

## Information for Authors

(*Acta Mechanica Sinica*)

Author1<sup>1</sup> · Author2<sup>2</sup> · Author3<sup>1</sup>

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**Abstract** This is a guideline for authors who want to publish in *Acta Mechanica Sinica* (AMS). AMS is an international journal founded in 1985, co-published by the Chinese Society of Theoretical and Applied Mechanics (CSTAM) and Springer-Nature. The journal is sponsored by CSTAM and the Institute of Mechanics, Chinese Academy of Sciences (IMCAS).

**Keywords** First keyword · Second keyword · More (should be no more 5 words)

### 1 What does AMS publish

As the flagship journal of the Chinese Society of Theoretical and Applied Mechanics (CSTAM), *Acta Mechanica Sinica* (AMS) publishes top research work in the global mechanics community. With over 36,000 society members, papers published in AMS have the widest readership through the CSTAM website and global readership through the Springer-Link.

#### 1.1 Aims and Scope

The Journal aims to report recent developments in mechanics and other related fields of research. It covers all disciplines in the field of theoretical and applied mechanics, including solid mechanics, fluid mechanics, dynamics and control, and biomechanics. It explores analytical,

computational and experimental progresses in all areas of mechanics. The Journal also encourages research in interdisciplinary subjects, and serves as a bridge between mechanics and other branches of engineering and sciences.

The work published in AMS must extend the current knowledge in mechanics through new discoveries and results in mechanics. Such as new theories or great extension of current theory, new algorithms in computation and novel experimental techniques.

#### 1.2 Important notices

Thank you for choosing AMS to publish your research work. This guide provides you with the essential information to help you prepare and submit your work to AMS. The author(s) is suggested to take the time to read them before submitting your manuscript to be considered for publication in AMS.

- AMS follows the ethics standards from the [Committee on Publication Ethics](#) (COPE) and the authors of AMS must agree its ethical rules relating to duplicate publication, plagiarism, fabrication, interest conflict, authorship.
- All manuscripts to be considered for publication in AMS must be submitted to the [ScholarOne Manuscript Center](#) in digital form.
- A **Cover Letter** should be submitted together with the manuscript.
- Pre-screening will be performed to every submission by Editors, regarding its suitability for the journal's readers. Manuscripts not suitable for AMS will not be sent out for further reviewing.
- The author(s) must upload all works related to the submitted manuscript that are “submitted”, “accepted”, or “in press”, or in the late stage of preparation as “Supplemental Files for Review” together with the submission.

✉ corAuthor 1

E-mail: author1@cstam.org.cn

<sup>1</sup> AMS Editorial Office, 15 Beisihuan Rd, Beijing 100190, China

<sup>2</sup> second address

- The author(s) must own the copyrights of all materials (content, figures, data, etc.) or have permission to use them in the manuscript to be considered for publication.
- Dedications should be placed in the Acknowledgment section right before the “Reference”.

## 2 Manuscript Type

- **Rapid Communications** Rapid Communications are for those creative original research works that attract enough strong endorsements and deserve rapid publication. Rapid Communications should be written in a short form within a maximum length of 3500 words, with no more than 5 figures (a figure in size of 8.5 cm × 9.5 cm should be considered as 170 words; a figure in size of 17.0 cm × 9.5 cm should be considered as 350 words). Technical materials for a submitted Rapid Communication can be provided for readers in form of electronic supplementary materials. The work in a Rapid Communication should contain new theoretical views on theories that can be validated by experiment and are distinct from current knowledge.
- **Regular Articles** Regular Articles contain research with high quality and broad interest to the whole mechanics community, but requires more pages to be written in regular form within maximum length of 7000 words. There should be clear creative results and essential conclusion in depth. Submissions are limited to a total of 10 figures (a figure in size of 8.5 cm × 9.5 cm should be considered as 170 words; a figure in size of 17.0 cm × 9.5 cm should be considered as 350 words). Still, for a better illustration of the research work for AMS readers, the author(s) is suggested to depict the work in a concise way.
- **Invited Reviews** Invited Reviews provide scientific reviews of the highest quality in the mechanics community, which comprehensively review important works in a special field or area of mechanics and give an inspire and future direction of the theme. There is no limitation for paper length of Invited Review.
- **Perspectives** Perspectives are personal viewpoints of a narrow field of mechanics and focus at discussing models and ideas to stimulate debate. Although a Perspective is expected to be ~3 pages in length, there is no limitation for paper length of Perspective.
- **News and Views** News and views will be written by invited experts to introduce papers with significant works and contributions recommended by Editorial Board.

