

How to Use the Class File jsme-tj.cls ver1.8 for JSME Technical Journal*

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Abstract

This manual describes how to use the L^AT_EX 2_ε class file “jsme-tj.cls” for use in the Japan Society of Mechanical Engineers (JSME) Technical Journal submissions. This class file for L^AT_EX 2_ε requires PSNFSS and the txfonts package included in many T_EX distributions internationally used.

Key words : L^AT_EX 2_ε, JSME Technical Journal, usage jsme-tj.cls

1. Requirements

The followings are the requirements for the operation of the class file “jsme-tj.cls”.

- L^AT_EX 2_ε
- PSNFSS package
- txfonts package

These files are installed in the most of recent versions of T_EX systems, but there may be cases when the txfonts package is not installed. If it is not installed, we strongly recommend that you update T_EX system. However, if T_EX system cannot be updated, install the txfonts package (please refer to the txfonts package documentation and various documents for installation).

If you cannot install the txfonts package for any reason, you can disable it using the option described later in this document. If this is the case, please keep it in mind that after submitting your contribution, the result of the compilation will be considerably different from the typesetting result and many warning messages regarding font size will be displayed during the compilation process. Please ignore these warnings.

Environment which do not have L^AT_EX 2_ε and PSNFSS installed may be really old (at least 10 yeas old). It is strongly recommended that you update the entire T_EX system. The “jsme-tj.cls” file does not work in L^AT_EX2.09.

2. Disclaimer

This class file is intended to be used for JSME Technical Jounal submissions, and any other usage is not assumed. Therefore, we will not answer any questions or provide support regarding any functions that are beyond the scope of this assumption (for example, the creation of table of contents and index are not supported). In addition, we will not answer any questions regarding the structure and implementation of the class file.

This file shall be used under the sole responsibility of its user. Neither JSME nor Sanbi Printing Co. Ltd. shall be held responsible for any damage or loss that may be caused by using this file.

The file jsem-tj.cls is a beta version and its specifications may be modified without prior notice.

Please use this file under the above-mentioned conditions.

3. Very Important Notice for Usable Letters

Please do NOT use “NON ASCII CHARACTERS,” where “non ascii characters” in-

clude, for example, “Accented letters” (If you want to use accented letters, please use “ \TeX ” command, for example, “ \hat{o} ” for \hat{o} (accent circonflexe)). If possible, please do not use “TAB” character. These non ASCII characters may cause some trouble when compiling. We use “Original” $\LaTeX 2_{\epsilon}$ for compiling your paper. Therefore, if possible, it is recommended strongly to compile your paper by “Original” $\LaTeX 2_{\epsilon}$ (In general, the command for using “Original $\LaTeX 2_{\epsilon}$ ” is simply “ latex ”). There exist many localized \TeX for many languages, for example, $\text{p}\TeX$ for Japanese or Polish. Here “Original” means that “not localized” for any languages.

