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Abstract

Here this document is made live template for authors. They can easily download this Template and use it for preparation of manuscript. Various parts of document are already inserted in the style sheet. Do Not Use Special Characters, Symbols, or Mathematical equation in your Title or Abstract. These instructions give you guidelines for preparing papers for IJIRST Journals. 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 at IJIRST. 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. 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 DO NOT CITE REFERENCES IN THE ABSTRACT.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.

Keywords: Enter key words or phrases in alphabetical order, separated by commas. Minimum 5 keywords are necessary

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, IJIRST TEMPLATE, from the IJIRST Web site. so you can use it to prepare your manuscript.

II. GUIDELINES FOR MANUSCRIPT PREPARATION

When you open IJIRST TEMPLATE, select “Page Layout” from the “View” menu in the menu bar (View | Page Layout), (these instructions assume MS 6.0. Some versions may have alternate ways to access the same functionalities noted here). Then, type over sections of IJIRST TEMPLATE 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).
IJIRST will do the final formatting of your paper.

A. Abbreviations and Acronyms

1) 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 IJIRST, 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, “IJIRST” in the title of this article).

B. 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⁻³,” 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.” 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.)
- Use a period after one space after a comma or period. Punctuate equations when they are part of a sentence, as in “Equation (1) is ... .” Other punctuation is “outside”! Avoid combinations of periods and commas that would make it clear who or what used (1).] Write instead, “The potential was calculated by using (1),” or “Using (1), we calculated the potential.”
- A parenthetical sentence at the end of a sentence is punctuated “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.

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.

A. 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 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 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 flush with the right margin, as in (1).

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

(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 ... .”

IV. 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 \( \text{A/m} \). 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. 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 “remance” 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 \( \text{Ni}_{0.5}\text{Mn}_{0.5} \) 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,” “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 “\textit{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).

A general IJIRST style guide is available at website.

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.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Quantity</th>
<th>Conversion from Gaussian and CGS EMU to SI</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \Phi )</td>
<td>magnetic flux</td>
<td>1 Mx ( \rightarrow ) ( 10^{-8} ) Wh = ( 10^{-8} ) V·s</td>
</tr>
<tr>
<td>( B )</td>
<td>magnetic flux density, magnetic induction</td>
<td>( 1 ) G ( \rightarrow ) ( 10^{-4} ) T ( \equiv ) ( 10^{-4} ) Wh/m(^2)</td>
</tr>
<tr>
<td>( M )</td>
<td>magnetization</td>
<td>( 1 ) erg/(G·cm(^3)) = ( 1 ) emu/cm(^3) ( \rightarrow ) ( 10^{7} ) A/m</td>
</tr>
<tr>
<td>( 4 \pi \mathbf{M} )</td>
<td>magnetization</td>
<td>( 1 ) G ( \rightarrow ) ( 10^{7}/(4\pi) ) A/m</td>
</tr>
<tr>
<td>( \sigma )</td>
<td>specific magnetization</td>
<td>( 1 ) erg/(G·g) = ( 1 ) emu/g ( \rightarrow ) ( 1 ) A·m/( \pi )</td>
</tr>
<tr>
<td>( j )</td>
<td>magnetic dipole moment</td>
<td>( 1 ) erg/G = ( 1 ) emu</td>
</tr>
<tr>
<td>( J )</td>
<td>magnetic polarization</td>
<td>( 1 ) erg/( \pi ) ( \equiv ) ( 10^{-7} )</td>
</tr>
<tr>
<td>( \chi, \kappa )</td>
<td>susceptibility</td>
<td>1 ( \rightarrow ) ( 4\pi )</td>
</tr>
<tr>
<td>( \mu )</td>
<td>permeability</td>
<td>( 1 ) ( \rightarrow ) ( 4\pi \times 10^{-7} ) H/m</td>
</tr>
<tr>
<td>( \mu_r )</td>
<td>relative permeability</td>
<td>( \mu \rightarrow \mu_r )</td>
</tr>
<tr>
<td>( w, W )</td>
<td>energy density</td>
<td>( 1 ) erg/cm(^3) ( \rightarrow ) ( 10^{7} ) J/m(^3)</td>
</tr>
<tr>
<td>( N, D )</td>
<td>demagnetizing factor</td>
<td>( 1 ) ( \rightarrow ) ( 1/(4\pi) )</td>
</tr>
</tbody>
</table>
Vertical lines are optional in tables. Statements that serve as captions for the entire table do not need footnote letters.
*Gaussian units are the same as cg emu for magnetostatics; \( M_x = \) maxwell, \( G = \) gauss, \( Oe = \) oersted; \( Wb = \) weber, \( V = \) volt, \( s = \) second, \( T = \) tesla, \( m = \) meter, \( A = \) ampere, \( J = \) joule, \( kg = \) kilogram, \( H = \) henry.

