

# How to Prepare Manuscript for Transactions of JSASS\*

Ichiro KOKU,<sup>1)†</sup> Hanako UCHU,<sup>1),2)</sup> and Taro SORA<sup>2)</sup>

<sup>1)</sup>*Institute of Space and Astronautical Science, Japan Aerospace Exploration Agency, Sagamihara, Kanagawa 252-5210, Japan*

<sup>2)</sup>*Department of Aeronautics and Astronautics, The University of Tokyo, Tokyo 113-8656, Japan*

This is the manual for how to prepare your paper for Transactions of the Japan Society for Aeronautical and Space Science (JSASS). All the papers should be written by appropriate word processors or TeX with the format specified in this manual. Abstract should be placed here. If the contribution is the one which has already been presented at the JSASS conference, specify name of conference and date by using footnote. The class file “tjsass.cls” can be used for Aerospace Technology Japan, ISTS special issue, and APISAT special issue by choosing the corresponding option.

**Key Words:** Format Sample, Transactions of JSASS, LaTeX

## Nomenclature

$V$	:	velocity
$X$	:	position
Subscripts		
0	:	initial
f	:	final

## 1. Introduction

These guidelines include complete descriptions of the fonts, spacing, and related information for producing your manuscripts. Please pay extreme attention to keep the original format shown in this file. Authors using LaTeX may use “tjsass.cls” file and sample manuscript (this file) provided by JSASS. But it should be noted that the manuscript should be submitted in PDF format, and that no support for this sample manuscript and the class file is provided by JSASS. When making a pdf file, all the fonts including the standard PostScript fonts (such as Times and Symbol) must be embedded in the document, and don’t use national (e.g. Japanese) fonts. Movie files and some kinds of software tools should not be included in the paper.

## 2. Cover of the Manuscript

### 2.1. Title

The title should be brief and concise (maximum of 20 words), without the use of acronyms or abbreviations. The title should be centered, and in Times 14-point, boldface type. Capitalize the first letter of nouns, pronouns, verbs, adjectives, and adverbs; do not capitalize articles, coordinate conjunctions, or prepositions (unless the title begins with such a word). Leave a blank line after the title. The space between the lines is 17.5 point.

### 2.2. Author name(s) and affiliation(s)

Author names are to be centered beneath the title and printed in Times 10-point, non-boldface type. The full name is preferred. Only primary contributors should be listed in authors list; others may appear in Acknowledgment. Affiliations should follow on the next line. The affiliations are centered, italicized and in Times 8-point, not bold. Leave two blank lines after the affiliations. The space between the lines is 10-point.

### 2.3. Abstract

Each technical paper must be accompanied by a 100- to 200-word abstract that is indented 4 letters, written as a single paragraph, printed in Times 9-point, not bold, flush left. It should be a summary and complete in itself. The abstract should indicate the subjects dealt with in the paper and should state the objectives of the investigation. New findings and conclusions of the experiment or argument discussed in the paper must be stated in the abstract. Research notes and miscellaneous do not have abstracts.

Leave 30 mm in both sides. The space between the lines is 11.5-point. Leave one blank line after the abstract.

### 2.4. Key words

Key word should be centered, in Times 9-point, not bold. Begin by “**Key Words:** ” (in Times 9-points, boldface type, and 2 letters blank) at the top. Specify three to five key words preferably including at least one keyword selected from the “JSASS Standard Key Words” list.

## 3. Main Text

Type your main text in 10-point Times, single-spaced. All paragraphs should be indented 2 letters. Be sure your text is fully justified. The space between the lines is 12-point.

### 3.1. Major-headings

For example, “**1.(2 letters blank)Introduction**”, should be Times 10-point boldface, with the first letter capitalized, flush left, with one blank line from last, leaving one blank line to next. Use a period (“.”) after the heading number, not a colon.

---

© 2016 The Japan Society for Aeronautical and Space Sciences

\*Presented at the 30th International Symposium on Space Technology and Science, July 4-10, 2015, Kobe, Japan

Received 21 June 2016; final revision received 21 August 2016; accepted for publication 20 September 2016

†Corresponding author, koku@jsass.org

**3.2. Sub-headings**

For example, “4.4.(2 letters blank) **Second-order headings**”, should be Times 10-point boldface, initially capitalized, flush left and with no blank line from last.

**3.2.1. Sub-sub-headings**

For example, “4.4.1.(2 letters blank) **Third-order headings**”, should be Times 10-point boldface, initially capitalized, flush left and with no blank line from last.

**3.3. Nomenclature**

A nomenclature section is required for papers containing more than a few symbols; nomenclature definitions should not appear in the text. Nomenclature should be beneath the key words as follows; “Symbol (*V*, *X* etc.) - : (colon) - (2 letter blank) - Definitions”. The position of colon is 35 mm from the left end of the page. Please use standard symbols whenever possible. The symbols are in 10-point and the definitions are in Times 10-point, not bold. The symbols should be listed in alphabetical order.

**3.4. Introduction**

The paper must include an Introduction - a brief assessment of prior work by others and an explanation of how the paper contributes to the field.

**3.5. Symbols and units**

Use standard symbols whenever possible. Mathematical symbols should be italicized. To save space, the solidus (/) must be used for fractions in the text and for simple fractions in equations. The use of metric system of units (SI) is mandatory, except for unavoidable cases.

**3.6. Equations**

The symbols should be in 10-point and centered. The equation numbers should be right flush as

$$A + B = C, \tag{1}$$

and

$$D + E = F. \tag{2}$$

Other example equations are shown in the following. One is the definition of  $St_n$

$$St_n = \frac{f_n L}{U_\infty} = \frac{n}{\left[ \beta M_\infty \cdot \left( 1 + \frac{\gamma - 1}{2} M_\infty^2 \right)^{-1/2} + \frac{1}{K} \right]} \tag{3}$$

$n = 1, 2, 3, \dots$

and another one is differential equation

$$\langle \nabla^2 \phi \rangle_i = \frac{2d}{\lambda n^0} \sum_{j \neq i} \left[ (\phi_j - \phi_i) w(|\mathbf{r}_j - \mathbf{r}_i|) \right], \tag{4}$$

where

$$\lambda = \frac{\sum_{j \neq i} |\mathbf{r}_j - \mathbf{r}_i|^2 w(|\mathbf{r}_j - \mathbf{r}_i|)}{\sum_{j \neq i} w(|\mathbf{r}_j - \mathbf{r}_i|)}. \tag{5}$$

Please use “Eq. (1)”, not “Equation (1)” or “(1)” in the text.



Fig. 1. The symbol of JSASS. Only the first letter in a sentence should be upper case. Single-line caption should be centered. In plural-line caption, lines before the last one both sided, the last one flush left. Captions must end with a period.

**3.7. Illustrations**

Line drawings must be clear and sharp. Computer-generated illustrations are acceptable as long as lines and graph points are distinct. Lettering should be large enough to be legible after reduction. The art of hatching can be used for figures but no shading is allowed. Attach black & white illustrations of pictures in the manuscript if the authors wish to publish them in black and white. If color illustrations or pictures are attached, they are printed in color. Symbols used for these materials should be italicized in accordance with the symbols in the text. Each figure must have a caption.

Figure captions should be 8-point Times and centered. For example: “Fig.(a blank)1.(2 blanks)The symbol of JSASS.” Capitalize only the first word of each caption. Figure captions must end with a period. The captions are to be below the figures. Please use “Figure 1” or “Figures 1 and 2” at the beginning of sentences. Otherwise, use “Fig. 1”, or “Figs. 1 and 2” in the text. All figures must be referred to in numerical order in the text.

**3.8. Tables**

Table captions should be 8-point Times and centered. For example: “Table(a blank)1.(2 blanks)Form of the paper.” Capitalize only the first word of each caption. Table captions must end with a period. The captions are to be over the tables. All tables must be referred to in numerical order in the text.

Table 1 shows an example of table.

Items	Values
Paper size	A4
Maximum page	15
Maximum file size	5 MB
Margin	Top: 25 mm and under: 21 mm and side: 17mm
Font	Times-Roman and Symbol
File format	PDF

**3.9. Quoted figures**

If figures, tables, statistics, etc. are quotations from writings of others, the source of information should be noted in the captions. It is the author’s responsibility to secure such approvals as this may be required for the quotations.

**3.10. Acceptable file format**

Electronic reference file format acceptable is as follows: PDF, JPG, JPEG, BMP, ZIP, LZH, WMV, MP4.

#### 4. References

References must be limited to readily accessible documents. They are to be grouped at the end of the manuscript. Formats for references should fit to the followings: All references must be listed and numbered in the order of their citation in the text in 8-point Times at the end of your paper. The space between the lines is 10-10.5-point. When references are cited in the text, write the numbers referred to as A,<sup>1)</sup> or B,<sup>2,3)</sup> or C,<sup>4-10)</sup> after a comma,<sup>11)</sup> or a period.<sup>12)</sup> If the numbered reference citation is a word of the main text, write it as in the following example. “As shown in Ref. 18), the three-body problem should be taken into account for mission design.” The sample is shown at the end of this guideline. The heading of it is “**References**” that is 10-point, bold, centered. All references must be referred to in numerical order in the text.

#### 5. PDF File Conversion

- Use of Adobe: Acrobat Distiller and a version 1.5 (Acrobat 6.0) PDF file are recommended.<sup>‡</sup>
- Set the resolution to 600dpi or similar.
- The size of a pdf file must be less than 5MB per each paper.
- Embed all fonts (symbols, space etc.) in the PDF file.
- Do NOT create bookmarks.
- Do NOT set security.

#### 6. How to Use tjsass.cls

To use the tjsass class, installation of some packages is required. Please check RequiredPackages in the sample file.

To prepare a draft for the conference, please use one of the following commands corresponding to the conference.

```
\documentclass[TJSASS]{tjsass} % Trans. JSASS
\documentclass[ATJ ]{tjsass} % Aero. Tech
\documentclass[ISTS ]{tjsass} % ISTS
\documentclass[APISAT]{tjsass} % APISAT
```

To make the final version of the accepted paper, please insert the option “pubform” as follows:

```
\documentclass[TJSASS, pubform]{tjsass}
\documentclass[ATJ , pubform]{tjsass}
\documentclass[ISTS , pubform]{tjsass}
\documentclass[APISAT, pubform]{tjsass}
```

% year of publication

\pubyear{2016}

% volume number

\bookvolume{14}

% issue number

\bookissue{ists31}

% session category if ists paper

\session{d}

% starting page number

\setcounter{page}{1}

% submission date

\receiveddate{21 June 2016}

% revision date

\revisiondate{21 August 2016}

% acceptance date

\accepteddate{20 September 2016}

% conference information

\confinfo{Presented at APISAT 2016}

The following command will be used by the journal office for Transactions of JSASS papers.

\AName{} %Associate Editor’s name

% paper title

\title{Title}

% paper subtitle only when necessary

\subtitle{sub title}

% author name

\author{\NAME{Ichiro}{Koku}\thanksNum{1}}

\CorresAuthor{koku@jsass.org}

% affiliation

\thanksOrg{affiliation }

\begin{abstract}

write abstract here

\end{abstract}

\keywords{Key word}

\begin{document}

\maketitle

write text here

\end{document}

#### 7. Conclusion

Conclusion should be clearly stated.

In this sample file, it was explained how to prepare your paper for Transactions of the Japan Society for Aeronautical and Space Science using “tjsass.cls.”

#### Acknowledgments

The heading “**Acknowledgments**” is 10-point, bold, flush left.

The editorial office appreciates authors’ efforts to fully follow this template style. This text should be in 9-point.

#### References

- 1) Batchelor, G. K.: *An Introduction to Fluid Dynamics*, Cambridge University Press, London, 1967, pp. 1–10.
- 2) Arakawa, Y., Kuninaka, H., Nakayama, N., and Nishiyama, K.: *Ion Engines for Powered Flight in Space*, Corona Publishing, Tokyo, 2006, pp. 18–20 (in Japanese).
- 3) Goto, N. and Kawakita, T.: Bifurcation Analysis for the Inertial Coupling Problem of a Reentry Vehicle, *Advances in Dynamics and Control*, Sivasundaram, S. (ed.), Chapman & Hall, New York, 2004, pp. 45–55.
- 4) Hains, F. D. and Keyes, J. W.: Shock Interference in Hypersonic Flows, *AIAA J.*, **10** (1972), pp. 1441–1447.

<sup>‡</sup> footnote example

- 5) Miyaji, K., Tsurumaki, A., and Tsukada, H.: On Accuracy of Prediction of Flutter Boundaries on Unstructured Grids, *Trans. Jpn. Soc. Aeronaut. Space Sci.*, **47** (2004), pp. 195–201.
- 6) Atobe, S., Kuno, S., Hu, N., and Fukunaga, H.: Identification of Impact Force on Stiffened Composite Panels, *Trans. JSASS Aerospace Technology Japan*, **7**, ists26 (2009), pp. Pc.1–Pc.5.
- 7) Shimizu, E., Isogai, K., and Obayashi, S.: Multi-Objective Design Study of a Flapping Wing Power Generator, *J. Fluids Eng.*, **130** (2008), pp. 021104-1-021104-7.
- 8) Wilde, K., Gardoni, P., and Fujino, Y.: Seismic Response of Base-isolated Structures with Shape Memory Alloy Damping Devices, *Proc. SPIE*, **3043** (1997), pp. 122–133.
- 9) Machida, K. and Miyaji, K.: 3D Wing Flutter Analysis by Bending-Torsion Beam Model and Unstructured CFD, Proceedings of the International Sessions in JSASS Aircraft Symposium, Oct. 2005.
- 10) Murayama, M., Nakahashi, K., and Matsushima, K.: Unstructured Dynamic Mesh for Large Movement and Deformation, AIAA Paper 2002-0122, 2002.
- 11) Williams, G. J., Domonkos, M. T., and Chavez, J. M.: Measurement of Doubly Charged Ions in Ion Thruster Plumes, NASA TM-2002-211295, 2002.
- 12) Kwak, D. Y., Rinoie, K., and Noguchi, M.: Experimental Research of Aerodynamics on an SST Configuration with High Lift Devices, 25th International Congress of Aeronautical Sciences, Hamburg, Germany, ICAS 2006-5.11.3, 2006.
- 13) Usui, M. and Kuninaka, H.: Characteristics of Ion Grid System, JAXA-SP-06-019, 2007, pp. 28–31 (in Japanese).
- 14) Nakai, E.: Transonic/Supersonic Flutter Characteristics of a Cantilevered Low-aspect Ratio Swept Wing, NAL TR-288, 1972 (in Japanese).
- 15) Roberts, J. A.: Satellite Formation Flying for an Interferometry Mission, Ph.D. Thesis, Cranfield University, 2005.
- 16) Kato, H.: Prediction of Wake Turbulence Behaviors Using Weather Observation and Simulation, Master's Thesis, Tohoku University, 2010 (in Japanese).
- 17) Bush, G. W.: The Vision for Space Exploration, NASA Headquarters, Available from: <http://www.nasa.gov>, 2004, (accessed August 1, 2017).
- 18) Koon, W. S., Lo, M. W., Marsden, J. E., and Ross, S. D.: Dynamical Systems, the Three-Body Problem and Space Mission Design, Marsden Books, 2008, <http://www2.esm.vt.edu/sdross/books/> (accessed September 15, 2015).
- 19) Global Land Cover Characterization, <http://edc2.usgs.gov/glcc/glcc.php> (accessed July 2, 2012).

J. Aero  
Associate Editor