4. How to Use

4.1. Preamble

The preamble should be described as follows:

```
\documentclass{jsme-tj}

\title{How to Use the Class File jsme-tj.cls ver.1.4b\
      for JSME Technical Journal}

\vol{1}
\no{1}
\field{Fluid}
\received{2005/11/3}{01-2345}

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```

The Main Options of `\documentclass{jsme-tj}` are as follows:

submit: Use this option for submission. This option controls the behavior of `jsme-tj.cls` so that compilation using general \TeX system is available. You do not need to use this option consciously since this option is chosen by default.

publish: Used for typesetting after submission. This does not work in general \TeX systems since it uses multiple commercial fonts and PostScript. DO NOT use this option.

ams: Use this option when you want to use the “`amsmath` package.” However, using the `amsmath` package is **not recommended** for this class file and in most cases, you can write your paper without it. In addition, if you just need some of the special symbols included in the `amsmath` package, you can use them without using this option in principle.

notx: Executes the compilation without using the `txfonts` package. When this option is used, there may not be enough symbols unless the `amssymb` package is read-in. If this is the case, please keep it in mind that the result of compilation will be considerably different from the typesetting result after submitting your contribution, and many warning messages regarding font size will be displayed during compilation process. Please ignore these warnings for now.

Type the title of your journal in `\title`. If the title is long, a new line will be made to match the width of the printed page. Use `\` to specify the new line when you want to start a new paragraph from a specific location.

Write the volume and number in `\vol` and `\no` respectively. Use any number if you are not sure about these values. Please note that the year and `\vol` are linked. In other words, the year y that will be displayed when you specify v as `\vol` is based on;

$$y = v + 2005$$

So, you can determine v by calculating backward from the planned publication year ($v = y - 2005$). But for “`jsmme`” (Journal of Solid Mechanics and Materials Engineering), `jsdd`

(Journal of System Design and Dynamics), jamdsm (Journal of System Design and Dynamics), jcst (Journal of Computational Science and Technology), jmtl (Journal of Mechanical Systems for Transportation and Logistics) “\vol{1}” is corresponding to “2007,” and jse (Journal of Space Engineering), “\vol{1}” is corresponding to “2008.”

Specify the field of study in the \field. As of May 2007, the following are available:

- thermal
- fluid
- bio
- env
- material
- system
- power
- amdsm
- comput
- trans
- space

Moreover, instead of the names of fields mentioned above, the @field is able to take the abbreviation of the name of journals as its argument. For example, the argument “jtst” is same as “thermal”. These arguments change the design of the document. Values other than these will not function properly. Please refer followings for the abbreviation of the name of journals.

- thermal (Journal of **Thermal** Science and Technology, **jtst**)
- fluid (Journal of **Fluid** Science and Technology, **jfst**)
- bio (Journal of **Biomechanical** Science and Engineering, **jbse**)
- env (Journal of **Environment** and Engineering, **jee**)
- material (Journal of Mechanics, **Materials** and Processing, **j MMP**)
- material (Journal of Solid Mechanics and **Materials** Engineering, **jsmme**)
- system (Journal of **System** Design and Dynamics, **jsdd**)
- power (Journal of **Power** Energy Systems, **jpes**)
- amdsm (Journal of **Advanced Mechanical Design, Systems and Manufacturing**, edited by JSME, **jamdsm**)
- comput (Journal of **Computational** Science and Tecnology, **jcst**)
- trans (Journal of Mechanical Systems for **Transportation** and Logistics, **jmtl**)
- space (Journal of **Space** Engineering, **jse**)

Here, since the name of “j MMP” was changed to “Journal of Solid Mechanics and Materials Engineering” (jsmme), the word “material” appears twice in the above list. Note that the word “j MMP” can be used for the compatibility to the previous version. But “j MMP” is obsolete, and please do not use this. Instead of “j MMP”, “jsmme” is recommended.

As the first argument for \received, specify the date when the journal was received using a yyyy/mm/dd format. As the second argument, specify the journal number.

For author, specify a label as the first argument, and an author name as the second argument. The label is used to link the author and \affiliate described later. If multiple authors belong to the same organization, the same label is used in each author. If one author has multiple affiliate, write multiple labels using a comma-delimited style. For example: author{A,B}{foo bar}.

In an author’s name, the personal name and family name are separated with a space. If there are more than one personal name; for example, for the name “Wolfgang Amadeus Mozart”, connect these personal names with ~ character so that it becomes “Wolfgang~Amadeus Morzart”. In this way the family name is automatically displayed in capital letters.

If there are many authors and the display of authors is undesirable, please use “\breakauthorline” for specifying the point of line break. For example, \breakauthorline{2,5} inserts line break just after second and fifth author.

For `affiliate`, use a label as the first argument, an organization name as the second argument, and a location of the organization as the third argument. If you want to include an e-mail address, enclose it in square brackets ([]) (Since an e-mail address is optional, do not write “[]” if you do not include e-mail address).

If you want to add other packages, include them using `\usepackage` after the above options. However, some malfunction may occur because of the use of additional packages. Therefore, avoid adding packages as much as possible (The read-in of the package may be cancelled during the typesetting process if the package is not required for the typesetting).

4.2. Document Environment

In the document environment used for the main body, `\maketitle`, abstract environment, and keywords environment should be written in this order. The beginning of the document should be as follows:

```
\begin{document}

\maketitle

\begin{abstract}
You must write the abstract of your paper.
\end{abstract}

\begin{keywords}
\LaTeXe, JSME e-journal, Manual
\end{keywords}

\end{document}
```

Please note that if `\maketitle`, abstract environment, and keywords environment are not described in this order, you will not obtain a desirable output.

4.3. Headings

For the heading output, `\section`, `\subsection`, and `\subsubsection` are available. Headings for levels lower than these are not provided.

4.4. Reference List and Citing

For a reference list, use the same `thebibliography` environment as used in the general $\LaTeX_{2\epsilon}$ documents. Methods is the same as the $\LaTeX_{2\epsilon}$ and its style are as follows:

```
\begin{thebibliography}{99}
\bibitem{biblabel1}
bib1
\bibitem{biblabel}
bib2
....
\end{thebibliography}
```

To cite literature, use `\cite`. To cite multiple literatures at the same time, enclose them in curly brackets in a comma-delimited style. It should look like this: `\cite{biblabel1, biblabel2}`.

By using this style, the citing marks will be displayed appropriately, i.e. ⁽¹⁾ (1), (2)⁽¹⁾⁻⁽³⁾. If you want to use literature numbers such as “in Ref.(2)”, specify it with “in Ref.\, `\citen{biblabel2}`” by using “`\citen`” instead of using `\cite`.

4.5. Nomenclature List

The notation environment is provided for the nomenclature list.

```
\begin{notation}
\item[SymbolA] Symbol A Symbol A Symbol A Symbol A Symbol A
\item[SymbolB] Symbol B
\item[SymbolC] Symbol C
\item[SymbolD] Symbol D
\item[SymbolE] Symbol E
\item[SymbolF] Symbol F
\end{notation}
```

When the codes shown above is entered, the output will be like the following:

```
SymbolA : Symbol A Symbol A Symbol A      SymbolD : Symbol D
          Symbol A Symbol A                  SymbolE : Symbol E
SymbolB : Symbol B                          SymbolF : Symbol F
SymbolC : Symbol C
```

4.6. Lists

Two list formats are available; one is the enumerate environment, which contains numbers, and the other is the itemize environment, which only contains heading symbols.

4.6.1. Itemize Environment The itemize environment is the same as that of the $\LaTeX 2_{\epsilon}$ standard itemize environment. By coding as following;

```
\begin{itemize}
\item First
\item Second
\end{itemize}
```

The following will be output:

- First
- Second

4.6.2. Enumerate Environment The enumerate environment is also almost same as that of the $\LaTeX 2_{\epsilon}$ standard itemize environment. By coding the following;

```
\begin{enumerate}
\item First
\item Second
\end{enumerate}
```

The following will be output:

- (1) First
- (2) Second

The jsme-tj.cls file has been extended to allow you to optionally change some of the number styles . For example, if you enter the following:

```
\begin{enumerate}[numtype=roman, type=.]
\item First
\item Second
\end{enumerate}
```

Then;

- i. First
- ii. Second

will be output. In other words, you can specify the style of the numbers using a $\langle \text{key} \rangle = \langle \text{value} \rangle$ format like the example shown above and graphicx package.

Available <key> are `numtype` and `type` only. Available <value> for `numtype` are: `roman` (lower case alphanumeric), `Roman` (upper case alphanumeric), `Alph` (upper case alphabet), `alph` (lower case alphabet), and `arabic` (Arabic numbers). Available <value> for `type` are: `.` (period), `()` (parentheses), `)` (right parenthesis). Set up the <key> = <value> by combining these options. The default value for `numtype` is `arabic`, for `type`, it's `()`.

4.7. Mathematical Expressions

Mathematical expressions are the same as the expressions in $\LaTeX 2_{\epsilon}$. Please type your codes using regular methods. It is not recommended to use the `ams` option (using the `amsmath` package). You can use most of the symbols provided in the `amsmath` package without `ams` options (Please refer to the `txfonts` package document for details).

4.8. Importing Graphics

The `\includegraphics` is available in `jsme-tj.cls` since the `graphicx` package is read in. It is **not** recommended to use other package for including eps file, for exaple, `epsf` package.

4.9. Table Creation

To create tables, use the same method as used in $\LaTeX 2_{\epsilon}$.

4.10. Float Environments

Regarding float environments, there are figure environments and table environments just like in $\LaTeX 2_{\epsilon}$. The `\caption` is valid only in figure environments and table environments. Enter it at the end of the environment if using the figure environment; enter it at the beginning of the environment if using the table environment. Regarding the figures and tables, specify a center environment and then place figures and tables in it. For example, enter the following:

```
\begin{figure}[tb]
\begin{center}
\includegraphics{f01.eps}
\end{center}
\caption{Figure!}
\end{figure}
```

4.11. Acknowledgement

For acknowledgements, enter `\setion*{Acknowledgements}` and write the heading (singular, plural, American English, or British English).

5. Limitations

The following are currently not supported :

- (1) Lists with nested structures
- (2) Font size change instructions such as `\small`
- (3) Headings for layers lower than `\subsubsection`
- (4) Unnecessary functions such as `contents` and `index`

References

- (1) Knuth, D.E., The \TeX Book, Addison-Wesley, 1986.
- (2) Hoenig, A., \TeX Unbound — \LaTeX and \TeX Strategies for Fonts, Graphics, and More, Oxford, 1989.
- (3) Goossens, M., Rahts, S. and Mittelbach, F., The \LaTeX Graphics Companion — Illustrating Documents with \TeX and PostScript, Addison-Wesley, 1997.
- (4) Eijkhout, V., \TeX by Topic — A \TeX nichian's Reference, Addison-Wesley, 1992.