Mathematical Models and Methods in Applied Sciences

Instructions for typesetting manuscripts using LaTeX2e*

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Abstract is required and should summarize, in less than 300 words, the context, content and conclusions of the paper. It should not contain any references or displayed equations. Textwidth of the abstract should be 4.5 inches.

Keywords: Keyword1; keyword2; keyword3.

AMS Subject Classification: 22E46, 53C35, 57S20

1. General Appearance

Contributions to *Mathematical Models and Methods in Applied Sciences* will be reformatted from the electronic file provided by the authors. Blank (redundant) spaces should be minimized by careful arrangement of tables and figures.

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Contributions are to be in English. Authors are encouraged to have their contribution checked for grammar. Abbreviations are allowed but should be spelt out in

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full when first used. Integers ten and below are to be spelt out but type as (2+1) dimensions. Italicize foreign language phrases (e.g. Latin, French).

The text should be in 10 pt Times Roman, single spaced with baselineskip of 13 pt. Text area (excluding copyright block and folio) is 6.9 inches high and 5 inches wide for the first page. Text area (excluding running title) is 7.7 inches high and 5 inches wide for subsequent pages. Final pagination and insertion of running titles will be done by the publisher.

3. Major Headings

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

3.1. *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.

3.1.1. *Sub-subheadings*

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

3.2. *Numbering*

Sections, sub-sections and sub-subsections are to be numbered in Arabic. Sections and sub-sections in boldface while sub-subsections in Roman.

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.

$$\mu(n,t) = \sum_{i=1}^{\infty} 1(d_i < t, N(d_i) = n) \int_{\sigma=0}^{t} 1(N(\sigma) = n) d\sigma \,. \tag{4.1}$$

Equations should be referred to in abbreviated form, e.g. "Eq. (4.1)" or "(4.1)". 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.

Each section should start with a fresh set of equation numbers, for example, if Sec. 4 ends with Eq. (4.3), the first equation number in Sec. 5 should be (5.1) instead of (5.4).

Theorem 4.1. *Theorems, lemmas, etc. 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.*

Lemma 4.1 (Optional Title). *Theorems, lemmas, etc. 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.*

Proof. The word 'Proof' should be in boldface. Proofs should end with a box. □

5. Illustrations and Photographs

Figures are to be inserted in the text nearest their first reference. eps files or postscript files are preferred. If photographs are to be used, only black and white ones are acceptable.

Figures are to be sequentially numbered in Arabic numerals. Centralize the caption and place it below the figure. Typeset in 8 pt Times Roman with baselineskip of 10 pt. Use double spacing between a caption and the text that follows immediately.

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6. 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 Times Roman with baselineskip of 10 pt.

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

Piston mass	Analytical frequency (Rad/s)[a]	TRIA6-S_1 model (Rad/s)[b]	% 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

Note: Table notes
[a]Table footnote A
[b]Table footnote B

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*)"

7. Footnotes

Footnotes should be numbered sequentially in superscript alphabets.[a]

Note Added

Should be placed before Acknowledgment.

Appendix A. Appendices

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

[a]Footnotes should be typeset in 8 pt Times Roman at the bottom of the page.

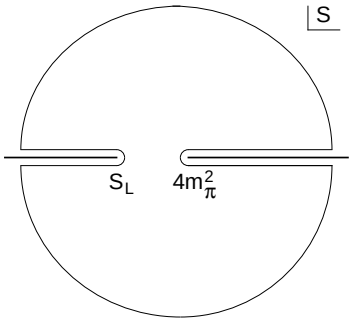

Fig. 1. A schematic illustration of dissociative recombination. The direct mechanism, $4m_{\pi}^2$ is initiated when the molecular ion S_L captures an electron with kinetic energy.

$$f(j\delta, i\delta) \cong \frac{\pi}{M} \sum_{n=1}^{M} Q_{\theta_n}(j\cos\theta_n + i\sin\theta_n)\,. \tag{A.1}$$

Acknowledgment

This section should come after the Appendices if any and should be unnumbered. Funding information may also be included here.

References

They are to be cited in the text in superscript after comma and period (e.g. word,[2]) but before other punctuation marks like colons, (e.g. word[3]:) semi-colons and question marks. If it is mentioned in the text as part of a sentence, it should be of normal size, e.g. see Ref. 3.

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