipole moment	1 erg/G = 1 emu \rightarrow $4\pi \times 10^{-10}$ Wb·m
J	magnetic polarization	1 erg/(G·cm ³) = 1 emu/cm ³ \rightarrow $4\pi \times 10^{-4}$ T
χ, κ	susceptibility	1 \rightarrow 4π
χ^p	specific 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·m)
μ_r	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 $1/(4\pi)$

^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.