
GENERAL INFORMATION

In order for AIP to provide the fastest possible publication, each author will type his/her manuscript and lay it out into pages with art/tables in place. The book will be produced by a photo-offset process directly from the pages (camera-ready copy) supplied by the author. Please check over your paper carefully and thoroughly proofread it before submission. **Remember, the way you submit your manuscript to the publisher is the way you will see it in print.**

Most manuscripts today are typed on a computer as opposed to a traditional typewriter. Below is a list of guidelines to follow when preparing your camera-ready pages. Please try to follow these instructions as well as possible. Keep to the indicated format described below and as shown on the sample layout on pp. 7 to 10 of this manual to avoid any unnecessary delays in publication. If you do not have the specified point sizes or typefaces indicated in this manual, please use the closest that is available to you.

You are the **typesetter**, the **page layout specialist**, the **illustrator**, the **proofreader**, and the **quality control expert**. Each function is important; none can be skipped.

As the **typesetter** you use typefaces and space to organize your document so a reader can better understand the content. Keep your design simple so the reader will focus on the content and not on the format.

As the **page layout specialist** you integrate text with illustrations and tables so the reader can refer to cited material. You align facing pages and make your manuscript look like a book.

As the **illustrator** you create the artwork that helps explain the concepts in your text. Your illustration must be properly scaled so it integrates with the text, and it must be positioned so that the reader can easily refer to the illustration while reading the corresponding text.

As the **proofreader** you check that words are properly spelled and hyphenated, that no material is missing or duplicated, and that the technical information (especially mathematical equations and tabular material) is correct as set.

As the **quality control expert** you look at each laser printed page to check that the camera-ready page has printed clean and sharp and with the proper ink density.

◆ Format (Page Size, Text Area) ◆

Page size (also called trim size) is $6\frac{3}{8} \times 9\frac{1}{4}$ inch *or* 162 mm \times 235 mm

Text area (single column) is $5\frac{13}{16}$ inches wide \times $8\frac{5}{8}$ inches long *or* 148 mm \times 219 mm
or 35 \times 52 picas

It is important to follow the above specifications exactly when setting the margins. Pages will be reduced 15% in the printing process, so the text area noted above must be exact. In order to help guide you with the specified text area, attached is an acetate overlay (with the dimensions ruled out) that you may put over your page to make sure the text fits in this ruled box exactly. If the type exceeds these guidelines or even comes short, the page length and/or width will need to be adjusted on your computer.

AIP will insert the page numbers (there will be no running heads). **Do not type page numbers on the manuscript.** To help keep pages in order, write in page numbers on the bottom right hand corner outside the text area in light blue pencil. If possible, use a non-reproducible blue pencil. Do **not** leave extra space in the type area for the page numbers. AIP will strip them in below the last line of text on the page. Again, in order to ensure that your paper will reproduce clearly and in consistent size and format, **please make sure the page dimensions are followed exactly.**

Font type: Times Roman; text point size: 12 pt. The manuscript should be single-spaced, with an extra half space above a line containing superscripts and below a line containing subscripts. Type should be justified (aligned right and left in text area). See sample layout.

Print your manuscript on good quality paper and on one side of the page only. Use a printer with a resolution of at least 300 dpi. The output of lesser quality printers, such as a dot matrix, is not acceptable because it does not reproduce legibly.

◆ **Title Page** ◆

Include the full title of the paper, authors' names, and complete addresses (including zip and postal codes), with each author's affiliation clearly indicated. Drop 1/2 inch (or 13 mm) from the top margin and center the chapter title; drop 2 spaces and center the authors' names, drop 2 spaces and center the addresses; drop 3 spaces and begin text. See sample layout following these instructions.

Paper Title

20 pt Times Roman, **Bold, Cap/lowercase**, centered.

Paper Author

14 pt Times Roman, Cap/lowercase, centered.

Author Affiliation

10 pt Times Roman *Italic, Cap/lowercase*, centered.

