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SECTIONS

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Use American English when writing your paper. The serial comma should be used (“a, b, and c” not “a, b and c”). In American English, periods and commas are within quotation marks, like “this period.” Other punctuation is “outside”! The use of technical jargon, slang, and vague or informal English should be avoided. Generic technical terms should instead be used.

Acronyms and Abbreviations

All acronyms should be defined at first mention in the abstract and in the main text. Define in figures, tables, and footnotes only if not defined in the discussion of the figure/table. Acronyms consist of capital letters (except where salted with lowercase), but the terms they represent need not be given initial caps unless a proper name is involved (“central processing unit” [CPU] but “Fourier transform” [FT]). Use of “e.g.” and “i.e.” okay, but refrain from using “etc.” It is preferable to use these abbreviations only in parentheses (e.g., like this).

Abbreviate units of time (s, min, hr, day, mo, yr) only in virgule constructions (10 $\mu\text{g/hr}$) and in artwork; otherwise, spell out, e.g., 10 days, 3 months, 25 minutes. Units of measure (Kb, MB, kWh, etc.) should always be abbreviated when used with a numeral. If used alone, spell out (“16 MB of RAM” but “these values are measured in micrometers”).

Numbers

Spell out numerals that have no unit of measure or time (one, two, . . . ten), but always use numerals with units of time and measure. Some examples are as follows: 11 through 999; 1,000; 10,000; twentieth century; twofold, tenfold, 20-fold; 2 times; 0.2 cm; $p = 0.001$; 25%; 10% to 25%.

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Scalar *variables* and *physical constants* should be italicized, and a bold (non-italics) font should be used for **vectors** and **matrices**. Do not italicize subscripts unless they are variables.

Equations should be either display (with a number in parentheses) or inline.

Display equations should be flush left and numbered consecutively, with equation numbers in parentheses and flush right.

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Punctuate display equations when they are part of the sentence preceding it, as in $a^2 + b^2 = c^2$. In addition, if the text following the equation flows logically as a part of the display equation,

$$A = \pi r^2, \quad (1)$$

use ending punctuation (comma) after the display equation.

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Avoid using lists. Instead, use full sentences and flowing paragraphs. If you absolutely must use a list, use them rarely and keep them short:

- *Style for bulleted lists*—This is the style that should be used for bulleted lists.
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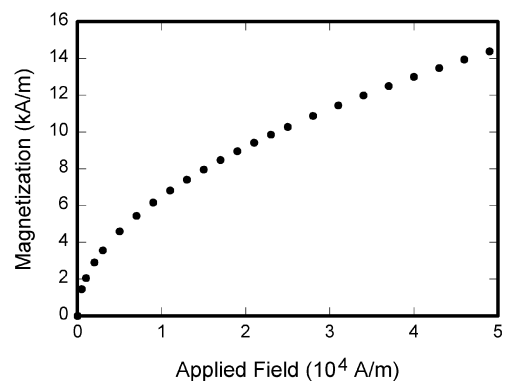


FIGURE 1. Note that “Figure” is spelled out. There is a period after the figure number, followed by one space. It is good practice to briefly explain the significance of the figure in the caption. (Used, with permission, from [1].)

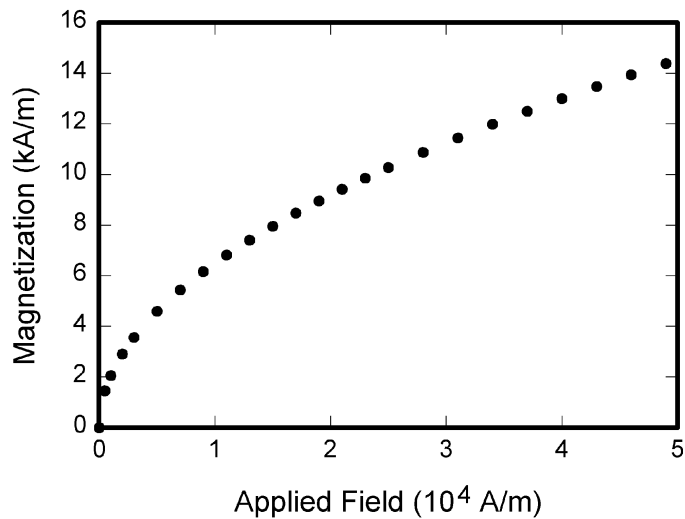


FIGURE 2. Note that “Figure” is spelled out. There is a period after the figure number, followed by one space. It is good practice to briefly explain the significance of the figure in the caption. (Used, with permission, from [2].)

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Figures and tables must be cited in the running text in consecutive order. At first mention, the citation should be boldface (Figure 1); subsequent mentions should be Roman type (see Figure 1 and Table 1). Figure 2 shows an example of a figure spanning across two columns.

