Paper

Using the Document Class Miroc-99e.cls*

Keigo Watanabe[†], Kazuo Kiguchi[†], and Kiyotaka Izumi[‡]

Abstract: This article explains how to use a LaTeX style that produces a good approximation to the style used in the Machine Intelligence and Robotic Control, MIROC. The article is itself an example of the Miroc-99e.sty style in action.

Keywords: Style File, LaTeX, Machine Intelligence, Robotic Control

▪▪

1. Introduction

CYBER Scientific, Electronic Publication Division, Nishinihon Soft Service Co., Ltd. (NSS in short), publishes a new International Journal, Machine Intelligence and Robotic Control (MIROC), in both paper and electronic publications. This journal will provide a global forum for the publication of all forms of machine intelligence and robotic control systems with softcomputing techniques [1]–[3]. It has also the following properties:

- quarterly journal published in March, June, September, and December
- the related fields include:
  1. Intelligent Control and Systems [4], [5]
  2. Intelligent Mechatronics [6]

Authors who are about to prepare their articles using LaTeX can get a LaTeX style file from the homepage: http://www.nsskk.co.jp/cyber-s/. The aim of the style file `Miroc-99e.sty` is to allow authors of papers to estimate the page count and facilitate input-processing of the compuscript.

By using this style file you will find that the displayed equations, algorithms, nomenclature lists, etc. that you supply to us (on disk or via e-mail: ask the managing editor of this journal) will undergo minimal change.

2. How to Use the File Miroc-99e.sty

This style file has been written so as to allow, with very few changes, the formatting of input that is suitable for the LaTeX `article` style. First, the `Miroc-99e.sty` style file has to be selected with a command of the form

```
\documentclass[twocolumn,twoside]{Miroc-99e}
```

The default font size is 10 points. The default page style has been redefined and is now set by `Miroc-99e.sty` to "headings".

Table 1 The caption comes before the table that explains the each heading

	title page	odd page	even page
onesided	journal name	only page	only page
twosided	journal name	runtitle	runauthor

MIROC papers do not include author affiliations below or beside the name(s) of the author(s); instead, use the command `\address{...}{...}` to list addresses.

Footnotes produce a footnote mark as usual.[†]

The command "`\PARstart{X}{YYY} ZZZ`" produces a large letter `X` at the beginning of the paragraph, as used in IEEE Transaction papers. The string `YYY` will be automatically changed to capital letters.

All papers should include the biography of the author, without photograph. An example of a formatted biography is given at the end of this sample article. The environment is called `biograph` and requires the name of the person whose biography is presented.

In **Fig. 1** we can see an example for the definition of the title page and of the main commands needed to compile a LaTeX file with Miroc-99e.sty.

The commands `\runtitle{...}` and `\runauthor{...}` can be used for setting the running heads. If the option `twoside` is not selected, both even and odd headers will display nothing except for the page number. Note however that the header of the title page always displays `Type`, the journal name, `Vol`, `No`, the first and last pages, and `Year`; whereas the footer of the title page always displays the copyright mark with `Year` and `Paperno`.

2.1 Additional changes

Most changes resulting from the use of IEEEtran.sty should be transparent to the user.

2.1.1 Captions For instance, captions for figures and tables have been modified. Caption of tables, however, should be defined before the table item.

2.1.2 Environments The environments for theorem, proposition, lemma, assumption, definition, example, etc. can be defined with the usual LaTeX [7], [8] command `\newtheorem{..}{..}`. The proof environment is already defined.

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[†]The footnote is indicated by a footnote mark.

```
\documentclass[twocolumn,twoside]{Miroc-99e} % KW
%\documentstyle[twocolumn,twoside]{Miroc-99e}

\def\deq{\buildrel \triangle \over =}
\def\mbf#1{\mbox{\boldmath $#1$}}
\newtheorem{theorem}{Theorem}

\Type{Paper}
\Vol{1}
\No{1}
\Year{1999}
\Month{9}
\Paperno{0xxx--YYYY/99/010020-01}

\etitle{Using the Document Class Miroc-99e.cls}
\runtitle{Using the Document Class Miroc-99e.cls}
%\etitle{Using the \LaTeX Style File Miroc-99e.sty}
%\runtitle{Using the \LaTeX Style File Miroc-99e.sty}
\eauthor{Keigo Watanabe$^{\dag}$, Kazuo Kiguchi$^{\dag}$ and Kiy-
otaka Izumi$^{\ddag}$}
\runauthor{Keigo Watanabe, Kazuo Kiguchi and Kiyotaka Izumi}

\setcounter{toppage}{3}
\setcounter{page}{3} % KW
\firstpage{3}

\begin{document}

\begin{abstract}
 This article ...
\end{abstract}

\begin{keywords}
 Style File...
\end{keywords}

\maketitle
\address{*}{Received...}
\address{\dag}{Department ...}
...
\address{...}{...}

\section{Introduction}
\PARstart{C}{yber} Scientific ...

\section{Conclusions}

\section{Appendix}
\subsection{Proof of ...}

\section*{Acknowledgment}

\begin{thebibliography}{99}
\bibitem{...}
...
\end{thebibliography}

\section*{Biographies}
\biograph{Keigo Watanabe}{...}
 ...
\biograph{...}{...}

\end{document}
```

Fig. 1   Input used to produce this paper Input used to produce this paper

Theorem 1 (Theorem name) Consider the system

$$\dot{\boldsymbol{x}}(t) = A\boldsymbol{x}(t) + B\boldsymbol{u}(t) \qquad (1)$$

$$\boldsymbol{y}(t) = C\boldsymbol{x}(t) + D\boldsymbol{u}(t) \qquad (2)$$

If A is stable, then the pair $\{A, B\}$ is stabilizable. Moreover, this holds for any B.

　　Proof: From the property of Eq. (1), the proof is trivial.   ■

2. 2 Checking the paper by yourself

　　The paper can be prepared for checking the manuscript by you or any colleague, by omitting the option `twocol-umn` and choosing the option `draft` (this will modify the baselinestretch variable). Thus, the format for checking the manuscript contains a definition of the form
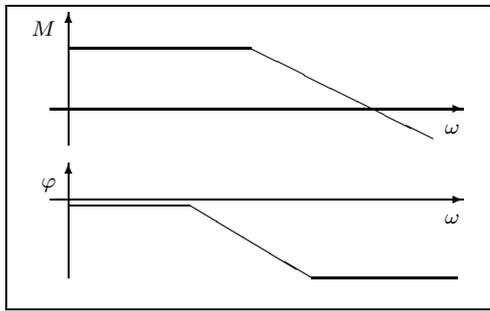
`\documentclass[...side,12pt,draft]{Miroc-`

Fig. 2 This is a sample figure; which is directly drawn by LaTeX commands

```
99e}
```


Fig. 3 Behavior model for an omnidirectional mobile robot

2. 3 Submitting a paper for review

Authors are encouraged to submit the paper for review in electronic form. That is, the paper can be prepared for reviewing the manuscript by including the option `twocolumn` and `twoside`, as mentioned before. After generating `*.dvi` file, you can produce the corresponding `*.eps` file and furthermore make a `*.pdf` file. The eps file is sufficient supposing it cannot make a pfd file, though the pdf file is better in general. The pdf (or eps) file should be submitted to `miroc@eric.me.saga-u.ac.jp`, together with your submission comments. If electronic dispatch of files is not possible, 3 copies of the manuscript and a 3.5 inch diskette with all the files should be submitted to the Editorial Manager, Dr. Kazuo Kiguchi.

2. 4 Final camera-ready manuscript

Once a paper has been accepted for publication in this journal, the authors should submit the final camera-ready manuscript in pdf (or eps) file. Since the editorial office will reconstruct the same manuscript in pdf file with several information such as page number, volume number, etc., referring your submitted pdf (or eps) file, the corresponding Latex manuscript file should also be submitted by e-mail, or on a 3.5 inch diskette for PC (MS-DOS or Windows), together with all other eps files that may be related to figures (or tables). If all files are not included in one diskette, the please make a compressed `*.zip` file.