◆ **Abstract** ◆

Indent 2 spaces from the left and right margins. Set the abstract in 10 pt Times Roman, justified. Drop 2 line spaces above and below the abstract.

◆ **Headings** ◆

Format the headings in your paper according to the sample layout on pp. 7–10. Leave 2 lines of space above the head and 1 line of space below.

First-level heading

14 pt Times Roman, **BOLD/CAPS** centered.

Second-Level Heading

14 pt Times Roman, **Bold, Cap/lowercase**, centered.

Third-Level Heading

14 pt Times Roman, *Italic, Cap/lowercase*, centered.

◆ Equations ◆

Make your equations clear and legible, centered, with a space above and below. Equations should be the same point size as the text.

Place each equation on a separate line and number equations sequentially. Enclose the equation number in parentheses, and place it flush with the right-hand margin. Equation (1) is an example of a one-line equation.

$$\frac{d[F_1]}{d\omega_2} = SA m_2 \cos \omega, \quad \frac{d[F_1]}{d\omega_3} = SA m_3 \cos \omega. \quad (1)$$

Equation (2) shows how to format a two-line equation.

$$\begin{aligned} \frac{d^2 \xi}{dt^2} - 2n \frac{d\eta}{dt} &= \frac{dV}{d\xi} n^2 \xi, \\ \frac{d^2 \eta}{dt^2} - 2n \frac{d\xi}{dt} &= \frac{dV}{d\eta} n^2 \eta. \end{aligned} \quad (2)$$

◆ Footnotes ◆

Footnotes appear at the bottom of the page where they are cited, numbered and in 10 pt type. Place a 1/2 pt rule 2 inches or 50 mm long above the footnote. There should be 1/4 inch (6 mm) space above the rule and 1/8 inch (3 mm) space below the rule to the footnote.

◆ Symbols and Acronyms ◆

Refer to the American Institute of Physics (AIP) Style Manual, Fourth Edition (1990), for standard symbols and unit abbreviations. We suggest that you use the International System of Units (SI units). Define any acronyms the first time you use them, in a parenthetical description following the acronym.

◆ Tables ◆

Tables should be typed within the text at the top or bottom of the page, close to where they are first cited. Be sure that the data are concisely presented and that any abbreviations used are defined. Type tables in 10 pt Times Roman. Number tables sequentially in the text. Table footnotes are the same point size as the body of the table. Set table column heads in **bold, Cap/lowercase**.

Table number/table title head is left-aligned above the table. The word “**TABLE**” and the arabic number should be in Times Roman **BOLD, CAPS** and punctuated with a period; type the table title in Times Roman, Cap/lowercase. Table titles should clearly express the content of the table. Tables 1 and 2 (see sample pages 8 and 9) illustrate correct formatting for tables. Tables should be centered by the width of the text area.

Wide Tables: If a table is wider than the page, turn the table on the page (broadside) so the top of the table is on the left side of the page. Do not add text to a page containing a broadside table.

◆ Figures ◆

For both line drawings and photographs, the legibility of the illustrations is vital. Clearly label your figures and number them consecutively. Cite all illustrations in the text consecutively and **place the figures as close as possible to their first mention in the text at the top or bottom of the page** with the figure caption positioned below. Line art (figures with *solid* black and white areas) should be inserted into the camera-ready pages by either pasting the figure on the page or by printing along with text. This will allow you to see what the final product will look like, and to have nearly complete control over the quality of your work. Remember that the entire page will be reduced 15%; watch especially that the size of lettering on figures is not too small. Photocopies of photographs or continuous-tone figures (i.e., any figures with “gray” areas) should be inserted into the camera-ready pages *for positional information only*. High-quality original photographs (or continuous-tone figures) should be sent along with the camera-ready manuscript as part of the final submitted manuscript. Traditional photographic methods will be used to produce halftone reproductions that will be incorporated during the printing process. No color figures will be accepted unless prior agreement has been made with the publisher.

