

International Journal of Modern Physics A  
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## INSTRUCTIONS FOR TYPESETTING MANUSCRIPTS USING $\text{\TeX}$ OR $\text{\LaTeX}$ \*

FIRST AUTHOR<sup>†</sup>

*University Department, University Name, Address  
City, State ZIP/Zone, Country<sup>‡</sup>*

SECOND AUTHOR

*Group, Laboratory, Address  
City, State ZIP/Zone, Country*

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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.

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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).

The text is to be typeset in 10 pt roman, single spaced with baselineskip of 13 pt. Text area (excluding running title) is 5 inches (30 picas) across and 7.8 inches (47 picas) deep. Final pagination and insertion of running titles will be done by the publisher. Number each page of the manuscript lightly at the bottom with a blue pencil. Reading copies of the paper can be numbered using any legible means (typewritten or handwritten).

## 3. Running Heads

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## 4. Major Headings

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

### 4.1. *Sub-headings*

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

#### 4.1.1. *Sub-subheadings*

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

### 4.2. *Numbering and spacing*

Sections, sub-sections and sub-subsections 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.

### 4.3. *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.

## 5. 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.

## 6. Theorem Environments

**Theorem 1.** Theorems, lemmas, etc. are to be numbered consecutively in the paper. Use double spacing before and after theorems, lemmas, etc.

**Proof.** Proofs should end with □

## 7. Illustrations and Photographs

Figures are to be inserted in the text nearest their first reference. Original india ink drawings of glossy prints are preferred. Please send one set of originals with copies. If the author requires the publisher to reduce the figures, ensure that the figures (including letterings and numbers) are large enough to be clearly seen after reduction. If photographs are to be used, only black and white ones are acceptable.

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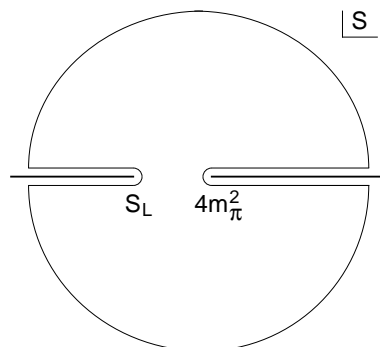


Fig. 1. A schematic illustration of dissociative recombination. The direct mechanism,  $4m_\pi^2$  is initiated when the molecular ion  $S_L$  captures an electron with kinetic energy.

## 8. 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. 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 <sub>1</sub> 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*)”

## 9. 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 after 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.

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

## References

References are to be listed in the order cited in the text in Arabic numerals. They can be typed in superscripts after punctuation marks, e.g. "... in the statement.<sup>5</sup>" or used directly, e.g. "see Ref. 3 for examples." Please list using the style shown in the following examples. For journal names, use the standard abbreviations. Typeset references in 9 pt roman.

## References

1. R. Marnelius, *Acta Phys. Pol.* **B13**, 669 (1982).
2. J. D. Bjorken, in *Lecture Notes on Current-Induced Reactions*, ed. J. Komer *et al.* (Springer, Heidelberg, 1975).
3. A. Bohr and B. R. Mottelson, *Nuclear Structure* (Benjamin, New York, 1969), Vol. 1, pp. 100–102.
4. R. C. Webb, PhD thesis, Princeton University, 1972.
5. T. Toimela, Helsinki Research Institute for Theoretical Physics, Report No. HU-TFT-82-37, 1982 (unpublished).