

International Journal of Modern Physics A  
 © World Scientific Publishing Company

## INSTRUCTIONS FOR TYPESETTING MANUSCRIPTS\*

### FIRST AUTHOR<sup>†</sup>

*University Department, University Name, Address  
 City, State ZIP/Zone, Country<sup>‡</sup>  
 first\_author@domain\_name*

### SECOND AUTHOR

*Group, Laboratory, Address  
 City, State ZIP/Zone, Country  
 second\_author@domain\_name*

Received Day Month Year  
 Revised Day Month Year

The abstract should summarize the context, content and conclusions of the paper in less than 200 words. It should not contain any references or displayed equations. Typeset the abstract in 8 pt roman with baselineskip of 10 pt, making an indentation of 1.5 pica on the left and right margins.

*Keywords:* Keyword1; keyword2; keyword3.

PACS numbers: 11.25.Hf, 123.1K

## 1. General Appearance

Contributions to *International Journal of Modern Physics A* are to be in American English. Authors are encouraged to have their contribution checked for grammar. American spelling should be used. Abbreviations are allowed but should be spelt out in full when first used. Integers ten and below are to be spelt out. Italicize foreign language phrases (e.g. Latin, French). Upon acceptance, authors are required to submit their data source file including postscript files for figures.

The text is to be typeset in 10 pt roman, single spaced with baselineskip of 13 pt. Text area (including copyright block) is 8 inches high and 5 inches wide for the first page. Text area (excluding running title) is 7.7 inches high and 5 inches

\*For the title, try not to use more than 3 lines. Typeset the title in 10 pt roman, uppercase and boldface.

<sup>†</sup>Typeset names in 8 pt roman, uppercase. Use the footnote to indicate the present or permanent address of the author.

<sup>‡</sup>State completely without abbreviations, the affiliation and mailing address, including country. Typeset in 8 pt italic.

## 2 *Authors' Names*

wide for subsequent pages. Final pagination and insertion of running titles will be done by the publisher.

## 2. Running Heads

Please provide a shortened runninghead (not more than eight words) for the title of your paper. This will appear on the top right-hand side of your paper.

## 3. Major Headings

Major headings should be typeset in boldface with the first letter of important words capitalized.

### 3.1. *Subheadings*

Subheadings should be typeset in boldface italic and capitalize the first letter of the first word only. Section number to be in boldface roman.

#### 3.1.1. *Subsubheadings*

Typeset subsubheadings in medium face italic and capitalize the first letter of the first word only. Section numbers to be in roman.

### 3.2. *Numbering and spacing*

Sections, subsections and subsubsections are numbered in Arabic. Use double spacing before all section headings, and single spacing after section headings. Flush left all paragraphs that follow after section headings.

### 3.3. *Lists of items*

Lists may be laid out with each item marked by a dot:

- item one,
- item two.

Items may also be numbered in lowercase roman numerals:

- (i) item one,
- (ii) item two.
  - (a) Lists within lists can be numbered with lowercase roman letters,
  - (b) second item.

#### 4. Equations

Displayed equations should be numbered consecutively in each section, with the number set flush right and enclosed in parentheses

$$\mu(n, t) = \frac{\sum_{i=1}^{\infty} 1(d_i < t, N(d_i) = n)}{\int_{\sigma=0}^t 1(N(\sigma) = n) d\sigma}. \quad (1)$$

Equations should be referred to in abbreviated form, e.g. “Eq. (1)” or “(2)”. In multiple-line equations, the number should be given on the last line.

Displayed equations are to be centered on the page width. Standard English letters like  $x$  are to appear as  $x$  (italicized) in the text if they are used as mathematical symbols. Punctuation marks are used at the end of equations as if they appeared directly in the text.

#### 5. Theorem Environments

**Theorem 5.1.** *Theorems, lemmas, propositions, corollaries are to be numbered consecutively in the paper or in each section. Use italic for the body and upper and lower case boldface, for the declaration.*

**Remark 5.1.** Remarks, examples, definitions are to be numbered consecutively in the paper or in each section. Use roman for the body and upper and lower case boldface, for the declaration.

**Proof.** The word ‘Proof’ should be type in boldface. Proofs should end with a box. □

#### 6. Figures

Figures are to be embedded in the text nearest their first reference and sequentially numbered in Arabic numerals. The caption must be placed below the figure (see

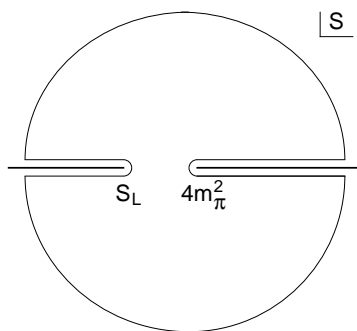


Fig. 1. A schematic illustration of dissociative recombination. The direct mechanism,  $4m_\pi^2$  is initiated when the molecular ion  $S_L$  captures an electron with kinetic energy.

