LaTeX Document Style For Thesis Formatting

USER'S MANUAL

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CHAPTER I

INTRODUCTION

A. Background

The Department of Electrical Engineering at Texas A&M University previously used both TEX and LATEX to generate theses. TEX can create documents of typeset quality, but it is difficult to learn, requiring a great deal of time and effort on the part of the user.

Donna Knight and Suzanne Lednicky were members of an EE 403/404 team that designed a set of macros called "TEX Macros for Thesis Formatting" that generated all of the special pages and created simplified sectioning commands, making TEX much easier to use. However, their package did not allow virtual labeling of equation and reference numbers [1].

Two years later, another EE 403/404 team, Mike Payne and Vijay Kodali, incorporated the TEX macros into LATEX document style `thesis`, which made the formatting of theses even easier. However, this document style did not allow students to use some of the really nice features of LATEX, such as the automatic table of contents, list of tables, and list of figures [2].

This package incorporates the original TEX Thesis Macros into a new `eethesis` document style so as to utilize the many useful built-in functions available with the LATEX system. The improvements over the old `thesis` document style are listed below:

- Sectioning is now done by the standard LATEX commands `\chapter, \section`, and `\subsection`.
- The Table of Contents, List of Tables, and List of Figures are now automatically

generated.

- By using the `\include` and `\includeonly` commands, you can now split your input into sections without having to re-initialize page numbers or equation numbers in each file.

- It is now possible to use BIBTEX to produce your reference pages. This will free you from worrying about how to format your bibliography as well as saving you time if you write several papers using many of the same sources.

- If the caption of a figure or a table is longer than one line, the new macro can line them up right after the table or figure number.

- There are some new options. For example the `\blueline` command can be included to emulate blueline paper, and `\verbatimfile{file}` and `\verbatimlisting[n]{file}` can be used to include code or a program into the thesis.

- Finally, all known errors in the old `thesis` document style have been corrected in this new `eethesis` document style.

The journal model for the `eethesis` document style is *IEEE Transactions on Automatic Control*. It does not matter if your major area is communications, computers, power, etc., as this journal model is accepted by the entire department. There are many differences in format among the IEEE journals; you cannot simply change the footnote at the bottom of the first page to say that the journal model is some other IEEE journal. The footnote will not be true and your thesis may be rejected.

If you are in a department other than Electrical Engineering, you may still be able to use this document style; check with your department. If the journal model proves to be unsatisfactory to your department, you should probably consider using another means to type your thesis. Changing a document style is not a trivial matter; only experienced users should attempt it.

B. Getting Started

Before you embark upon your thesis production, we suggest that you obtain a copy of the "Thesis Manual" and a copy of Leslie Lamport's LaTeX *User's Guide and Reference Manual* [3] which are available in the MSC Bookstore. If you intend to write equations in TeX you may wish to purchase a copy of Donald Knuth's *The TeXbook* [4], which is also available in the MSC Bookstore. Another introductory LaTeX book is David J. Buerger's LaTeX *for Engineers and Scientists* [6], also available in the MSC Bookstore. You might also find it useful to have a copy of the Electrical Engineering LaTeX Examples book, which is available in the WERC Copy Center. We are assuming that you have at least a basic understanding of LaTeX and an editor. You will need to consult the LaTeX Users Guide and possibly *The TeXbook*, the latter when producing complex mathematical equations.

C. Where to Find the Files

There are two types of files associated with the LaTeX thesis document style:

- `.tex` files: There are "boiler-plate" files for each of the preliminary and supplementary pages. You will need to copy all of these files into your own directory and customize them for your thesis. On ee or eemips you can do this by issuing the command

  ```
  cp /usr/local/lib/tex/eethesis_template/* .
  ```

Table I. Location of `eethesis` Files

Node	.sty files	.tex files
ee	/usr/local/lib/tex/inputs	/usr/local/lib/tex/eethesis_template
eemips	/usr/local/lib/tex/inputs	/usr/local/lib/tex/eethesis_template
sigma	tex_root:[latex.styles]	
venus	tex_root:[latex.styles]	

You will need to copy the boiler-plate files from ee or eemips if you are running on SIGMA or VENUS using ftp.

- `.sty` files: These are the files that LaTeX reads in to control formatting. You will not normally need to access these files directly unless you want to modify the style or copy the files to your PC or Macintosh (see Chapter III, Section H–4). There are three files associated with the LaTeX thesis document style: `eethesis.sty, eethe12.sty, and eethetitle.sty`.

Appendix A contains a sample thesis that illustrates the output from this document style. Table I shows the location of the files on various computers on campus.

D. Running Your Thesis

A thesis tends to be so long that you will often run out of disk space if you try to run it all at once. Also, it is inefficient to re-run your entire thesis when all you have done is to have made a small change in a portion of it. Therefore, it is recommended that you use separate files for each chapter and each preliminary and supplementary page. The best way to do this is to use the `\include` and `\includeonly` commands, which are explained in Section 4.4 of the LaTeX manual. Basically, what you should do is to work from one main file, which will then call the file(s) you wish to work on.

You need not enter the extension `.tex` in the `\include` statements. A sample main file is available for you to edit as you wish; it is called `thesis.tex` and contains the following commands:

```
\documentstyle{eethesis}
\includeonly{title,approval,...}
%\def\type{Dissertation} % Uncomment this line for dissertation
%\def\degree{DOCTOR OF PHILOSOPHY} % Uncomment this line for Ph.D.
%\def\major{Dept. Name} % Uncomment this line if not ELEN
\begin{document}
\pagenumbering{roman}
\include{title}
\include{approval}
\include{abstract}
\include{ded}
\include{ack}
\include{lists}
\pagenumbering{arabic}
\setlength{\headheight}{12pt}
\pagestyle{myheadings}
\include{ch1}
\include{ch2}
\include{bib}          % Include only one of these two lines.
% \include{biblio}      % "biblio" if you use BibTeX, "bib" if not.
% \include{supp}
\include{append}
\include{vita}
\end{document}
```

The `\include` commands tell LaTeX which files comprise the entire document while the `\includeonly` command tells LaTeX which files you want to run at that time. When you `latex` the main file (i.e., `latex thesis`), LaTeX will ignore all `\include'd` files that are not mentioned in the `\includeonly` command, but it will keep track of page numbers, equation numbers, etc. as if the ignored files had been included. We recommend that you perfect each portion of your thesis by using the `\includeonly` command to work on each file individually. You can delete the `.dvi` files from your directory if you wish, but you should keep the latest version of the `.aux` files around. The `.aux` file is what LaTeX uses to keep track of things relative to the other `\include'd` files (e.g., page numbers, equation numbers, reference numbers, figure numbers, and table numbers).