◆ Figure Captions ◆

Set captions in 10 pt Times Roman. Number figures with arabic numerals, and type the caption below the space for the figure. Type the word “**FIGURE 1**” in **BOLD CAPS**, followed by a period, then set the legend in Times Roman, Cap/lowercase. Each illustration must include a caption that clearly and succinctly explains its content. Illustrations are consecutively numbered in the text. Position the caption 1/4 inch (6 mm) below the illustration. The caption should be the full width of the text area; if the caption runs shorter than the width, center the caption.

◆ Acknowledgments ◆

Acknowledgments should be positioned at the end of the paper and before the reference section. Set the word “**ACKNOWLEDGMENTS**” as a first-level head (14 pt).

◆ References ◆

As a first-level head (14 pt), **set the word “REFERENCES.”** List and number all bibliographical references at the end of your paper. References should be in 10 pt type. When referring to them in the text, type the corresponding reference number in parentheses (1). References should be in the following form:

- 1. For a book reference:** Last name(s) and initial(s) of author(s) or editor(s), book title (in italics), place of publication, publisher, year, chapter and/or inclusive page numbers.
Example: Author, A. B., *Title of Book*, New York: IEEE Press, 1983, ch. 6, pp. 23–25.
- 2. For a journal paper:** Last name(s) and initial(s) of author(s), name of journal (in italics), volume number (bold), inclusive page numbers, year.
Example: Author, J. Q., *Journal* **10**, 1–20 (1983).
- 3. For a presented paper:** Last name(s) and initial(s) of author(s), title of paper, name of publication (in italics), inclusive page numbers, year.
Example: Smith, C. D., and Jones, E. F., “Load-Cycling and Pressure Efficiency in Cubic Press,” presented at the APS Topical Conference on Shock Compression, Amherst, MA, August 1997.

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2. Quote verse, either in whole or in part.

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◆ Copyright Transfer ◆

Your manuscript must be accompanied by an *AIP Transfer of Copyright Agreement*, completed and signed by at least one author. A blank form is included with this Instructions booklet. You can obtain additional forms from your volume editor.

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- Send *1 quality laser printout* and *1 duplicate copy* of your manuscript to your **volume editor (not AIP)**.
- Enclose all original halftones.
- Enclose all permission letters and the signed copyright transfer agreement.
- List in your cover letter items that need special attention.
- Keep a copy for your reference.

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If you need further information, the *AIP Style Manual*, available from AIP for \$10.00, provides guidance for the structure and style of a technical paper. You may order this from AIP Customer Services; phone: 800-809-2247.

Physics and Biology in Today's Society

Jonathan A. Smith* and Jane M. Brown†

**Department of Molecular Biology and †Department of Physics,
Princeton University, Princeton, New Jersey 08544*

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FIRST-LEVEL HEADING

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Second-Level Heading

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TABLE 1. This is an Example of a Table Caption

Mode of energy	Time	Begin ^a	Example	Distance	End
Example of speed	27	69	12	33	46
Time of encounter	16	27	69	11	16
Basis for test	17	28	17	12	0
Mode of discovery	20	46	19	28	17

^aThis is an example of a table footnote.

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Third-Level Heading

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$$\frac{d^2 \xi}{dt^2} - 2n \frac{d\eta}{dt} = \frac{dV}{d\xi} n^2 \xi, \quad (2)$$

$$\frac{d^2 \eta}{dt^2} - 2n \frac{d\xi}{dt} = \frac{dV}{d\eta} n^2 \eta.$$

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¹⁾ This is a sample of a footnote.

²⁾ This is a second sample of a footnote.