## 3 Preparing your Manuscript

The following guidelines provide an overview of content and formatting requirements for preparing manuscripts for submission to AMS. All submitted manuscripts must follow these standards:

- Submissions must be **complete** regarding its manuscript type. Regular articles should follow the IMRAD (Introduction, Method, Results, Analysis, Discussion) structure and must include all numbered and labeled components.
- Each submission should be accompanied with a **Cover Letter** with detail corresponding author’s information, including telephone. The corresponding author must response for the communication on manuscript status, any substantial changes of content, and interpretation of the work and manuscript.
- Author names and affiliations in the manuscript must be in accordance with those input in the manuscript system.
- All figures and tables should be numbered in the order in which they appear in the content.
- References must be complete, including authors, titles, journal title, book title, etc.

### 3.1 Templates

AMS accepts format-free submission as long as the manuscript is clearly readable for reviewers. The author(s) can write their paper in their preferred ways. Also, AMS provides paper templates in Microsoft Word and in Tex/LaTeX in case the author(s) prefer to use them. They can be downloaded from the journal’s [Download Center](#).

### 3.2 Cover Letter

A **Cover Letter** should be submitted together with the manuscript. A well-written cover letter can help to persuade Editor(s) that your paper maybe suitable for AMS and may help your paper reach to the peer-review stage. The author is encourage to

- state the background, main findings of the work,
- emphasize the new results of the submitted manuscript,
- describe the problem that is being addressed and why the manuscript belongs in AMS,
- explain what significant advances and novelty have been made to mechanics and related fields.

A template of cover letter can be downloaded from the journal’s [download center](#). In the cover letter, the author(s) should concisely distinguish the research reported in the manuscript, why the author(s) think the work is important and why it could be interesting to the readership of AMS.

### 3.3 Manuscript content

#### 3.3.1 Title

Title of the paper must be concise and informative. The length of the title must be no more than 15 words and the article (the, a, an) at the beginning of the title should be removed.

#### 3.3.2 Author list

Author name is displayed as “first name, initials, and surname” (e.g., Markus J. Buehler). Author(s) list must be approved by every author(s) listed and all affiliation(s) should be given. The email address and telephone number of the corresponding author should be given. (Example can be found in Fig. 1.)

If you have a change on authorship, you must make a statement following the guideline - [changes in authorship](#).

#### 3.3.3 Abstract

Each paper must be preceded by a succinct abstract summarizing the most important results and conclusions. No reference should be cited in the abstract. If you do want to mention previous work, mention the author(s) and the publication year as (Dyall 2011). (Example can be found in Fig. 2.) Acronyms should be explained or even avoided. The length of an abstract should be less than 550 words.

#### 3.3.4 Keywords

You can choose 3–5 keywords for your manuscript, so that your target audience can easily reach your paper by search engine.

#### 3.3.5 Content (Rapid Communications)

There is no section heading in a Rapid Communication. Content of a Rapid Communication follows the introductory paragraphs that clearly show readers the issues addressed in the manuscript and the essential achievements. The length of a Rapid Communication should be less than 3500 words (a figure in size of 8.5 cm × 9.5 cm should be considered as 170 words) and it should contain less than 5 figures.

#### 3.3.6 Content (Regular Articles)

A Regular Article must be well-organized. It normally contains different parts of IMRAD and draws a conclusion at the end of the content. The length of a Regular Article should be less than 7000 words (a figure in size of 8.5 cm × 9.5 cm should be considered as 170 words) and it should contain less than 10 figures.

#### 3.3.7 Content (Perspectives)

Perspective does not require an *Abstract* and there is no section heading in a Perspective. A Perspective is expected to be ~3 pages.

#### 3.3.8 Illustrations

Figures in high quality can greatly increase the impact of your research. The journal’s production team won’t modify or enhance the figures provided by the author(s). Quality of original graphics supplied by the authors decides the quality of illustration in AMS.

Submitted figure should be in single column (with a width of 8.5 cm) or double column (with a width of 17 cm). To achieve the best resolution with smallest file size, vector graphics are recommended for a submission. Preferred graphic formats are .eps, .pdf, .tiff, .jpg, .png.

Figure caption together figure should be “stand-alone” and able to understand. Figure caption begins with a brief title for the figure and contains a description (legend) of each panel and the symbols used (as shown in Fig. 3). Legends should not exceed 100 words.

If a published figure is included in the article, credit line for permission of using the figure should be placed in the end of the figure caption, such as: “Reproduced by permission from Ref. [\*\*]”.

