

# GUIDE FOR AUTHORS

## Introduction

### Types of paper

Matter and Radiation at Extremes (MRE) publishes papers that meet the following criteria:

- being within the scope of MRE,
- containing significant new research contributions of the highest intellectual caliber,
- providing strong evidence for the conclusions,

given that the papers have not been submitted, copyrighted, nor accepted for publication elsewhere. Also, clarity of presentation is a major criterion for acceptance.

### Article types and requirements

The journal publishes **Regular Articles**, **Review Articles** and **Letters**. There is no maximum word limit for these three types of papers, provided that the papers present significant new research contributions clearly, properly and concisely. However, review articles are required to be no less than 10 pages excluding the references and appendix, and are accepted for review after prior consultation with the Editor-in-Chief.

## Before You Begin

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### **Additional Information**

Tables and figures may be presented with captions within the main body of the manuscript; if so, figures should additionally be uploaded as high resolution files.

### **Preparation**

#### **Use of wordprocessing software**

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### **Article structure**

#### ***Subdivision - numbered sections***

Divide your article into clearly defined and numbered sections. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2, ...), 1.2, etc. (the abstract is not included in section numbering). Use this numbering also for internal cross-referencing: do not just refer to "the text". Any subsection may be given a brief heading. Each heading should appear on its own separate line.

#### ***Introduction***

State the objectives of the work and provide an adequate background, avoiding a detailed literature survey or a summary of the results.

#### ***Material and methods***

Provide sufficient detail to allow the work to be reproduced. Methods already published should be indicated by a reference: only relevant modifications should be described.

#### ***Theory/calculation***

A Theory section should extend, not repeat, the background to the article already dealt with in the Introduction and lay the foundation for further work. In contrast, a Calculation section represents a practical development from a theoretical basis.

#### ***Results***

Results should be clear and concise.

#### ***Discussion***

This should explore the significance of the results of the work, not repeat them. A combined Results and Discussion section is often appropriate. Avoid extensive citations and discussion of published literature.

#### ***Conclusions***

The main conclusions of the study may be presented in a short Conclusions section, which may stand alone or form a subsection of a Discussion or Results and Discussion section.

## Appendices

If there is more than one appendix, they should be identified as A, B, etc. Formulae and equations in appendices should be given separate numbering: Eq. (A.1), Eq. (A.2), etc.; in a subsequent appendix, Eq. (B.1) and so on. Similarly for tables and figures: Table A.1; Fig. A.1, etc.

## Essential title page information

- **Title.** Concise and informative. Titles are often used in information-retrieval systems. Avoid abbreviations and formulae where possible. Avoid beginning with an article or a preposition. Words “new” or “novel” should be avoided in the title or the text for legal reasons. Titles may be edited by the publisher to facilitate computer search.
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## Abstract

A concise and factual abstract is required. The abstract should be no longer than 250 words usually, and state briefly the purpose of the research, the principal results and major conclusions. An abstract is often presented separately from the article, so it must be able to stand alone. For this reason, References should be avoided, but if essential, then cite the author(s) and year(s). Also, non-standard or uncommon abbreviations should be avoided, but if essential they must be defined at their first mention in the abstract itself.

## Keywords

Immediately after the abstract, provide 4~6 keywords, avoiding general and plural terms and multiple concepts (avoid, for example, ‘and’, ‘of’). Be sparing with abbreviations: only abbreviations firmly established in the field may be eligible. These keywords will be used for indexing purposes.

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PACS codes should be provided to help with indexing. This set of codes was formulated by the American Institute of Physics (AIP) to identify fields and sub-fields of physics. PACS is a hierarchical partitioning of the whole spectrum of subject matter in physics, astronomy, and related sciences. PACS codes are available on MRE’s web page and AIP’s main PACS website. Each manuscript must be given 2-4 PACS codes below the abstract and the principal index code should be placed first.

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## Acknowledgements

Collate acknowledgements in a separate section at the end of the article before the references and do not, therefore, include them on the title page, as a footnote to the title or otherwise. List here those individuals who provided help during the research (e.g., providing language help, writing assistance or proof reading the article, etc.).

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## Nomenclature and units

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## Math formulae

Math formulae should be aligned to bring out their structure, and numbered consecutively in round brackets on the right-hand side of the page. Notation. Notation must be legible, clear, compact, and consistent with standard usage. In general, acronyms should be defined at first use. Variables and Vectors. Set single-letter variables in italics (Eg.  $M$ ). Set vectors in boldface and italic (Eg.  $\mathbf{m}$ ). Functions, derivative “d,” abbreviations, and multi-letter identifiers should be set in roman (plain) type (Eg.  $\alpha$ ,  $\cos$ ,  $\int \dots dx$ ). Fences. For simple

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$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} \quad (1)$$

$$I_D(\theta) = \frac{a}{2} + \sum_{n=1}^2 (\cos 2n\theta + \sin 2n\theta) \quad (2)$$