Note: When using the `\include` command, it is very important to be sure that any new counters, environments, etc. that you define are defined in the preamble of your main file (i.e., before `\begin{document}` in `thesis.tex`). Do *not* define any of these things in the middle of your document or an error will occur.

After you have perfected each section individually by using `\includeonly`, you need to put the entire thesis together. The best way to do this is to start at the beginning of your document (the titlepage) and work to the end (the vita), LaTeX'ing one or more files at a time using `\includeonly`. The only file that should not be LaTeX'd in sequential order is the file that contains your Table of Contents, List of Tables, and List of Figures (i.e., `lists.tex`). This file should be LaTeX'd last so that it can gather the most up-to-date information from the various `.aux` files. If you run your files sequentially, they will have all of the information they need from the previous files (page numbers, equation numbers, etc.) to format text correctly. However, if you have made major changes in the file since the last time you LaTeX'd it (i.e., changes which affect the `.aux` file), LaTeX will output a warning message to your screen telling you that you must re-run your document to "get cross-references right." It is important that you do LaTeX your thesis again; otherwise page numbers, equation numbers, or the table of contents may not be correct. It is important to remember that when you print a portion of your thesis it may not be totally correct if *any* of the other `\incude'd .aux` files is not up-to-date. Do not be alarmed if page numbers or equation numbers are wrong; if you LaTeX your thesis sequentially and re-run individual files when told to do so by the computer, your final output should be correct.

E. Printing Your Thesis

Different computers at Texas A&M University have different commands for printing a LaTeX document. You will always begin the process with the command `latex filename`. This produces a `.dvi` file which can be transferred to any other computer for further processing. After this, you must run some sort of `dvi` program on your document and then use another command to print it. Some computer systems combine all of these steps into one command.

The commands for `ee` or `eemips` to `dvi` and `print` the LaTeX output are:

```
dvihp file
lpr -Phpzac -l file.hp
```

`dvihp` is a program that converts `.dvi` files to `.hp` files for our `HP Laserjet 2000` laser printer. There are many options available for `dvihp`, for details the manual page is included in Appendix F. The `-Phpzac` option selects the `HP Laserjet 2000` printer in Zachry 214. The `-l` option is required for printing `.hp` files. If you forget to put `-l` after `lpr`, you will not get any binary file printout.

The EE department also has a DEC LPS20 PostScript printer. For straight LaTeX, this printer is slower than the `Laserjet 2000`, and the cost per page for supplies is higher. For these reasons, we ask that you use the LPS20 only if you have PostScript graphics to include or if the `Laserjet 2000` is down. The command to `dvi` and `print` the output on ee or eemips are as follows:

```
dvips file
lpr -Plpszac -l file.ps
```

`dvips` converts `.dvi` files to `.ps` files for a PostScript printer. There are many options for `dvips`; the manual page is included in Appendix G. The `-Plpszac` option selects the LPS20 printer in Zachry 214. Including PostScript graphics is discussed in Section III.D.3.

Users of SIGMA and VENUS can use the Xerox 4050 printer available in ZCC. After you finish running LaTeX, you just type

```
texrox/que=xrxzcc file
```

and then you can go to the ZCC help desk to get your printout. Check at a help desk if you don't know the commands to use from your computer.

There are two recommended ways for printing your thesis on blueline. The first is to send your `.dvi` files to your SIGMA or VENUS account (available to every student — see Appendix I for instructions on getting an account) and then send your thesis to the Xerox 4050 laser printer in the RCC (The Remote Computing Center behind the library) or to one of the two Xerox 9700 laser printers in the TCC (The Teague Computing Center in the Teague Building). The commands for doing this are

```
$ texrox/box=nnnn/queue=RCC/form=11A1 filename       (for the 4050)
$ texrox/box=mmmm/queue=XEROX/form=11A1 filename     (for the 9700s)
```

Do not type in the extension on your filename. Your thesis will be printed on blueline paper and you may pick it up from the box that you specified (The RCC boxes are numbered from 100A through 117E and the TCC boxes are numbered 001A through 017D; you may choose any one). The TeXrox reference card is included in Appendix J of this manual.

A second way is to print your thesis on a laser printer attached to the computer system you usually work on, and then have one of the copy centers copy your thesis on blueline. To avoid paper jams, blueline paper is **not** allowed in EE Department printers.

Paper is expensive. Do not run more than one final copy of your thesis or dissertation on EE Department printers. Take your final version to a copy center to obtain additional copies.

Sometimes a laser printer may be out of adjustment and your output may not be within the blue line (try to find a sheet of blueline paper to check your output). To alter the left/right orientation on the page, change the parameter `\oddsidemargin` (see p.163 of the LaTeX book), and to alter the top/bottom orientation change the parameter `\topmargin`, which is initially set at −.15 inches. For example, if the laser printer is printing your thesis .25 inches too far to the left, you will want to increase the `\oddsidemargin`. Since the `\oddsidemargin` is initially set at .25 inches, you will want to change it to 0.5 inches by placing the command `\setlength{\oddsidemargin}{0.5in}` into your main file (`thesis.tex`) right before the `\begin{document}` statement. If your thesis is being printed .25 inches too far to the right, you can set the `\oddsidemargin` to `0in` in the same manner.

F. Using a Spelling Checker

After you have typed in your thesis, it is a good idea to run your document through a spelling check program. There are a number of different spelling programs installed on the campus computers. If possible, you probably want to use one that understands that TeX and LaTeX commands should not be flagged as spelling errors.

On VENUS the public domain spelling program installed automatically selects TeX/LaTeX mode. To check the spelling of a file `junk.tex` issue the command

```
spell junk.tex
```

On ee and eemips there are two spelling programs that can be used with TeX/LaTeX. There is an interactive program `ispell`. See the manual page for information on `ispell`. You can also use the following method to obtain a list of the misspelled words and then correct them using an editor:

```
detex < file.tex > junk
spell junk > misspell
```

The file `misspell` will contain a list of the misspelled words. If you misspell the same word several times, it will only be listed once. Therefore, be sure to search for all occurrences.

CHAPTER II

USING THE THESIS MACROS

A. The Title Page

The file which you will be using is called `title.tex`. After copying this file to your directory, edit it and replace the data enclosed within the braces with the appropriate information for your particular thesis. Remember to enclose all of the parameters within braces. As required by the Thesis Manual, the month must be either May, August, or December. The following is the file `title.tex` that you have copied into your account:

```
\maketitlepage
{First Line of Title\\ Second Line of Title}  % For one-line title,
                                              % delete the "\\"
{Your Full Name}
{Degree}         % For example, 'Master of Science'
                 % or 'Doctor of Philosophy'
{Month Year}
{Major Subject}  % For example, 'Electrical Engineering'
```

Now run LaTeX on the modified file `titlepage.tex` as usual.