#### 3.3.9 Tables

Normally, a table always consists of rows and columns. A table requires three horizontal rules: one at the top of the table, one just below the column heads (for variables), and one at the bottom of the table. A table title must be included at the top of the table. Table title should only give the gist of the data and should not suggest any interpretation of the data.

#### 3.3.10 Author contributions

Complete and submit the contribution statement referring to the attached example after the manuscript is accepted.

#### 3.3.11 Acknowledgment

Financial supports and professional assistance should be acknowledged in a brief form in the Acknowledgment section right before the Reference. The financial supports should be acknowledged in the form of “[This work was supported by the ... \(Grants No. ...\)](#)”.

## Subsonic and transonic flow field in two-dimensional de laval nozzles

Qun Pu<sup>1</sup>, Tongji Lin<sup>1,\*</sup>

1. Insitute of Mechanics, Chinese Academy of Sciences, Beijing 100190, China

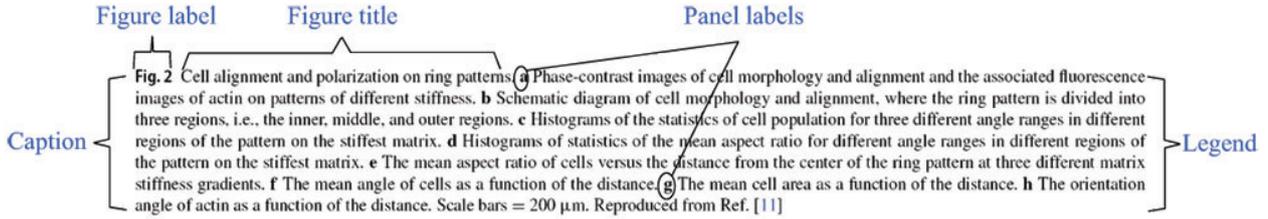
\* Corresponding author. Email: name@unit.edu.cn

**Fig. 1** Information should be included in the title page

**Abstract** The recent progress on non-local Lagrangian and quasi-Lagrangian structures in turbulence is reviewed. The quasi-Lagrangian structures (Dyall 2011), e.g., vortex surfaces in viscous flow, gasliquid interfaces in multi-phase flow, and flame fronts in premixed combustion, can show essential Lagrangian following properties, but they are able to have topological changes in the temporal evolution. In addition, they can represent or influence the turbulent flow field. The challenges for the investigation of the non-local structures include their identification, characterization, and evolution. The improving understanding of the quasi-Lagrangian structures is expected to be helpful to elucidate crucial dynamics and develop structure-based predictive models in turbulence.

**Keywords** Turbulence, Lagrangian study, Coherent structure, Multi-scale analysis, Vortex dynamics

**Fig. 2** Example for abstract and keywords



**Fig. 3** Example for figure caption

### 3.3.12 Appendix

The contents of Appendix are no longer published in the print edition, but as online supplementary material. Appendix content should be written separately in its tex file when using latex templates. Equations in the appendix cannot follow the numerical order of equations used in the content but use a new numerical order as (A1), (A2), ...

Please upload the appendix file separately and ensure that the content is accurate, the editorial department will not process and typeset any more.

### 3.4 Notation and mathematical formulas

Natation, formulae, symbols and all subscripts, superscripts, Greek letters and other characters must be legible and carefully checked.

Notations, symbols, and units used in the manuscript should be standarized and consistent in the whole paper. The author(s) can find further details in the [AMS Style Guide](#).

Write the formula in the text with MathType, when you use Word template.

$$R(i, j, \Delta x, \Delta y) = \frac{1}{N_f - 1} \times \frac{\sum_{n=1}^{N_f} [A^n(i, j) \bar{A}^n(i, j)] [B^n(i + \Delta x, j + \Delta y) \bar{B}^n(i + \Delta x, j + \Delta y)]}{\sigma(A_{i,j}) \sigma(B_{i+\Delta x, j+\Delta y})} \quad (1)$$

## 4 Submitting your Manuscript

Manuscripts, cover letters, graphics, and other related supporting information must be submitted to the [ScholarOne Manuscript Center](#). Please make sure you are submitting your manuscript to the right Manuscript Type. The author(s) must proofread “PDF-proof” in the manuscript system before your submission and make sure there is no unrecognized code.

The author(s) must own the copyrights of all materials (content, figures, data, etc.) or have permission to use them in the manuscript to be considered for publication.

