

Preparation of Papers for the Brazil-Japan Symposium on Digital Television Advances

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

Abstract--These instructions give you guidelines for preparing papers for the Brazil-Japan Symposium on Digital Television Advances. Use this document as a template if you are using Microsoft Word 6.0 or later. Otherwise, use this document as an instruction set. Define all symbols used in the abstract. Do not cite references in the abstract. Do not delete the blank line immediately above the abstract as it sets the footnote at the bottom of this column.

I. INTRODUCTION

This document can be used as a template for Microsoft Word versions 6.0 or later. If you would prefer to create a PDF file, simply use this information as a guideline.

While this template document is five pages long, remember that papers must be from two to five pages long.

This template is best used in the "Page Layout" view, selectable from the "View" menu in the menu bar (View | Page Layout), which allows you to see the footnotes. Papers may be created by typing over the instruction sections of this document or cutting and pasting from another document. Fonts may be automatically changed using markup styles. The pull-down style menu is at the left in 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 the limited number of pages.**

Use italics for emphasis; do not underline. Turn off "smart quotes" (Tools | AutoCorrect | AutoFormat tabs). Turn off automatic hyphenation (Tools | Language | Hyphenation).

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 (format with "Float over text" unchecked).

Fine adjustment of the image can be accomplished using Format | Object | Position and Format | Object | Size.

II. LAYOUT

A. Page size

The Digest of Technical Papers is printed on 8.5 inch by 11 inch (215.9 mm by 279.4 mm) paper. **A4 size will not be accepted.** The text is printed in two columns, each 3.45 (87.6 mm) inch wide with a 0.2 inch (5.1 mm) spacing between them.

If there is a sponsor acknowledgment, it goes here:

III. STANDARD ELEMENTS

A. Title line

The title is enclosed in a centered frame of 6.5-inch width with 0.13 spacing from the text. This permits the title to span both columns of the two-column layout for the paper. The "Title" font is Times New Roman, regular, 18 pt and is centered.

Paper titles should be written Title Case, not all UPPERCASE. Avoid writing long formulas with subscripts in the title; short formulas that identify the elements are fine (e.g., "Au-Ag-Cu"). Do not write "(Invited)" in the title. Do not begin a title with the word "On"

B. Authors

The author list is enclosed in a centered frame of 6.3-inch width with 0.13 spacing from the text to span both columns. Full names of authors are preferred in the author field, but are not required. Put a space between authors' initials.

The authors' affiliation is placed on the lines below the authors' names. The company or university, city, state and country are appropriate entries.

The "Authors" font style is Times New Roman, 11 pt, justified. Specifying a line spacing with 16 extra points following the line automatically provides space below the author line. The "Member Type" font style is the same except for the italic type.

C. Abstract

The paper abstract appears in the first column at the top. The **abstract** font style is Times New Roman, 9pt, bold, justified. The first line is indented 0.14 inch and the line spacing is normal with 1 extra point before. Bolding is turned off for the header (*Abstract -*), which appears in italics.

D. Sponsorship recognition

The footnote in column one provides for recognition of a sponsoring agency other than an author's employer. In this template, positioning of the footnote section at the bottom of the first column is controlled by the footnote reference (unnumbered) in the blank line above the abstract. Warning - deleting the blank line may misplace the footnote.

The "Footnote Text" font is Times New Roman, 9pt, bold, justified. The first line is indented 0.14 inch and the line spacing has an extra 1 point before. Bolding is turned off for the header (*Index Terms -*), which appears in italics.

E. Headings

The headings provide outline organization for the paper.

Heading font styles are Times New Roman, 10 pt. with numbering running I., A., 1), a), (1), (a) etc. (see the pull down style menu in the MSWord format toolbar for other levels of heading). Heading level 1 is regular centered and small caps while Heading 2 and Heading 3 are italic, left justified with indents of 0.1 inch and 0.2 inch respectively.

Line spacing of Heading 1 is increased by 12 points preceding and 4 points following while Heading 2 is increased by 6 points preceding and 3 points following. Heading 3 has normal line spacing.

F. Acknowledgment

Contributors that are not authors should be recognized in this section.

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" Put sponsor acknowledgments in the unnumbered footnote on the first page.

G. References

References are best described by example. The following rules are demonstrated by the associated reference in the following section *EXAMPLES OF REFERENCE STYLES*. 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"

Note that referencing style is quite different from that used by most physics journals. 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 or accepted for publication should be cited as "submitted for publication" [5]. Please give affiliations and addresses for personal communications [6].

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 strongly recommended. For papers published in translation journals, please give the English citation first, followed by the original foreign-language citation [7].

H. Footnotes

Number footnotes separately in superscripts. In Word, this

is accomplished using <Footnote> in the <Insert> dialog.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).

IV. GRAPHICS AND IMAGES

A. Electronic Images

There are many ways to prepare electronic image files. The author's choice will depend on the equipment available and the author's computer facility. Image formats easily generated and inserted into MSWord documents include TIFF, EPS, BMP, and JPEG.

1) Easiest, Universal Way

If you have a scanner, the best and quickest way to prepare non-color figure files is to scan them and save them to a file in Encapsulated PostScript (EPS) formats. This can be done with computer generated graphics by first printing on paper exactly as you want them to appear.

After, creating the image file, open *Word* and paste your image file into the document using the toolbar dialog <Insert> <Picture> <From File>.

2) Slightly Harder Way

Using a scanner as above, save the images in TIFF format. High-contrast line figures and tables should be prepared with 600 dpi resolution and saved with no compression, 1 bit per pixel (monochrome). To obtain a 3.45 inch wide figure (one column width) at 600 dpi, the figure requires a horizontal size of 2070 pixels. Typical file sizes will be on the order of 0.5 MB.

Photographs and grayscale figures should be prepared with 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.

3) Somewhat Harder Way

If you do not have a scanner, you may create non-color PostScript figures by "printing" them to files. First, download a PostScript printer driver from <http://www.adobe.com/support/downloads/pdrvwin.htm> (for Windows) or from <http://www.adobe.com/support/downloads/pdrvmac.htm> (for Macintosh) and install the "Generic PostScript Printer" definition.

4) Other Ways

Experienced computer users can convert figures and tables from their original format to TIFF. Some useful image converters are Adobe *PhotoShop*, Corel *Draw*, and Microsoft *Photo Editor*, an application that is part of Microsoft *Office 97* and *Office 2000* (look for C:\Program Files\Common Files\Microsoft Shared\PhotoEd\PHOTOED.EXE. (You may have to custom-install *Photo Editor* from your original *Office* disk.)

Most graphing programs allow you to save graphs in TIFF;

²It 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.

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). If your graphing program cannot export to TIFF, you can use the same technique described for tables in the previous paragraph.

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

Microsoft *Excel* allows you to save spreadsheet charts in Graphics Interchange Format (GIF). To get good resolution, make the *Excel* charts *very* large. Then use the "Save as HTML" feature (see <http://support.microsoft.com/support/kb/articles/q158/0/79.asp>). You can then convert from GIF to TIFF using Microsoft *Photo Editor*, for example.

No matter how you convert your images, it is a good idea to print the TIFF files to make sure nothing was lost in the conversion.

V. 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.

VI. 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). 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."

VII. 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, 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. 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 "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 ($A \cdot m^{-1}$)," not just "A/m." Do not label axes with a ratio of quantities and units. For example, write "Temperature (K)," not "Temperature/K."

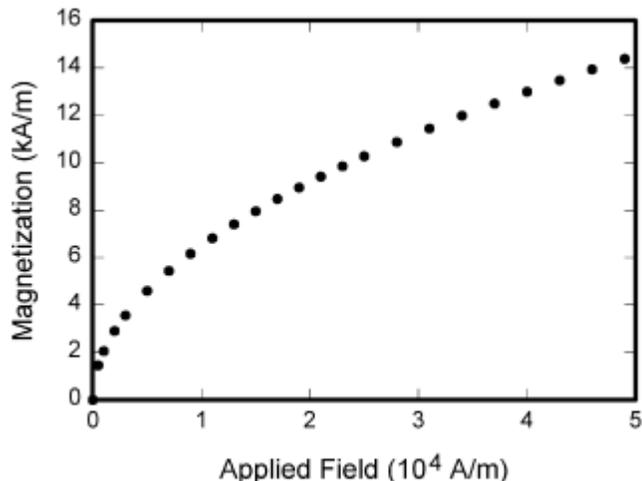


Fig. 1. Magnetization as a function of applied field. Note that "Fig." is abbreviated. There is a period after the figure number, followed by two spaces. It is good practice to explain the significance of the figure in the caption.

Multipliers can be especially confusing. Write "Magnetization (kA/m)" or "Magnetization (10^3 A/m)." Do not write "Magnetization (A/m) \times 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.

Mechanically, Fig. 1 is an image inserted in a text box. The text box is anchored to the blank line between the paragraphs so that it moves with the text.

Tables can also be entered into text boxes. This technique is demonstrated in Table I.

There is no need for vertical lines in a table.

B. 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.

C. 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

TABLE I
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·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 = 10^{-3} J/T
μ	Permeability	1 \rightarrow $4\pi \times 10^{-7}$ H/m = $4\pi \times 10^{-7}$ Wb/(A·m)

^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

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

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

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"

D. 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 \times 0.2 cm," not "0.1 \times 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.

VIII. 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 Ni_{0.5}Mn_{0.5} whereas "Ni-Mn" indicates an alloy of some composition Ni_xMn_{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."

ACKNOWLEDGMENT

The *Brazil-Japan Symposium on Digital Television Advances* is indebted to the *IEEE Conference on Consumer Electronics* for their fine effort on developing the template ICCEDigestTemplate.doc, which served as the model for this template.

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" Put sponsor acknowledgments in the unnumbered footnote on the first page.

EXAMPLES OF REFERENCE STYLES

- [1] G. Eason, B. Noble, and I. N. Sneddon, "On certain integrals of Lipschitz-Hankel type involving products of Bessel functions," *Phil. Trans. Roy. Soc. London*, vol. A247, pp. 529-551, Apr. 1955.
- [2] J. Clerk Maxwell, *A Treatise on Electricity and Magnetism*, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp. 68-73.
- [3] I. S. Jacobs and C. P. Bean, "Fine particles, thin films and exchange anisotropy," in *Magnetism*, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271-350.
- [4] K. Elissa, "Title of paper," unpublished.
- [5] R. Nicole, "Title of paper with only first word capitalized," *J. Name Stand. Abbrev.*, submitted for publication.
- [6] C. J. Kaufman, Rocky Mountain Research Laboratories, Boulder, CO, personal communication, 1992.
- [7] Y. Yorozu, M. Hirano, K. Oka, and Y. Tagawa, "Electron spectroscopy studies on magneto-optical media and plastic substrate interface," *IEEE*

Transl. J. Magn. Jpn., vol. 2, pp. 740-741, August 1987 [*Dig. 9th Annual Conf. Magn. Jpn.*, p. 301, 1982].

- [8] M. Young, *The Technical Writer's Handbook*. Mill Valley, CA: University Science, 1989.