B. The Approval Page

We have created four forms of the Approval Page to accommodate the most common organizations of the Advisory Committee. Use only *one* of the following *Approval Page* macros:

1. For One chairman and 3 members use `\approvalone`
2. For One chairman and 4 members use `\approvaltwo`

3. For Two Co–Chairmen and 2 members use `\approvalthree`

4. For Two Co–Chairmen and 3 members use `\approvalfour`

If you're not in one of these categories, either change your Advisory Committee or copy `eethetitle.sty` into your directory and edit the approval page macro at your own risk!

You will edit one of the approval page files in the same manner that you did when creating the titlepage. Remember to enclose all of the parameters within braces.

Examples of each of the approval files are shown below; they can be found in `approval.tex`. Study the Thesis Manual for additional detailed information. Use one of the following and delete the others. For a single line title delete the '`\\`'.

```
\approvalone
{First Line of Title\\ Second Line of Title}
{Your Full Name}
{Chairman's name}
{Member's Name}
{Member's Name}
{Member's Name}
{Head of Department's Name}
{Month Year}

\approvaltwo
{First Line of Title\\ Second Line of Title}
{Your Full Name}
{Chairman's name}
{Member's Name}
{Member's Name}
{Member's Name}
{Member's Name}
{Head of Department's Name}
{Month Year}

\approvalthree
```

```
{First Line of Title\\ Second Line of Title}
{Your Full Name}
{Co-Chairman's name}
{Co-Chairman's name}
{Member's Name}
{Member's Name}
{Head of Department's Name}
{Month Year}

\approvalfour
{First Line of Title\\ Second Line of Title}
{Your Full Name}
{Co-Chairman's name}
{Co-Chairman's name}
{Member's Name}
{Member's Name}
{Member's Name}
{Head of Department's Name}
{Month Year}
```

Note: When you run the approval page, you may get some "overfill hbox" warnings with "badness 10000." Neglect these warnings—hboxes are too picky! These warnings are due to the layout of the approval page which is formatted correctly.

C. The Abstract Page

You have two alternatives from which to choose in creating your abstract page. Use `\absone` if you have one chairman on your Advisory Committee; use `\abstwo` if you have two co–chairmen. Begin by editing the file `abstract.tex` and replace the data enclosed within the braces with the appropriate information for your thesis. Include the entire text of the abstract within one set of braces. As stated in the Thesis Manual, the text of your abstract must not exceed 350 words in length. The following is the file `abstract.tex`:

```
\absone
{First Line of Title\\Second Line of Title}
{Month Year}
{Your Full Name}
{Degree, University;\\Degree, University} % Degrees ALREADY RECEIVED,
                                   % e.g. {B.S., Rice University;\\
                                   % M.S., Texas A\&M University}
                                   % If only one degree, delete ';\\'
{Chairman's name}
{Place your abstract between these braces. The text of your abstract
must not exceed 350 words. Place your abstract between these braces.
The text of your abstract must not exceed 350 words.}

\abstwo
{First Line of Title\\Second Line of Title}
{Month Year}
{Your Full Name}
{Degree, University;\\Degree, University}
{Co-Chairman's name}
{Co-Chairman's name}
{Place your abstract between these braces. The text of your abstract
must not exceed 350 words. Place your abstract between these braces.
The text of your abstract must not exceed 350 words.}
```

D. The Dedication Page (optional)

You may include a dedication in your thesis if you like. Using the `\dedicate` command, you can enter in as many names as will fit on one line. We recommend one or two names only. If you do not wish to have this page, do not include it when you run your final thesis copy. The file that you will be editing (`ded.tex`) looks like this:

```
\dedicate{Name}
```

For example, if you replaced the word "Name" in the above file with "Suzanne and Donna," then you would get the following line appropriately spaced on its own page:

To Suzanne and Donna

E. The Acknowledgment Page (optional)

The file which you will be using is called `ack.tex`. Begin by editing this file inserting the data appropriate for your thesis. Place the entire text of your acknowledgment within one set of braces. If you do not wish to have this page, do not include it when you run your final thesis copy. The following is the file `ack.tex`:

```
\acknow{Place your acknowledgment within these braces.}
```

F. Table of Contents, List of Tables, and List of Figures

Latex will automatically generate these for you if you `\include` a file such as `lists.tex` shown here:

```
\pagestyle{headings}
\setlength{\headheight}{36pt}
\tableofcontents
\listoftables
\listoffigures
```

If you have only one table or figure (or no tables or figures), you do not need to include a listing, and you can therefore delete the appropriate command from `lists.tex`. Every time you use a `\chapter`, `\section`, `\subsection`, or `\appendix` command, an entry will be created in the Table of Contents. An entry will also be automatically generated for the References and Vita pages. Table and figure entries are generated by the `\caption` command. Remember that if you make any changes that affect these lists, you must LaTeX your entire document to update the `.aux` files before you try to `\include{lists}` to generate your updated lists.

If your Table of Contents is produced in such a way that there are no chapter entries on a particular page (see the second page of the Table of Contents of this manual for an example), the Thesis Clerk will not approve your thesis. You have two options: either white-out the word "CHAPTER" and have that page photocopied onto blueline paper, or force a pagebreak by putting the following command at the beginning of one of your chapter files:

```
\addtocontents{toc}{\protect\newpage}
```

Note: You may see some "underfull vbox" warnings when running `lists.tex`. Ignore these warnings; they are due to the format of these pages.