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END SECTIONS

Appendices

If multiple appendices are required, they should be labeled “Appendix A,” “Appendix B,” etc. They appear

before the “Acknowledgment” or the “References” section.

Acknowledgment

The “Acknowledgment” (no’s) section appears immediately after the conclusion. If applicable, this is where you indicate funding for the work. The preferred spelling of the word “acknowledgment” in American English is without an “e” after the “g.” Avoid expressions such as “One of us (S.B.A.) would like to thank . . .” Instead, write “We thank . . .” Sponsor and financial support acknowledgments are included in the acknowledgment section. For example: This work was supported in part by the U.S. Department of Commerce under Grant BS123456 (sponsor and financial support acknowledgment goes here). Researchers that contributed information or assistance to the article should also be acknowledged in this section. Also, if corresponding authorship is noted in your paper it will be placed in the acknowledgment section. Note that the acknowledgment section is placed at the end of the paper before the reference section.

References

References need not be cited in text. When they are, they appear on the line, in square brackets, inside the punctuation. Multiple references are each numbered with separate brackets. When citing a section in a book, please give the relevant page numbers.

TABLE 1. Units for magnetic properties.

Symbol	Quantity	Conversion from Gaussian and CGS EMU to SI ^a
Φ	Magnetic flux	$1 \text{ Mx} \rightarrow 10^{-8} \text{ Wb} = 10^{-8} \text{ V} \cdot \text{s}$
B	Magnetic flux density, magnetic induction	$1 \text{ G} \rightarrow 10^{-4} \text{ T} = 10^{-4} \text{ Wb/m}^2$
H	Magnetic field strength	$1 \text{ Oe} \rightarrow 10^{-3}/(4\pi) \text{ A/m}$
m	Magnetic moment	$1 \text{ erg/G} = 1 \text{ emu} \rightarrow 10^{-3} \text{ A} \cdot \text{m}^2 = 10^{-3} \text{ J/T}$
M	Magnetization	$1 \text{ erg}/(\text{G} \cdot \text{cm}^3) = 1 \text{ emu/cm}^3 \rightarrow 10^{-3} \text{ A/m}$
$4\pi M$	Magnetization	$1 \text{ G} \rightarrow 10^{-3}/(4\pi) \text{ A/m}$
σ	Specific magnetization	$1 \text{ erg}/(\text{G} \cdot \text{g}) = 1 \text{ emu/g} \rightarrow 1 \text{ A} \cdot \text{m}^2/\text{kg}$
j	Magnetic dipole moment	$1 \text{ erg/G} = 1 \text{ emu} \rightarrow 4\pi \times 10^{-10} \text{ Wb} \cdot \text{m}$
J	Magnetic polarization	$1 \text{ erg}/(\text{G} \cdot \text{cm}^3) = 1 \text{ emu/cm}^3 \rightarrow 4\pi \times 10^{-4} \text{ T}$
χ, κ	Susceptibility	$1 \rightarrow 4\pi$
χ_ρ	Mass susceptibility	$1 \text{ cm}^3/\text{g} \rightarrow 4\pi \times 10^{-3} \text{ m}^3/\text{kg}$
μ	Permeability	$1 \rightarrow 4\pi \times 10^{-7} \text{ H/m} = 4\pi \times 10^{-7} \text{ Wb}/(\text{A} \cdot \text{m})$
μ_r	Relative permeability	$\mu \rightarrow \mu_r$
w, W	Energy density	$1 \text{ erg/cm}^3 \rightarrow 10^{-1} \text{ J/m}^3$
N, D	Demagnetizing factor	$1 \rightarrow 1/(4\pi)$

Vertical lines are optional in tables. Statements that serve as captions for the entire table do not need footnote letters.

^aGaussian 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.

In text, refer simply to the reference number. Do not use “Ref.” or “reference” 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 [4]–[9].

Reference numbers are set flush left and form a column of their own, hanging out beyond the body of the reference. The reference numbers are on the line, end with period. In all references, the given name of the author or editor is abbreviated to the initial only and precedes the last name. Use them all; use *et al.* only if names are not given. Use commas around Jr., Sr., and III in names. Abbreviate conference titles. When citing IEEE transactions, provide the issue number, page range, volume number, year, and/or month if available. When referencing a patent, provide the day and the month of issue, or application. References may not include all information; please obtain and include relevant information. Do not combine references. There must be only one reference with each number. If there is a URL included with the print reference, it can be included at the end of the reference.

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CONCLUSION

The manuscript should include a conclusion. In this section, summarize what was described in your paper. Future directions may also be included in this section. Authors are strongly encouraged not to reference multiple figures or tables in the conclusion; these should be referenced in the body of the paper.

ACKNOWLEDGMENTS

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