## Artwork

### Electronic artwork

#### General points

- Make sure you use uniform lettering and sizing of your original artwork.
- Save text in illustrations as “graphics” or enclose the font.
- Only use the following fonts in your illustrations: Arial, Courier, Times, Symbol.
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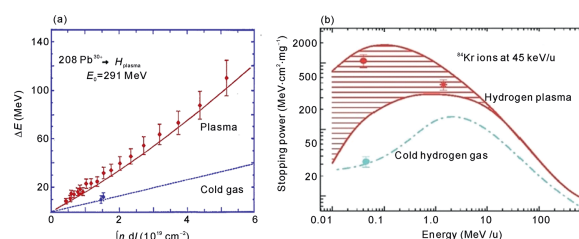


Fig.1 Calculated total transmittance with different wedged angles as a function of wavelength and thickness of substrate

## Figure captions

Ensure that each illustration has a caption. Supply captions separately, not attached to the figure. A caption should comprise a brief title (not on the figure itself) and a description of the illustration. Keep text in the illustrations themselves to a minimum but explain all symbols and abbreviations used.

## Tables

Number tables consecutively in accordance with their appearance in the text. Place footnotes to tables below the table body and indicate them with superscript lowercase letters. Avoid vertical rules. Be sparing in the use of tables and ensure that the data presented in tables do not duplicate results described elsewhere in the article.

The table title, which should be brief, goes above the table. Note that tables are usually typeset, not scanned (tables cannot be electronically reduced in size). An example follows:

Tab.1 Marx discharge voltage and current and deposited energy in mix gas vs. mix gas pressure when Marx charge voltage is 81 kV

$P$ (kPa)	$U_D$ (kV)	$I_m$ (kA)	$E_1$ (kJ)
100	511	84	3.04
150	512	83	3.12
200	511	85	3.24
250	508	83	3.27

## References

### *Citation in text*

Please ensure that every reference cited in the text is also present in the reference list (and vice versa). Any references cited in the abstract must be given in full. Unpublished results and personal communications are not recommended in the reference list, but may be mentioned in the text. If these references are included in the reference list they should follow the standard reference style of the journal and should include a substitution of the publication date with either “Unpublished results” or “Personal communication” Citation of a reference as “in press” implies that the item has been accepted for publication.

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Examples: “ ... of high power laser (such as the National Ignition Facility[3] and OMEGA[4,5]) and pulsed power technology (such as the Z machine[6-8])... ”

*List:* Number the references (numbers in square brackets) in the list in the order in which they appear in the text. All authors should be included in the reference list, but when the number of authors is more than five, list the first five authors and represent the rest by et al. Authors should be listed initials of given names first, and followed by surnames.

*Examples:*

*Journal citations: Include authors, article’s full title, volume number, page number, and publication year:*

[1] C. Wirth, O. Schmidt, T. Schreiber, I. Tsybin, T. Schreiber, et al., High average power spectral beam combining of four fiber amplifiers to 8.2 kW, *Opt. Lett.* 36, 3118-3120 (2011).

[2] Xun Ma, Jianjun Deng, Hongwei Liu, Jianqiang Yuan, Jinfeng Liu, et al., Development of all-solid-state flash x-ray generator with photoconductive semiconductor switches, *Review of Scientific Instruments*, 85, 093307 (2014).

[3] Wenkang Zou, Lin Chen, Dagang Liu, Le Zhang, Laqun Liu, et al., Investigation on high inductive helical supported magnetically insulated transmission line on a 10-stage linear transformer driver system, *Phys. Rev. ST Accel. Beams* 15, 110401(2012)

*Books: List authors and editors. Must include publisher, city and year of publication, and the page numbers (unless the entire book is being cited).*

[4] R. J. Hunter, *Zeta Potential in Colloid Science* (Academic, New York, 1981) p.120.

*Conference proceedings: Include the list of authors, the title of the proceedings, the city and year of the conference, and the page numbers. Include the full list of editors, if they are given.*

[5] P.Madasamy, T. Loftus, A.Thomas, P. Jones, E.Honea, et al., Comparison of spectral beam combining approaches for high power fiber laser systems, *Proc. SPIE* 695207 (2008).

### *Internet links*

[6] A.G.Ramm, H.Wang, J.Ye, Invisible obstacles, <http://www.arxiv.org/abs/math-ph/0608034> (June 1, 2011).

*Patent: Include the author, the title, patent number, Patent approval date.*

[7] I.W.Smith, K.O.H. Michael, Wide-angle beam steering system, U.S. patent 7215472(8 May 2008).

*Thesis/dissertation: Include the author, school, and year, and the title.*

[8] Zhifu Cai, Cluter infrared background suppression technology based on adaptive estimation, Ph.D. thesis, Harbin Engineering University, Harbin, 2005

## Submission checklist

The following list will be useful during the final checking of an article prior to sending it to the journal for review. Please consult this Guide for Authors for further details of any item.

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All necessary files have been uploaded

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Further considerations

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- All references mentioned in the Reference list are cited in the text, and vice versa

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