G. The Reference Page

1. The LaTeX Bibliography Environment

You have two choices of how to do your references. The first is to use the bibliography environment described in the LaTeX manual. This will produce the appropriate page headings for your bibliography and will also create the appropriate Table of Contents entry. The LaTeX manual can show you how to do this. Be sure to take advantage of the automatic referencing facility offered by LaTeX. The `\cite{}` command and the other facets of automatic referencing are explained in Section C.10.3 of the LaTeX Users Guide. It can be very beneficial to use `\cite{}` to note your citations rather than numbering them yourself, especially if you decide to delete or add an entry to your bibliography. LaTeX will renumber all of your citations automatically. If you wish to produce your bibliography this way, you can edit the file `bib.tex` and use a '%' to comment out the `\include{biblio}` command in your main file. Examples of references formatted according to the journal model *IEEE Transactions on Automatic Control* are given below.

```
\begin{thebibliography}{10}

\bibitem{JA:1}
Joe Author, ``Title of report,'' Research Report~23, Department of
  Publication, Name of University, City, State, October 1999.

\bibitem{AAJA:1}
Arthur Author and Joe Author, ``Title of journal article,'' {\sl
  Title of Journal}, vol.~76, pp.~27--45, July 1776.

\bibitem{AB:1}
Author Book, {\sl Title of Book}, vol.~1. City, State of Publication:
  Name of Publishing Company, 16th edition, 1988.

\bibitem{MWJCDL:1}
Matthew Wright, James Chodzko, and Danny Luk, {\sl Title of Book}.
  College Station, Texas: Name of Publisher, 1988, chap.~4--5,
  pp.~56--99.

\bibitem{HC:1}
Han Chen, ``Title of Booklet,'' College Station, Texas, Texas A\&M
  University, July 1989.

\bibitem{ROPC:1}
Russell~L. Oertel and Pierce Cantrell, {\sl \LaTeX\ Example Manual}.
  Department of Electrical Engineering, Texas A\&M University,
  College Station, Texas, September 1988.

\bibitem{JS:1}
Joseph~W. Simpson, ``Title of article,'' in {\sl Title of Book}.
  Editor of~Book, Ed., City, State of Publication: Name of
  Publishing Company, 1983, chap.~3, pp.~400--402.

\bibitem{PR:1}
Peter~J. Rizzo, Ed., {\sl Title of Conference Proceedings},
  Sponsoring Organization, Location of Symposium, Name of
  publisher, June 1987.

\bibitem{AA:1}
Arthur Article, ``Title of conference article,'' in {\sl Title of
  Conference Proceedings Record}, Sponsoring Organization,
```

```
  Location of Symposium, Name of Publisher, January 1989.

\bibitem{PKGT:1}
P. Kenneth and G.~E. Taylor, ``Solution of variational problems
  with bounded control variables by means of the generalized
  {N}ewton-{Raphson} method,'' presented at the Symp.\ on Recent
  Advances in Optimization Techniques, Carnegie Inst.\ of Tech.,
  Pittsburgh, Pa., April 1965.

\bibitem{RL:1}
R.~E. Larson, ``Title of dissertation,'' Ph.D. dissertation,
  Stanford University, Stanford, California, 1964.

\bibitem{EG:1}
Elaine~G. Haschke, ``Title of thesis,'' Master's thesis, Drofnats
  University, West Yellowstone, Montana, May 1993.

\bibitem{JS:2}
J.~D. Simon, private communications, November 1963.

\end{thebibliography}
```

2. BibTeX

The second way to handle references is to use BibTeX. BibTeX will be useful if you are writing other papers (possibly for publication) similar to your thesis. BibTeX allows you to build one bibliographic database for use with all of your papers. It is explained in Appendix B of the LaTeX manual. The LaTeX manual recommends that you not use BibTeX for just one paper, but we think it should be used, even for just your thesis, especially if you hate worrying about formatting each entry of your bibliography. Another good reason to use BibTeX is that it automatically puts your bibliography in the order that sources were cited, freeing you from worrying about that problem as well.

Your bibliographic database will look something like the file `bibdata.bib`, which is shown on the following pages (the output generated from this file was shown in the previous section). You may notice that there are braces around a few of the words and letters in the database. This is because BibTeX will de-capitalize all of the letters in titles, except for the first letter of the first word. In order to preserve the capitalization of proper names in an article title, you must enclose the word or letter in braces so that BibTeX knows to leave it alone. Pages 144–146 of the LaTeX User's Guide will help you decide how to classify each of your references. Also, there have been some minor changes made in BibTeX since the LaTeX User's Guide was written. These changes are explained in a document called *BibTeXing* [5] that is included in Appendix B.

- @inbook and @inproceedings are for *portions* of a book or proceedings record, while @book and @proceedings are for the entire source.
- @booklet and @manual are formatted much like a book.
- You may use the `note` field to indicate when an @unpublished article will be published and use @misc when nothing else fits.
- There is now an optional `type` argument in @mastersthesis and @phdthesis which you can use to cause BibTeX to call your reference an "M.S. Thesis" (or whatever) instead of the default "Master's Thesis."

```
@techreport{JA:1,
author="Joe Author",
title="Title of Report",
type="Research Report",
institution="Department of Publication, Name of University",
year=1999,
number=23,
address="City, State",
month="October"}
```

```
@article{AAJA:1,
author="Arthur Author and Joe Author",
title="Title of Journal Article",
journal="Title of Journal",
volume=76,
pages="27--45",
month="July",
year=1776}

@book{AB:1,
author="Author Book",
title="Title of Book",
address="City, State of Publication",
publisher="Name of Publishing Company",
volume=1,
edition="16th",
year=1988}

@inbook{MWJCDL:1,
author="Matthew Wright and James Chodzko and Danny Luk",
title="Title of Book",
chapter="4--5",
pages="56--99",
address="College Station, Texas",
publisher="Name of Publisher",
year=1988}

@booklet{HC:1,
author="Han Chen",
title="Title of Booklet",
howpublished="Texas A\&M University",
address="College Station, Texas",
month="July",
year=1989}

@manual{ROPC:1,
author="Russell L. Oertel and Pierce Cantrell",
title="\LaTeX\ Example Manual",
organization="Department of Electrical Engineering, Texas A\&M
University",
```

```
address="College Station, Texas",
month="September",
year=1988}

@incollection{JS:1,
author="Joseph W. Simpson",
title="Title of Article",
booktitle="Title of Book",
editor="of Book, Editor",
address="City, State of Publication",
publisher="Name of Publishing Company",
year=1983,
chapter="3",
pages="400--402"}

@proceedings{PR:1,
title="Title of Conference Proceedings",
editor="Peter J. Rizzo",
organization="Sponsoring Organization",
address="Location of Symposium",
publisher="Name of publisher",
month="June",
year=1987}

@inproceedings{AA:1,
author=" Arthur Article",
title="Title of Conference Article",
booktitle="Title of Conference Proceedings Record",
organization="Sponsoring Organization",
address="Location of Symposium",
publisher="Name of Publisher",
month="January",
year=1989}

@unpublished{PKGT:1,
author="P. Kenneth and G. E. Taylor",
title="Solution of variational problems with bounded control
  variables by means of the generalized {N}ewton-{Raphson} method",
note="presented at the Symp.\ on Recent Advances in Optimization
  Techniques, Carnegie Inst.\ of Tech., Pittsburgh, Pa.",
month="April",
```

```
year=1965}

@phdthesis{RL:1,
author="R. E. Larson",
title="Title of Dissertation",
school="Stanford University",
address="Stanford, California",
year=1964}

@mastersthesis{EG:1,
author="Elaine G. Haschke",
title="Title of Thesis",
school="Drofnats University",
address="West Yellowstone, Montana",
month="May",
year="1993"}

@misc{JS:2,
author="J. D. Simon",
month="November",
year=1963,
howpublished="private communications"}
```

Once you have created your bibliographic database, you are ready to use it to automatically create the bibliography of your thesis. To use BibTEX, you should `\include` the file `biblio.tex` (shown below). Also use the '%' to comment out the `\include{bib}` command in your main file.

```
\bibliographystyle{theunsrt}
\bibliography{bibdata}
```

These commands specify that your bibliography should be created from entries in the file `bibdata.bib`. There are several bibliography styles that can be used with the eethesis document style; the style `theunsrt.bst` is the style used in the examples in this manual. The entries in this style are patterned after those in *IEEE Transactions on Automatic Control*. It lists the sources in the order they were cited. There is also a generic `ieeetr.bst`, which formats sources similar to many IEEE publications. If neither of these styles is suitable for your department, you might consider `acm.bst` or `siam.bst` which format your bibliography in the style of ACM and SIAM publications. Check the `tex.bibtex` directory on the machine that you use to see if there are any other `.bst` files you can use.

If none of these styles or the standard styles are suitable for use in your department, you can type your bibliography by hand as explained in the previous section of this manual or you try to adapt one of the bibliography styles (a word of warning — adapting an existing bibliography style is not a trivial matter). Alternatively, you can check the LaTeX file server at Clarkson.

To create the bibliography, you must first LaTeX each section of your paper so that `.aux` files are created. After this, you type:

```
$ bibtex thesis
```

BibTeX will then create a `thesis.bbl` file by scanning the `.aux` files for `\cite{ }` commands. Because BibTeX reads only the `.aux` files, it doesn't matter which files you have mentioned in an `\includeonly` command. It will create an entry in the bibliography for every different source that you cite in your paper. This `.bbl` file will look very much like a bibliography that you might type into a LaTeX file yourself. In fact, you may edit the `.bbl` file should you find that you would like to make some minor changes to the bibliography. (BibTeX isn't perfect, and may not handle unusual things quite right.) However, the `.bbl` file you have edited will be destroyed, and a new one created if you run BibTeX again. The next time you LaTeX your paper with `\includeonly{biblio}`, the bibliography will be printed as if you had put it into the thesis yourself.

3. Supplemental Sources Consulted

Following your list of references, you may include a list of Supplemental Sources Consulted for general references as outlined in the Thesis Manual. Examples of this are shown below.

```
\begin{supplements}
\item Author(s) of Paper, ``Title of Paper,'' presented at
the Name of Conference, City, State of Conference,
Date of Conference.

\item Name of Person, private communications, Date.

\item I can put anything here.
\end{supplements}
\end{document}
```

There is a trick you can use to have BibTeX make your supplemental sources section for you. Create a dummy file which contains only the `\bibliographystyle` command, the `\bibliography` command, and `\nocite` commands. You can `\nocite` all of your supplemental sources and run BibTeX to create a `.bbl` file. You can then edit the `.bbl` file, changing the commands `\begin{thebibliography}` and `\end{thebibliography}` to `\begin{supplements}` and `\end{supplements}`. Finally, rename the file to `supp.tex` and `\include` it in your thesis. The dummy file should look something like this:

```
\documentstyle{eethesis}
\begin{document}
\nocite{src1}
\nocite{src2}
\nocite{src3}
\bibliographystyle{thesis}
\bibliography{bibdata}
\end{document}
```

H. Appendices

Appendices may be added to the end of your paper. If you choose to have appendices, they should be created the same way you would start a chapter except that you use `\appendix{Title}` instead of `\chapter{Title}`. LaTeX will automatically label the appendix with a letter (i.e., `Appendix A, Appendix B, etc.`) and capitalize the appendix title. This is the file `append.tex`.

```
\appendix{Title of Appendix}
This is the text of the Appendix. If this is the first appendix, it
will be labeled Appendix A.
```

I. The Vita Page

The file which you will be using is called `vita.tex`. Begin by inserting your brief biographical sketch as the parameter for `\vita` and your typist's name (which is probably *your* name) as the parameter for `\typist`. Your *Vita* must not exceed one page in length. You should consult the Thesis Manual for other requirements of the *Vita* paragraph. Remember, since the whole paragraph is just one parameter, you must use only one set of braces. Do not enclose every line you enter with braces! This is what you will see in `vita.tex`:

```
\vita{Place the text of your Vita between these braces.}
\typist{Typist's Name}
```

If you decide that you do not want to acknowledge your typist in your document, then do not use the `\typist` command after `\vita`.

CHAPTER III

FORMATTING THE BODY

The body of a thesis produced by this document style is formatted using the journal *IEEE Transactions on Automatic Control* as a model. There is no *simple* way to adapt this document style so that it follows a different model. We suggest that you either use this system as it is (assuming your department will approve of the format), or use another method for writing your thesis.

A. The First Page of the Body

The first page of the body of your thesis is a special one. The page numbering scheme needs to be reinitialized so that the page numbers will now be arabic instead of roman numerals. You are also required to make a footnote designating the journal model you used. We have this all set up for you with a `\body` command to be used after the first `\chapter` command.

The `\body` command is allowed *only* in Chapter 1. If you put `\body` in every chapter, the page numbers will be reset every time you put the `\body`. Therefore, *DO NOT* put `\body` command in other chapters except Chpater 1.

B. Headings for Chapters, Sections, and Subsections

Now you are ready to enter the text of your thesis. You may do this by editing the sample chapter files which we have provided for you. There are two files: `ch1.tex` for the first chapter, and `ch2.tex` for all subsequent chapters. Most theses have chapters and sections. Very detailed documents often have subsections as well. The chapter command looks like this:

```
\chapter{Title of Chapter}
```

This command will start the new chapter on a new sheet of paper, and skip the proper amount after the title before it begins to print your text. You do not need to leave any special blank lines or specify any spacing. This command will also automatically capitalize the chapter title; it is the only one of the sectioning commands that will do this. The chapters are numbered with roman numerals automatically.

```
\section{The Title of Your Section}
```

The section command, shown above, will left-justify and properly format your section title. The first letter of each word in the section title must be capitalized; there is no automatic capitalization. The proper amount of spacing for the text preceding and following the title is included in the macro. The alphabetic characters that label the sections are automatic! Do not type them in.

```
\subsection{The Title of Your Subsection}
```

This command centers your subsection title. The first letter of each word in a subsection title should be capitalized; there is no automatic capitalization. The proper amount of spacing is included for the text preceding and following the title; do not add any spacing. Subsections will automatically be assigned arabic subsection numbers; do not type them in.

C. Equations

If your thesis does not contain complicated mathematics, the material in Sections 3.3, 4.2, and Appendices C.6 and C.9.2 of the LaTeX manual will probably be sufficient.

For sophisticated mathematics, which is TEX's real strength, you will also need to study the TEXbook.

You need to pay particular attention to Section 4.2 of the LATEX manual where automated numbering and referencing of equations are described. This may seem like more trouble than it is worth. However, if you have ever removed an equation from the beginning of a paper and then had to renumber all subsequent equations, you will understand how much work this feature can save you.

In the `eethesis` document style, equations will be numbered by chapter (e.g., 1.1, 1.2,...2.1, 2.2, etc.). If you need subequations (e.g., 1.1a, 1.1b, ...), see the following subsection. If you have some equations which you do not want numbered, you can use the `displaymath` environment or the `\nonumber` command.

The `\ref{ }` command does not place parenthesis around the equations. You will need to insert these by yourself (e.g., `(\ref{label})`). When you want to refer to an equation, do **not** use the word equation or the abbreviation eqn. Please examine the examples in Appendix A.

1. Subequations

If you want the equations to be numbered as subequations (e.g., 1.1a, 1.1b, ...1.1f, 1.1g, etc.), the style file – `subequation.sty`, which is in the style-file library, can be used. If you are not on `ee` or `eemips`, please check Table I and copy `subequation.sty` to your local directory.

The `subequation.sty` is included as an option in the `documentstyle` as follows,

```
\documentstyle[subequation]{eethesis}
```

When you want to add the subequations into the thesis, you can type

```
\begin{subequations}
 \begin{equation}
```

```
  equation 1
 \end{equation}
  Text of paragraph.
 \begin{equation}
  equation 2
 \end{equation}
\end{subequations}
```

Equation 2 will follow equation 1 and they are subequationed even if there is some text in between them.

The following is a simple example. If you type,

```
\begin{subequations}
 \begin{eqnarray}
  a &=& b + c + d \\
    &=& e + f + g \nonumber \\
    & & h + k \\
    &=& x + y
 \end{eqnarray}
\end{subequations}
```

You will get the following equations,

$$
\begin{aligned}
a &= b + c + d && \text{(3.1a)} \\
&= e + f + g \\
& \quad h + k && \text{(3.1b)} \\
&= x + y && \text{(3.1c)}
\end{aligned}
$$

You can refer to the equation in the same manner as regular equations. Therefore, you can put `\label` command in the end of the equation and then use `\ref` to refer that equation.

D. Tables and Figures

LaTeX has a `table` environment and a `figure` environment so that you can include tables and figures in your papers. The `\caption` command is used to make titles for your tables and figures within the text of your thesis. Look on pages 59, 72 and 177 of your LaTeX manual for more details on `\caption`. You may wish to use the `\label` command along with `\caption` so you can automatically reference your figures and tables using the `\ref` command. This could save you from doing a great deal of renumbering should you decide to add or delete a figure or table.

1. Creating Tables and Figures

LaTeX is very good at making tables and simple figures such as block diagrams. You can create your own tables using the `tabular` environment and create your own figures using the `picture` environment of LaTeX. These environments are explained in the LaTeX User's Guide. You will need to leave space between the caption and your table and between your figure and its caption (see examples in Appendix A). Also, the `\centering` command will center your figure or table if it is included just after `\begin{figure}` or `\begin{table}`. Examples showing the use of these environments are included in the sample paper in Appendix A.

The caption for a figure goes below the figure, and the caption for a table goes above the table. See the examples in Appendix A for the proper placement of the `\caption{ }` command.

When you refer to a figure, use the abbreviation Fig. (or Figs. for several figures) and include a tie (i.e., `" ~ "`) to avoid leaving extra space or line breaking. See Appendix A for examples. Use the complete word “Table” and a tie for referring to a table.

2. Including Tables and Figures From Other Sources

Leaving space for figures and tables is particularly easy in LaTeX. One common approach in theses is to put figures on separate pages. An easy way to leave blank pages for figures and still keep the correct page numbering is given below.

```
\begin{figure}
\vspace{8.0 in}                        % If your figure does not require
                                       % an entire page, you may change
                                       % '8.0 in' to a smaller amount.
\caption{Isn't this a pretty picture}
\label{fig:pretty}
\end{figure}
```

When you include figures from another source, one way to do it is to use LaTeX to print the caption and then cut-and-paste your figure into place. This way, the figure counter will be incremented and the figure will automatically be entered into the List of Figures. If you choose to ignore our advice, you will have to do these things yourself. If you use figures with captions not made by LaTeX, you must manually make the entry into the List of Figures and update the figure counter by putting the following commands in your text before the next figure is to appear:

```
\addcontentsline{lof}{figure}{\protect\numberline{n}{caption}}
\addtocounter{figure}{1}
\addtocounter{page}{1}
```

If you enter more than one figure, you will have to use several `\addcontentsline` commands and replace the '1's in the example above with the number of figures you added and the number of pages you added.

Instead of the cut and paste method, it is also possible to include figures electronically. The only problem with including figures electronically is that graphics often requires lots of disk space. In the following sections, we describe several methods for including graphics. Several of the programs can generate output that can be printed on either the `Laserjet 2000` or the LPS20. Our personal favorite is to generate PostScript output and use the LPS20.

3. PostScript Figures

PostScript is a page description language that is useful for documents that include graphics. There are many machines and programs that can generate PostScript figures. For example, PGPLOT, Fig, and GNUPLOT described below can generate PostScript output (These programs can also generate output that can be printed on non-PostScript printers like our `Laserjet 2000` as well.). In addition, virtually all Macintosh applications can generate PostScript (e.g., MacDraw, Canvas, SuperPaint, and DeltaGraph). There is also a growing number of IBM PC applications that can generate PostScript. The easiest type of PostScript figure to include is an Encapsulated PostScript file (EPSF). In purchasing applications for your Macintosh or PC, check to make sure that they can generate EPSF. You can simply include those figures into your TEX or LATEX document. An important characteristic of PostScript figures is that they are scalable, i.e., the figures can be scaled to any size. The DEC LPS20 is a PostScript printer; the `Laserjet 2000` *cannot* print PostScript.

If you have PostScript figures, you can use the `\psfig` command to include those figures into a TEX or LATEX document. In Appendix D, you will find the `\psfig` manual and an example that shows how to include figures generated on the Macintosh into TEX or LATEX documents.

4. PGPLOT

The PGPLOT Fortran graphics subroutine library is available on ee, eemips, and Venus. Originally developed by T. J. Pearson of the Caltech Astronomy Department, the local version has been modified to generate output that can also be directly inserted into a TEX or LATEX document. PGPLOT is the primary scientific graphics package we support in the EE department. PGPLOT can generate either TEX font file output or PostScript output. PGPLOT can also plot to just about any kind of interactive device known to man. An interactive front-end for PGPLOT called 'iplot' is also available. You can also call PGPLOT routines from C. A user's manual is available from the WERC copy center, and a copy is available for checkout in the instrument room. An example of including a PGPLOT PostScript figure into a LATEX document is shown in Appendix H.

5. Fig

On the Sun Sparc workstations there is a plotting package called Fig. This package can be used to draw block diagrams. The graph can be transferred to either the LATEX `picture` environment or Fig can generate PostScript output. It is cumbersome to draw figures in the `picture` environment of LATEX. Fig is a neat alternative, all you need to do is use the mouse. The help command is interactive. To execute Fig, do the following

```
sun% fig figure.fig
```

where `figure.fig` is the file name of the figure you want to draw.

There are some restrictions on LATEX `picture` output. For example, the length of the `\line` should be more than 10pt (or 1/7 in), the diameter of a `circle` should be less than 1/2 inches, and the diameter of a disk (`\circle*`) should be less than 0.2 inch. There is an ellipse in Fig, but there is no ellipse font in LATEX. If you draw an ellipse in Fig and use `transfig` to transfer your figure to the `picture` environment, all you can get is an `oval`. There are no similar restrictions if you select PostScript output. You can use `transfig` to transfer a figure with an ellipse to a PostScript file and then use the `\psfig` command to include this figure into a LaTeX document. The details of using `\psfig` are given in Appendix D.

The following `transfig` command is used to transfer your figure to the LaTeX `\picture` environment (this can be printed on the `Laserjet 2000`),

```
sun% transfig -L latex -f cmr figure.fig
sun% make
```

where `sun%` is the prompt of the sun workstation. If you want to get a PostScript file, you can type the following command.

```
sun% transfig -L postscript -f cmr figure.fig
sun% make
```

After running the above two commands, you should delete `Makefile`. Next transfer the figure.tex or figure.ps to your thesis directory and include that file into your LaTeX document.

For the details about `transfig` please check Appendix C.

6. PicTeX

The LaTeX picture environment is useful for making simple pictures and block diagrams. PicTeX is useful for more complicated graphs and plots; you might find it handy for plotting data to display in your thesis. PicTeX is installed on eemips and ee. Unfortunately, PicTeX takes a very long time to execute — we suggest you run it on ee or eemips. Furthermore, PicTeX seems to us to be more complex than other plotting packages such as PGPLOT, PICSURE, and DeltaGraph. The PicTeX manual should be available at the MSC Bookstore, and a copy is available for checkout in the instrument room.

7. PICSURE

The PICSURE graphing program is available on SIGMA, and it is pretty popular on our campus. Access PICSURE using TEX as the secondary device and the output of PICSURE can be included into a TEX document. When a chart is ready to be ported into TEX, give the command 'PLOT 2' and answer the questions concerning plot orientation and size. Actually, the 'PLOT 2' command starts the PGPLOT program, and will generate two files, `pvi.300pk` and `pvi.tfm`, in the current directory. You can copy these two files to your thesis directory and then include the following commands to the place the figure in your thesis (here we include the command of Example 1 from the PicSure Line Graph card as our example from Appendix K):

```
\font\chart=pvi
\centerline{\chart A}
```

Appendix K includes two PicSure quick reference cards and there include several examples of PicSure graphs in TEX. The detailed manual for PICSURE is available in the WERC copy center.

8. GNUPLOT

GNUPLOT is a graphics program that is popular with TEX and LATEX users. It is available on ee and eemips. GNUPLOT can generate figures using mathematical functions or input data. The output figure can be either PostScript or the `picture` environment of LATEX. The PostScript file can be included into a TEX or LATEX document by using the `\psfig` command. The manual is attached in Appendix E.

9. Placement of Tables and Figures

LATEX will never place your figure or table on an earlier page than the text immediately preceding the `figure` or `table` environment. Therefore, the best place for you to put the `figure` or `table` environment is right after the sentence in which the figure or table is first referenced. If more of the paragraph follows, do *not* leave a blank line above or below the figure or table environment (c.f., p. 60 LaTeX User's Guide).

There is an optional argument in the `\begin{table/figure}` command which allows you to specify where you want your table or figure to be placed. Tables (or figures) placed using the `[h]` placement option (placed at the position in the text where `\begin{table/figure}[h]` appears) can look very good. However, using this option can also result in problems (see p. 177 of the LaTeX User's Guide). Our advice for amateurs is to use the default `[tbp]` option. If you have problems with LaTeX insisting upon putting a figure or table in a bad location, read Appendix C.8.1 on page 176 of the LaTeX User's Guide to help you try to overcome LaTeX's stubbornness.

If the table is too big and exceeds one page, there is a convenient way to handle this. In the first page of that table you can type as usual and put `\begin{table} \caption` and `\end{table}` to generate the table number and caption of that table. According to the rules of the thesis clerk, the caption of the table on the second page should be as follows,

`Table XX. Continued`

We suggest the following way to handle the second page of a table:

```
\begin{table}
\centerline{Table~\thetable. Continued.}\\
\begin{tabular}[option]{adjustment}
content of tabular
\end{tabular}
\end{table}
```

where `\thetable` is a LaTeX counter that contains the table number of the current table. If your table is longer than two pages, the caption for the rest of the table can be done in the same way. Using this method of breaking tables, you have to measure the length of the table and manually break the pages.

E. Including Source Code into the Thesis

Some theses may include source code or an algorithm in the text body, figure, or appendix. In this version of `eethesis.sty`, we include a document style `verbatimfiles` developed by Chris Rowley to deal with this problem. There are two commands that can be used. `\verbatimfile{file.c}` can include a program called `file.c` to the text. `verbatimlisting[n]{file.c}` will include the program `file.c` to the text and will list the line numbers of program `file.c` every `n` lines.

Suppose we have a program `file.c`, and type the commands,

```
\singlespace
\verbatimfile{file.c}
\doublespace
```

the output form is given below:

```
/***********************************************************/
/* Filename: auto4.c                    by: Shiau Yan-Chyuan  */
/*                                                            */
/* Usage:                                                     */
/***********************************************************/

#include <stdio.h>
#include "malloc.h"

#define LINE 121
#define LOW 0.5
#define MID 2.5
#define UP  4.5

typedef struct SOLUTION
{
    float rise_l,rise_m,rise_h,rise_r,rise_dt1,rise_dt2;
    float fall_l,fall_m,fall_h,fall_f,fall_dt1,fall_dt2;
    float pre_r_dt2,pre_f_dt2;
    int flag_rl,flag_rm,flag_rh;
    int flag_fl,flag_fm,flag_fh;
```

```
} SX;

struct SOLUTION sol[2];
FILE *point_out,*point_abs,*fopen();
char file_out[20],file_abs[20];
float start_time=2.0e-09;
/* char *sprintf(),*strcpy(),*fprintf(); */
float fabs(),atof();
int atoi();
```

In contrast, if we use `\verbatimlisting[10]{file.c}`

```
\singlespace
\verbatimlisting[10]{file.c}
\doublespace
```

then `file.c` will be included in the text and the line numbers printed every 10 lines as follows,

```
/***********************************************************/
/* Filename: auto4.c                   by: Shiau Yan-Chyuan  */
/*                                                           */
/* Usage:                                                    */
/***********************************************************/

#include <stdio.h>
#include "malloc.h"

#define LINE 121
#define LOW 0.5
#define MID 2.5
#define UP  4.5

typedef struct SOLUTION
{
    float rise_l,rise_m,rise_h,rise_r,rise_dt1,rise_dt2;
    float fall_l,fall_m,fall_h,fall_f,fall_dt1,fall_dt2;
    float pre_r_dt2,pre_f_dt2;
    int flag_rl,flag_rm,flag_rh;
    int flag_fl,flag_fm,flag_fh;
} SX;

struct SOLUTION sol[2];
FILE *point_out,*point_abs,*fopen();
char file_out[20],file_abs[20];
float start_time=2.0e-09;
/* char *sprintf(),*strcpy(),*fprintf(); */
float fabs(),atof();
int atoi();
```

The `\verbatimfile` and `\verbatimlisting` can be used in the text body, the `figure` environment, or in an Appendix.

F. Blue Line Emulation

The text of the thesis should not exceed the frame of the blue line paper. Some thesis writers may worry if their figures or codes exceed the frame. We have included a command `\blueline` to emulate the frame of the blue line paper. If you want to utilize the emulation of blue line you have to type `\blueline` in the preamble, then you will get a frame to enclose your text in every page of your thesis. But remember, after you finish your thesis, you should comment out the `\blueline` command.

G. Writing Your Proposal

You can also write your thesis proposal using the `eethesis` document style. The only thing you should do differently is to use the LaTeX command `\part` instead of `\chapter`. All of the other facilities of the `eethesis` document style will be available to you, although the `\body` command may very well be the only one that is particularly useful. The `\part` command will correctly format the major section headings of your proposal and will not start the sections on new pages as `\chapter` does.

H. Miscellaneous

In this section we attempt to anticipate some unusual situations you might have and try to help you deal with them. We also would like to mention a few features of LaTeX that you might find particularly helpful.

1. The `\label` Command

The `\label` command can also be used in conjunction with the `\pageref` command to refer to text on other pages. This can be helpful as you can refer to another section of text, which might slide from page to page as you edit your text. It is explained on page 72 of the LaTeX Users Guide.

2. New Fonts

In addition to the fonts of `\bf, \sf, \sl, \sc,` and `\tt`, we have many new fonts on ee and eemips, such as $\mathfrak{R}$ and R. If you think all the regular fonts supported by LaTeX are not enough for your thesis, you can contact to Wen-Lin Hsieh (`wenlin@ee.tamu.edu`) and he will show you the font map.

3. SliTeX

You may find SliTeX useful for making the slides that you will use in your thesis or dissertation defense. SliTeX uses special larger fonts which are more readable than the standard LaTeX fonts. You may find it very convenient to pull equations directly out of your thesis into a slide file which SliTeX will use to create your slides. Refer to Appendix A of the LaTeX User's Guide for more information about SliTeX.

4. PCs and Macintoshes

TeX and LaTeX both run well on IBM PCs and MACs with hard disks and laser printers. For example, in the Electrical Engineering Department we run PCTeX and LaTeX on IBM AT clones with a 40MB hard disk, EGA, and Laserjet II. We also run N^2 Computer Associates `cdvi` preview program to view the output on the display before we print — this saves time and laser printers.

You are welcome to copy to your MAC or PC the three files associated with the `eethesis` document style: `eethesis.sty`, `eethe12.sty`, and `eethetitle.sty` (see Table I for directories). Copy the `.sty` files, which are printable ASCII characters, using Kermit, X-Modem, or ftp, etc.

5. Problem Reporting

If your thesis is rejected by the thesis clerk because of an error or deficiency in this thesis preparation system, please send electronic mail to `cantrell@ee.tamu.edu`, or `wenlin@ee.tamu.edu`. We will try to fix the problem.

REFERENCES

[1] Donna Knight and Suzanne Lednicky, *TEX Macros For Thesis Formatting*. Department of Electrical Engineering, Texas A&M University, College Station, Texas, August 1984.

[2] Vijay Kodali and Mike Payne, LATEX *Document Style For Thesis Formatting*. Department of Electrical Engineering, Texas A&M University, College Station, Texas, 1st edition, August 1986.

[3] Leslie Lamport, LATEX*: A Document Preparation System*. Reading, Massachusetts: Addison Wesley Publishing Company, 1986.

[4] Donald E. Knuth, *The TEXbook*. Reading, Massachusetts: Addison Wesley Publishing Company, 1986.

[5] Oren Patashnik, BIB*TEXing*. Stanford University, February 1988.

[6] David J. Buerger, LATEX *for Engineers & Scientists*. New York, McGraw–Hill Publishing Company, 1990.

APPENDIX A

SAMPLE THESIS

This sample thesis is adapted from Bill Baker's thesis, which was done in the old LaTeX *Thesis* documentstyle in 1986. Since much of the thesis has been deleted and modified, it probably doesn't make much sense any more if you try to read it. It is included solely for your reference to help you see how a thesis can be formatted using LaTeX. In addition to the material from Mr. Baker's thesis, I also used material from the sample thesis from the old LaTeX Thesis manual and other sources.

APPENDIX B

BibTeX

APPENDIX C

TRANSFIG

APPENDIX D

\PSFIG AND EXAMPLES

APPENDIX E

GNUPLOT

APPENDIX F

DVIHP

APPENDIX G

DVIPS

APPENDIX H

PGPLOT EXAMPLE

APPENDIX I

SETTING UP A CSC STUDENT ACCOUNT

APPENDIX J

TEXROX CARD

APPENDIX K

PICSURE CARD