### 4.1 Submission checklist

- Full paper (in doc or pdf) written in good English which can be clearly understood by editors and reviewers
- Highlight in a separated file. Please adhere to the specifications as: (a) Include 3-5 highlights. (b) There should be a maximum of 90 characters, including spaces. (c) Only the core results of the paper should be covered
- Cover letter stating briefly on the content of the submission. The cover letter should also specify if there are pictures needed to be printed in color.
- Supplemental files for review
- Offer ORCID(s) of manuscript author(s)
- Make sure all figure(s), table(s), reference(s) are mentioned in the content and arranged in order
- Illustrations and notations are following AMS’ style (as described below in detail)

The author(s) must promise that the submitted manuscript has not been published or partly published before. Any closely related work being under consideration for publication or submitted to any publisher for consideration of publication should be submitted to Editor(s) as “Supplementary Files for Review”. The author(s) will be asked related questions in the manuscript system during the manuscript submission process.

The author(s) can deposit the draft of their submitted manuscript in a pre-print service such as arXiv or applicable repository for their discipline. Information on any use of pre-print server must be noted in the Cover Letter. Once the submitted work is published in AMS, the author(s) should update the information in pre-print server with the Digital Object Identifier (DOI) and link to the published article in AMS.

The author(s) must provide at least four potential reviewers for peer reviewing the manuscript. Academic email addresses should be used rather than personal email addresses. Peers having conflict of interest should not be suggested as potential reviewers.

### 4.2 Review process

#### 1. Format Screening

Format-screening will be performed to every submission once AMS receives submissions. Manuscript will not be sent for further processing if it is not satisfied format-screening. A manuscript should have complete elements: Title, Author, Affiliation, Abstract, Keywords, Contact information of corresponding author, Reference, etc.

#### 2. Initial Editorial Review

All submission will be sent to Editor for initial editorial review. Manuscripts without sufficiently novelty or beyond AMS’ scope may be declined directly without sending further review.

Related work under consideration for publication from the author(s) must be submitted accompanied with the manuscript and be informed to the Editor. Misleading caused by without fully citation or informing of related work might result in misadjusting on the submission.

#### 3. Peer Review

After initial editorial review, submissions will be sent for peer-review by the Editors, for seeking advices from experts. AMS normally requires two peer-review reports for every submission, however, the exact number of peer-review reports depended on Editor’s call. If the Editors consider manuscripts not suitable for AMS, they can reject the manuscripts without sending for peer review.

#### 4. Revision

Manuscripts sent back for revision after peer review should be returned within 14 days. Revisions beyond the submission deadline will be handled as a new submission (with sending to the previous peers for re-review) and given a new “received date”.

## 5 Production and Publication

### 5.1 Preparing production data

- Editable manuscript files (word2003 or LaTeX) in final version (.doc/.tex), it is suggested to use MathType to write formula in the manuscript
- Separated graphical files in high resolution (vector graphic or bitmap graphic) for all figures included in your paper. (.eps/.tiff/.jpg or other)
- Graphical abstract of the article (a separated image file in high resolution) (.txt/.doc and .eps/.tif/.jpg)
- [Copyright Transfer Statement](#) signed by author(s)
- Chinese information of article title, author and abstract

- Detailed description of the author’s contribution

## 5.2 Copyright

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## 5.3 ASAP publication

Accepted manuscripts can be found online via [AMS](#) website in 3 days after your final version pass the first look check.

## 5.4 Proofs

Correction of the proofs is the responsibility of the Corresponding Author. The Corresponding Author of an accepted manuscript will receive email notification (from Science China Press) and download the eproof PDF or modify on the online proofreading system via a “author check” URL link for review. Please return all corrections by uploading them via the ‘Submit’ tab or replying to this e mail. Please ensure you click ‘Reply to All’ if you choose to respond by email. Without your response to these queries, we may not be able to continue with the processing of your article for Online Publication.

## 5.5 Publication date

Accepted manuscripts will be published on the [AMS](#) website in 3 days. Manuscripts will be published on China science press website as soon as page proofs are corrected and all author concerns are resolved. China science press publication usually occurs within a few working days of

receipt of page proof corrections, which can be several weeks in advance of the cover date of the issue. All articles published ahead of print receive a unique Digital Object Identifier (DOI) number, which is used to cite the manuscript before and after the paper appears in an issue.

## 5.6 Article processing charge (APC)

After the paper is published, the author(s) will be charged a publication fee for the article’s processing. Payment procedure will be notified to the author through e-mail before its publication in print.

## 5.7 Open access

AMS is a hybrid journal and supports Open Access publication. The author(s) can choose to publish their research open access, usually upon payment of an open access article publication charge to Springer-Nature.[1]

## 5.8 Post-publication policies

AMS follows guidance from the [Committee on Publication Ethics](#) (COPE) when any ethical concern occurs in the publication of research. [2,3]

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## References

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