#### 4 Authors' Names

Fig. 1) and typeset in 8 pt roman with baselineskip of 10 pt. Use double spacing between a caption and the text that follows immediately.

Figures should be black and white (or half-tone) and of a good resolution and sharpness. Compressed formats, such as JPEG, should not use heavy compression, which introduces undesirable artifacts. Bitmap figures, such as photographs or half-tone images, should be at least 300 dpi (TIFF, BMP or JPEG). Vector (line-art) figures, such as charts and technical drawings, should be 600–1200 dpi (EPS, PS, PDF). The native formats of software packages will not be permitted.

Previously published material must be accompanied by written permission from the author and publisher.

## 7. Tables

Tables should be inserted in the text as close to the point of reference as possible. Some space should be left above and below the table.

Tables should be numbered sequentially in the text in Arabic numerals. Captions are to be centralized above the tables (see Table 1). Typeset tables and captions in 8 pt roman with baselineskip of 10 pt.

Table 1. Comparison of acoustic for frequencies for piston-cylinder problem.

Piston mass	Analytical frequency (Rad/s)	TRIA6- $S_1$ model (Rad/s)	% Error
1.0	281.0	280.81	0.07
0.1	876.0	875.74	0.03
0.01	2441.0	2441.0	0.0
0.001	4130.0	4129.3	0.16

If tables need to extend over to a second page, the continuation of the table should be preceded by a caption, e.g. “*Table 2. (Continued)*”.

## 8. Footnotes

Footnotes should be numbered sequentially in superscript lowercase roman letters.<sup>a</sup>

## Acknowledgments

This section should come before the References. Dedications and funding information may also be included here.

<sup>a</sup>Footnotes should be typeset in 8 pt roman at the bottom of the page.

## Appendix A. Appendices

Appendices should be used only when absolutely necessary. They should come before the References. If there is more than one appendix, number them alphabetically. Number displayed equations occurring in the Appendix in this way, e.g. (A.1), (A.2), etc.

$$\begin{aligned} g_{\mu_1\mu_2} &= g_{axy} = -\epsilon_{abc}4\pi \frac{(x-y)^c}{|x-y|^3}, \\ h_{\mu_1\mu_2\mu_3} &= \epsilon^{\alpha_1\alpha_2\alpha_3} g_{\mu_1\alpha_1} g_{\mu_2\alpha_2} g_{\mu_3\alpha_3} \end{aligned} \quad (\text{A.1})$$

with

$$\epsilon^{\alpha_1\alpha_2\alpha_3} = \epsilon^{b_1y_1b_2y_2cx} = \epsilon^{b_1b_2c} \delta(x-y_1) \delta(x-y_2). \quad (\text{A.2})$$

## Appendix B. References

References are to be listed in the order cited in the text in Arabic numerals. They should be listed according to the style shown in the References. Typeset references in 9 pt roman.

References in the text can be typed in superscripts, e.g.: "... have proven<sup>3-5</sup> that this equation ...” or after punctuation marks: "... in the statement.<sup>5</sup>” This is done using LaTeX command: “\cite{name}”.

When the reference forms part of the sentence, it should not be typed in superscripts, e.g.: “One can show from Ref. 3 that ...”, “See Refs. 1-3, 5 and 7 for more details.” This is done using the LaTeX command: “Ref.~\refcite{name}”.

## References

1. R. Loren and D. B. Benson, *J. Comput. System Sci.* **27**, 400 (1983).
2. OPAL Collab. (G. Abbiendi *et al.*), *Eur. J. Phys. C* **11**, 217 (1999).
3. R. Loren and D. B. Benson, *Introduction to String Field Theory*, 2nd edn. (Springer-Verlag, New York, 1999).
4. R. Loren and D. B. Benson (eds.), *Introduction to String Field Theory*, 2nd edn. (Springer-Verlag, New York, 1999).
5. C. M. Wang, J. N. Reddy and K. H. Lee, New set of buckling parameters, in *Shear Deformable Beams*, ed. T. Rex (Elsevier, Oxford, 2000), p. 201.
6. R. Loren, J. Li and D. B. Benson, Deterministic flow-chart interpretations, in *Introduction to String Field Theory*, Ad. Series in Math. Phys., Vol. 3 (Springer-Verlag, New York, 1999), p. 401.
7. R. Loren, J. Li and D. B. Benson, Deterministic flow-chart interpretations, in *Proc. 3rd Int. Conf. Entity-Relationship Approach*, eds. C. G. Davis and R. T. Yeh (North-Holland, Amsterdam, 1983), p. 421.
8. R. Loren, J. Li and D. B. Benson, Deterministic flow-chart interpretations, to appear in *J. Comput. System Sci.*