Submission of final camera-ready manuscripts implies that the manuscripts are in their final form and will not be edited by the publisher (except for those mentioned above) or returned to the author for proofreading before publication. Deviations from this `Miroc-99e.cls` instruction may cause a delay in publication of the paper concerned.

3. Optional Formatting

3. 1 Including a figure in `*.eps` file

It is rare to draw a figure using the direct LaTeX command which was demonstrated in the above. Generally, it recommends rather taking in directly the file `*.eps`, the figure of a Post-Script format, by using your own figure taking-in style, e.g., `epsfig.sty`. **Figure 3** is a sample one.
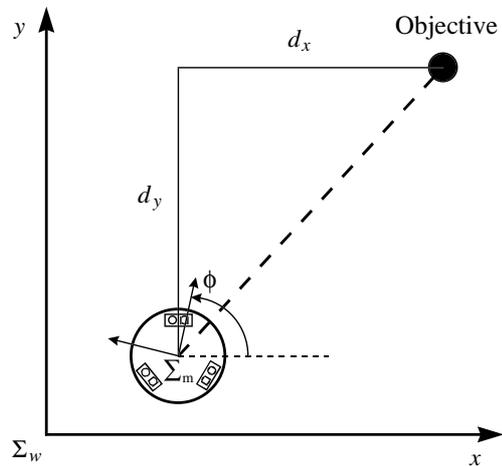
3. 2 Including the bibliography into the LaTeX source file

The customized `citesort.sty` is used for the reference literature. For example, if we describe as `\cite{LaTeX,LaTeXD}`, it is automatically obtained that a comma is inserted between parentheses such as [.], [.]. Moreover, if we describe as `\cite{LaTeXD,METAFONT,TeX,LaTeX}`, then it will be rearranged into a numerical order, and the beginning and the last in a group of the successive numbers are collected by using "–".

For those who use the BIBTeX to make the reference, you should reduce the number of files you have to send to the publishers in the following way. Run BIBTeX on the `*.aux` file. This creates a `*.bbl` file: include this into your LaTeX source file at the place where you defined the `\bibliography{..}` command and comment this command out. Remove the `*.bbl` file. Then, your LaTeX file will include all the necessary information about your bibliography and no `*.bbl` or `*.bib` file will be needed.

Sample references for a book, a chapter in a book, a journal, a report, and a conference paper follow. Therefore, for those who do not use the above method, please follow such samples: these are approximately the same as used in IEEE Transactions papers.

4. Conclusions

This sample article has presented the style file Miroc-99e.sty based on the use of IEEEtran.sty. This file can be especially useful in preparing articles for submission and for preparing the final version to be sent to the publisher.

5. Appendix

5. 1 Proof of any theorems

If the proof of any theorems or algorithms stated in main sections is too long or tedious, then the relevant proof should be put here. The equation number will have a successive one from the main sections.

Further explanation is omitted here, due to the space limitation.

Acknowledgments

References

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Biographies

Keigo Watanabe received B.E. and M.E. degrees in Mechanical Engineering from the University of Tokushima in 1976 and 1978, respectively, and a D.E. degree in Aeronautical Engineering from Kyushu University in 1984. From 1980 to March in 1985, he was a research associate in Kyushu University.

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His research interests are in stochastic adaptive estimation and control, robust control, neural network control, fuzzy control, genetic algorithms and their applications to the robotic control. He has published more than 200 technical papers and is author or editor of 14 books, including Adaptive Estimation and Control (Prentice-Hall), Stochastic Large-Scale Engineering Systems (Marcel Dekker, Inc.) and Intelligent Control Based on Flexible Neural Networks (Kluwer). He is an active reviewer of many journals or transactions more than 15 and editorial boards of J. of Intelligent and Robotic Systems and J. of Knowledge-Based Intelligent Engineering Systems.

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Kazuo Kiguchi received the B.Eng. degree in Mechanical Engineering from Niigata University, Japan in 1986, the M.A.Sc. degree in Mechanical Engineering from University of Ottawa, Canada in 1993, and the Dr.Eng. degree in Mechano-Informatics and Systems from Nagoya University, Japan in 1997.

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