VI. GUIDELINES FOR GRAPHICS PREPARATION AND SUBMISSION

A. Types of Graphics
The following list outlines the different types of graphics published in IJIRST journals. They are categorized based on their construction, and use of color / shades of gray:

1) Color/Grayscale figures
Figures that are meant to appear in color, or shades of black/gray. Such figures may include photographs, illustrations, multicolor graphs, and flowcharts.

2) Line art Figures
Figures that are composed of only black lines and shapes. These figures should have no shades or half-tones of gray. Only black and white.

3) Tables
Data charts which are typically black and white, but sometimes include color.

B. Multipart figures
Figures compiled of more than one sub-figure presented side-by-side, or stacked. If a multipart figure is made up of multiple figure types (one part is line art, and another is grayscale or color) the figure should meet the stricter guidelines.

C. Color Space
The term color space refers to the entire sum of colors that can be represented within the said medium. For our purposes, the three main color spaces are Grayscale, RGB (red/green/blue) and CMYK (cyan/magenta/yellow/black). RGB is generally used with on-screen graphics, whereas CMYK is used for printing purposes.

All color figures should be generated in RGB or CMYK color space. Grayscale images should be submitted in Grayscale color space. Line art may be provided in grayscale OR bitmap color space. Note that “bitmap color space” and “bitmap file format” are not the same thing. When bitmap color space is selected, .TIF/.TIFF is the recommended file format.

D. Accepted Fonts Within Figures
When preparing your graphics IJIRST suggests that you use one of the following Open Type fonts: Times New Roman, Helvetica, Arial, Cambria, and Symbol. If you are supplying EPS, PS, or PDF files all fonts must be embedded. Some fonts may only be native to your operating system; without the fonts embedded, parts of the graphic may be distorted or missing.

A safe option when finalizing your figures is to strip out the fonts before you save the files, creating “outline” type. This converts fonts to artwork what will appear uniformly on any screen.

E. Using Labels Within Figures

1) Figure Axis labels
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.”

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 10 point type.
2) Subfigure Labels in Multipart Figures and Tables

Multipart figures should be combined and labeled before final submission. Labels should appear centered below each subfigure in 8 point Times New Roman font in the format of (a) (b) (c).

F. File Naming

Figures (line artwork or photographs) should be named starting with the first 5 letters of the author’s last name. The next characters in the filename should be the number that represents the sequential location of this image in your article. For example, in author “Anderson’s” paper, the first three figures would be named ander1.tif, ander2.tif, and ander3.ps.

Tables should contain only the body of the table (not the caption) and should be named similarly to figures, except that ‘.t’ is inserted in-between the author’s name and the table number. For example, author Anderson’s first three tables would be named ander.t1.tif, ander.t2.ps, ander.t3.eps.

Author photographs should be named using the first five characters of the pictured author’s last name. For example, four author photographs for a paper may be named: oppen.ps, moshe.tif, chen.eps, and duran.pdf.

If two authors or more have the same last name, their first initial(s) can be substituted for the fifth, fourth, third... letters of their surname until the degree where there is differentiation. For example, two authors Michael and Monica Oppenheimer’s photos would be named oppmi.tif, and oppmo.eps.

G. Referencing a Figure or Table Within Your Paper

When referencing your figures and tables within your paper, use the abbreviation “Fig.” even at the beginning of a sentence. Do not abbreviate “Table.” Tables should be numbered with Roman Numerals.

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

Acknowledgment” in American English is without an “e” after the “g.” Use the singular, not plural, in the singular acknowledgments. Avoid expressions such as “One of us (S.B.A.) would like to thank ... .” Instead, write “F. A. Author thanks ... .” In most cases, sponsor and financial support acknowledgments are placed in the unnumbered footnote on the first page, not here.

REFERENCES AND FOOTNOTES

A. References

References need not be cited in text. When they are, number citations 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. 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.

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, enclosed in square brackets. 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 IJIRST 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.

Other than books, 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. See the end of this
document for formats and examples of common references.

B. Footnotes

Number footnotes separately in superscripts (Insert | Footnote).\footnote{1} 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).

Basic format for books:

Examples:

Basic format for periodicals:

Examples:

Basic format for reports:

Examples:

Basic format for handbooks:

Examples:

Basic format for books (when available online):

Example:

Basic format for journals (when available online):

Example:

Basic format for papers presented at conferences (when available online):

Example:

Basic format for reports and handbooks (when available online):

Example:

Basic format for computer programs and electronic documents (when available online): ISO recommends that capitalization follow

\footnote{1}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.
the accepted practice for the language or script in which the information is given.

Example:


**Basic format for patents (when available online):**

[24] Name of the invention, by inventor’s name. (year, month day). *Patent Number* [Type of medium]. Available: site/path/file

Example:


**Basic format for conference proceedings (published):**


Example:


**Example for papers presented at conferences (unpublished):**


**Basic format for patents:**


Example:


**Basic format for theses (M.S.) and dissertations (Ph.D.):**


Examples:


**Basic format for the most common types of unpublished references:**


Examples:


**Basic format for standards:**

[41] *Title of Standard*, Standard number, date.

Examples:
