Paper title: Preparation of papers for *Astrodynamics*

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Abstract

This instruction gives you guidelines for preparing papers for the journal *Astrodynamics*. Use this document as a LaTeX template. Please provide one paragraph containing a complete but concise description of your work in 100–300 words. The abstract should consist of motivation, problem statement, approach, results, and conclusions in order to make the paper appealing to more readers. Be sure to define all symbols used in the abstract. Since the abstract is indexed in many databases, it should be self-contained without any undefined abbreviations or any cited references.

Keywords

Keyword one · Keyword two · Keyword three · Keyword four

(Please provide 4–6 keywords which can be used for indexing purpose)

Nomenclature

(Or others such as Abbreviation, if necessary; nomenclature entries should have the units identified)

H	height (m)
a_c	cylinder diameter (cm)

1 Introduction

Astrodynamics is a peer-reviewed international journal that is co-published by Tsinghua University Press and Springer. The high-quality peer-reviewed articles of original research, comprehensive review, mission accomplishments, and technical comments in all fields of astrodynamics will be given priorities for publication. In addition, related research in astronomy and astrophysics that takes advantages of the analytical and computational methods of astrodynamics is also welcome. *Astrodynamics* would like to

invite all of the astrodynamics specialists to submit their research articles. The effort of the Editorial Board will be ensuring the journal to publish novel researches that advance the field, and will provide authors with a productive, fair, and timely review experience.

2 Manuscript submission

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3 Manuscript preparation

3.1 Language

The journal's language is English. Either British English or American English spelling and terminology may be used, but the system chosen should be followed consistently throughout the manuscript. We request that the language is corrected before submission. Submissions with unsatisfactory English writing will

be returned without review.

3.2 Length of manuscripts

There are no strict limits on the number of published pages for both research and review articles. Nevertheless, authors are asked to make the manuscript as concise as possible and to limit to less than 40 manuscript pages.

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The authors are encouraged to use our LaTeX template to prepare their draft manuscripts. For submission in Microsoft Word, use a normal, plain font (e.g., 12-point Times New Roman), double space line, and one column for text. Use the automatic page numbering function to number the pages. Do not use field functions. Use tab stops or other commands for indents, not the space bar. Use the table function, not spreadsheets, to make tables. Use the equation editor or MathType for equations. Note: If you use Word 2007, do not create the equations with the default equation editor but use MathType instead.

4 Detailed formatting instructions

4.1 Heading/section levels (numbered)

For regular research and review articles, please use the decimal system of headings. Please divide your manuscript into clearly defined and numbered sections and subsections. Sections should be numbered 1, 2, etc. Subsections should be numbered 1.1 (then 1.1.1, 1.1.2 . . .), 1.2, etc. Use this numbering also for internal cross-referencing: Do not just refer to “the text”. Each section and subsection should be given a brief heading and each heading should appear on its own separate line.

4.2 Footnotes

Essential footnotes to the text should be numbered consecutively and placed at the bottom of the page to which they refer. Footnotes to the table should be indicated by superscript lower-case letters (or asterisks) and placed immediately below the table.

4.3 Formulae and symbols

Formulae, symbols, and all subscripts, superscripts, Greek letters, and other characters must be legible and carefully checked. Standard mathematical notation should be used. All symbols used in the manuscript must be explained. A list of symbols should follow the abstract if such a list is needed.

Single letters that denote mathematical constants, variables, and unknown quantities should be set in *italic* type in the text and in equations. Numerals, operators, and punctuation should be set in Roman type (upright), as are commonly defined functions or abbreviations, e.g., cos, det, e or exp, lim, log, max, min, sin, tan, d (for derivative) should also be upright. Vectors, tensors, and matrices should be set in ***bold italic***.

Numbering consecutively any equations that have to be displayed separately from the text (if referred to explicitly in the text), and referring the equation with Eq. (1), Eq. (2) . . . in the text.

$$\|\tilde{X}(k)\|^2 \leq \frac{\sum_{i=1}^{p}\left\|\tilde{Y}_i(k)\right\|^2+\sum_{j=1}^{q}\left\|\tilde{Z}_j(k)\right\|^2}{p+q} \tag{1}$$

where

$$D_\mu = \partial_\mu - ig\frac{\lambda^a}{2}A_\mu^a \tag{2}$$

$$F_{\mu\nu}^a = \partial_\mu A_\nu^a - \partial_\nu A_\mu^a + gf^{abc}A_\mu^b A_\nu^a \tag{3}$$

4.4 Figures

All figures should be numbered using Arab numerals as Fig. 1 XXX, Fig. 2 XXX . . . and supplied with a figure caption (figure parts should be denoted by lower-case letters). Please make sure that all elements found in the figure are identified in the caption. Figures should always be cited in the text, such as Fig. 1, Fig. 2, in consecutive numerical order.

(1) Original figures should be in high quality with the resolution of 600 dpi.

(2) Figures should be in the proper size, less than 8 cm or 16 cm in width, and less than 24 cm in height. When making a figure, please set the size first, and then write down words, numbers, symbols, etc.

(3) Use a normal, uniform font (Times New Roman, 10-point) for all the words and numbers in figures.

(4) Only the first letter of the first word in line one should be capitalized, except proper nouns.

(5) If there is an axis system in the figure, the coordinate line and coordinate point should be drawn in bold.

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(7) If the number is larger than 1000, each group of three digits should be separated by a comma. For instance, 1630000 should be written as 1,630,000.

(8) The unit in axis titles should be enclosed in parentheses, for example, "Flow discharge (m^3/s)".

(9) The background of figures should be deleted.

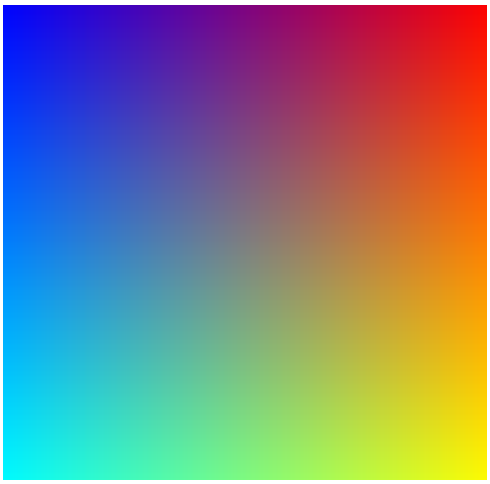

Fig. 1 This is where the figure caption goes.

Fig. 2 This is where the figure caption goes.

4.5 Tables

All tables should be numbered using Arab numerals as Table 1 XXX, Table 2 XXX . . . and supplied with a table title which explains clearly and concisely the components of the table. Tables should not duplicate results presented elsewhere in the manuscript (for example, in figures). Tables should always be cited in the text, such as Table 1, Table 2, in consecutive numerical order.

(1) Use a normal, uniform font (Times New Roman, 10-point) for all the words and numbers in tables.

(2) Only the first letter of the first word in line one should be capitalized, except proper nouns.

(3) If the number is larger than 1000, each group of three digits should be separated by a comma. For instance, 1630000 should be written as 1,630,000.

4.6 Units and abbreviations

Please adhere to internationally agreed standards such as those defined by the International Organization of Standardization (ISO). Metric SI units should be used throughout except where non-SI units are more common (e.g., liter (L) for volume).

Table 1 Propellant masses vs. transfer time using orbital averaging and guidance scheme

Mass (kg) / Time (days)	Case 1			Case 2			Case 3		
	202.9*	300	400	70.2*	100	150	205.7*	300	400
Orbital averaging	197.52	182.82	175.15	36.45	30.58	29.75	199.32	177.07	171.82
Guidance scheme	197.45	183.06	176.92	36.42	30.52	29.69	199.20	177.56	173.04

Table 2 Propellant masses vs. transfer time using orbital averaging and guidance scheme

name	name
value	value

Abbreviations should be used only if deemed absolutely necessary, and should be defined at first mention in the abstract and again in the main body of the text and used consistently thereafter.

5 Conclusions

A conclusion is not restatement of the abstract, but to stress the importance of the work, to give the paper a sense of completeness, and leave a final impression on the readers. The conclusion section is the last section of the paper to be numbered.

Appendix (if applicable)

An appendix, if needed, is presented without numbers. If there are two or more appendices, they should be numbered consecutively. Equations in appendices should be designated differently from those in the main body of the manuscript, e.g., (A1), (A2), etc. In each appendix equations should be numbered separately.

Acknowledgements

This section is optional and not numbered. Acknowledgements of people, grants, funds, etc. should be placed in a separate section before reference list. The names of funding organizations should be written in full. Do not include acknowledgements on the title page, as a footnote to the title or otherwise.

Declaration of competing interest (please confirm when the manuscript is submitted)

The authors have no competing interests to declare that are relevant to the content of this article.

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If ESM is submitted, it will be published as received from the author in the online version only. ESM may consist of: (i) information that cannot be printed: animations, video clips, sound recordings; (ii) information that is more convenient in electronic form: sequences, spectral data, etc.; (iii) large amounts of original data, e.g., additional tables, illustrations, etc. If supplying any ESM, the text must make specific mention of the material as a citation, similar to that of figures and tables (e.g., Fig. S1 in the ESM). Besides, a paragraph should be added before the "References" section (e.g., Electronic Supplementary Material: Supplementary material (add a brief description) is available in the online version of this article).

References

Citations in the text are numbered in square brackets at appropriate locations (before a period, comma, etc.). Some examples: (i) Negotiation research spans many disciplines [3]. (ii) This result was later contradicted by Becker and Seligman [5], who . . . (iii) This effect has been widely studied [1–3, 7].

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manipulators. In: *Teleoperation and Robotics in Space*. Skaar, S. B., Ruoff, C. F., Eds. Washington DC: The American Institute of Aeronautics and Astronautics, **1994**: 175–212.

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[9] Information on http://www.adobe.com/technology/projects.html (cited 1 Jan 2017).

Author biography

(at least the first author's and the corresponding author's)

Author Name Please supply the photo, one-paragraph introduction (study experience, research interests, awards received, etc.), email address of each author of the work.

Graphical table of contents

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