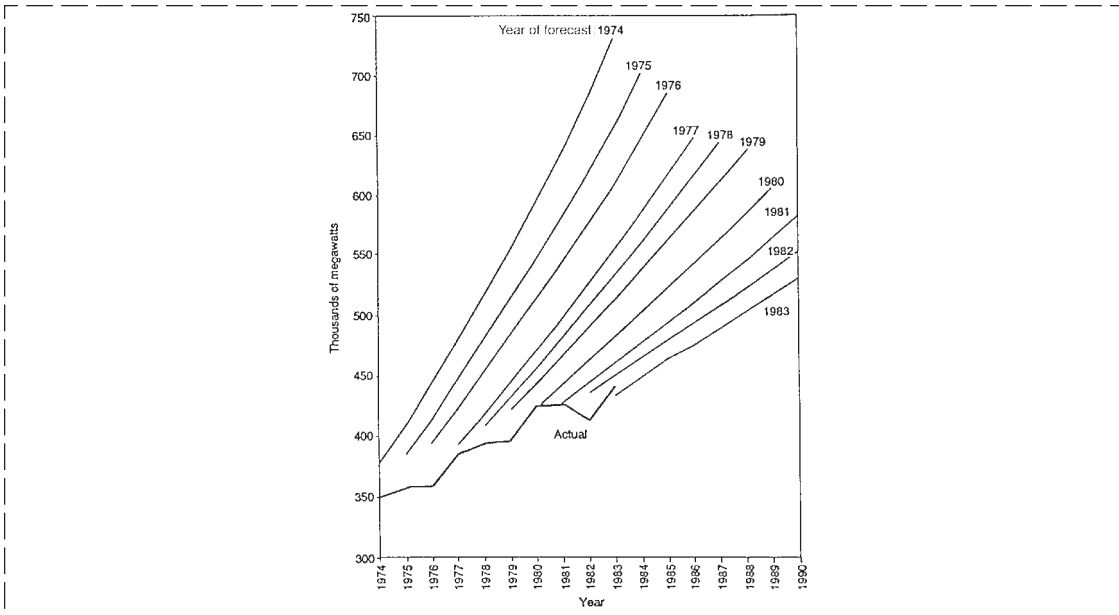


FIGURE 1. This is an example of how to position line art on a page.

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TABLE 2. Relative Computation Table

Method	Intregal equation	Function minimum	Global found	Standard amounts
Simulated annealing	334	665	789	334
Conjugate gradient	13	156	789	889
Annealing	994	675	329	865

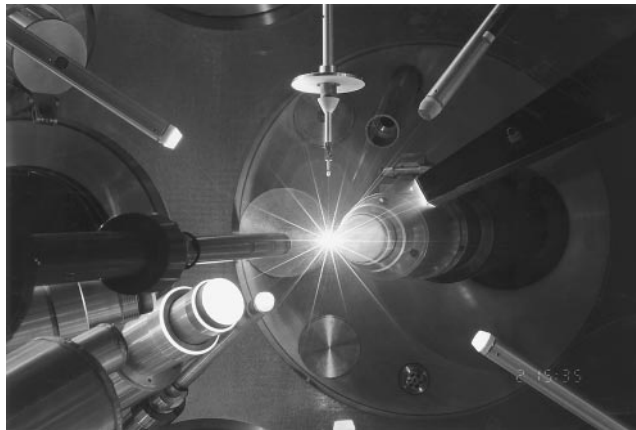


FIGURE 2. Sized photocopies of photographs should be inserted into the camera-ready copy for positional information only (FPO). High quality original halftones should be sent along with the camera-ready copy in a separate folder. Our printer will shoot the original figure for reproduction quality and follow your FPO for placement.

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REFERENCES

1. Brown, A. B., *Title of Book*, New York: IEEE Press, 1983, ch. 6, pp. 23–25.
2. Taylor, J. Q., *Journal* **10**, 1–20 (1983).
3. Smith, C. D., and Jones, E. F., “Title of paper,” presented at the IEEE Conference on..., City, State, June 6–7, 1983.
4. Jordan, G. H., “Title of paper,” in *Proceedings of the Conference on...*, 1983, pp. 10–20.

Instructions for Preparation of Camera Ready Manuscripts

*Conference
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