

A Proposal Template for Huazhong University of Science and Technology: the hustproposal class *

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Contents

I	Introduction	3
II	中文使用说明	4
1	使用必要条件	4
2	安装	4
2.1	安装到本地	4
2.2	免安装使用	5
3	基本用法	5
3.1	文档类型选项	5
3.2	基本字段设置	5
3.3	其它基本命令	6
4	示例	6
5	预设宏包介绍	7
6	高级设置	8
6.1	切换字体	8
III	English Version Instruction	9

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1 Requirement	9
2 Installation	9
2.1 Install into local	9
2.2 Use without installation	9
3 Usage	9
3.1 Option	10
3.2 Variables setting	10
3.3 Other commands	11
4 example	11
5 Introduction to some packages used in the template	12
 IV Implementation	 13
1 Process Options	13
2 Check Engine	13
3 Font Setting	14
4 Basic Format	17
5 Load Packages	18
6 Variables Setting	19
7 Localization	19
8 Style Setting	22
8.1 Equation Style	22
8.2 Theorem Style	22
8.3 Floating Objects Style	23
8.4 Table Style	24
8.5 Caption Style	25
8.6 Code Highlight Style	25
8.7 Section Title Style	26
8.8 Head & Foot Style	26
8.9 List Environment Style	26
8.10 Footnote Style	26
9 Specical Page	27
10 Other Command	28
 V Index	 29

I Introduction

This is a proposal template for [Huazhong University of Science & Technology](#). This template is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE.

The whole project is published under LPPL v1.3 License at [GitHub](#).

中文使用说明见 [Part II](#)。

English version instruction is in [Part III](#).

II 中文使用说明

1 使用必要条件

1. 安装最新版本的 **TeXLive** (推荐) 或 **MiKTeX**。因为未及时更新的宏包可能存在未修复的 **bug**，请确保所有宏包都更新至最新。
2. 安装如下中文字体¹:
 - a) AdobeSongStd-Light
 - b) AdobeKaitiStd-Regular
 - c) AdobeHeitiStd-Regular
 - d) AdobeFangsongStd-Regular



如果使用 LuaTeX，安装字体之后需运行命令 `mkluatexfontdb` 生成字体索引。

2 安装

2.1 安装到本地

使用如下命令即可安装本模板到本地：

```
make install
```

如需卸载，则使用如下命令：

```
make uninstall
```

对于没有安装 **Make** 的 **Windows** 系统用户，可以使用如下命令安装：

```
makewin32.bat install
```

如需卸载，则使用如下命令：

```
makewin32.bat uninstall
```

虽然 `makewin32.bat` 表现与 **Makefile** 极其相似，但是还是强烈建议你安装 **Make**，对于 **Windows** 用户可以在[这里](#)下载。

¹本模板所用到的英文字体 **Tex Gyre Termes**，**Droid Sans** 和 **CMU Typewriter Text** 均默认安装于 **TeXLive** 和 **MiKTeX** 中。

2.2 免安装使用

如果你希望临时使用本模板，而非安装到本地供长期使用。使用如下命令解压模板文件：

```
make unpack
```

对于没有安装 Make 的 Windows 系统用户，则使用如下命令解压：

```
makewin32.bat unpack
```

再将文件 `hustproposal.cls` 拷贝到你 $\text{T}_{\text{E}}\text{X}$ 工程根目录下即可。

3 基本用法



本文档只能使用 $\text{X}_{\text{E}}\text{L}_{\text{A}}\text{T}_{\text{E}}\text{X}$ 或 $\text{LuaL}_{\text{A}}\text{T}_{\text{E}}\text{X}$ （推荐）编译。

在源文件开头处选择加载本文档类型，即可使用本模板，如下所示：

```
\documentclass[language=chinese]{hustproposal}
```

3.1 文档类型选项

加载本文档类型时，有如下选项提供选择。

`language` `language = <chinese | english>`

指定论文语言。如果不指定，默认设置为 `chinese`。

3.2 基本字段设置

模板中定义一些命令用于设置文档中的字段。

`\title` `\title{<title>}`

用于设定标题。

`\author` `\author{<author>}`

用于设定作者名。

`\major` `\major{<major>}`

用于设定专业。

`\department` `\department{<department>}`

用于设定院系。

<code>\division</code>	<code>\division{<division>}</code>
------------------------	--

用于设定所属教研室名称。

<code>\supervisor</code>	<code>\supervisor{<supervisor name>}{<supervisor title>}</code>
--------------------------	---

用于设定导师和职称。

3.3 其它基本命令

下面来介绍其它基本命令。

<code>\maketitle</code>	<code>\maketitle</code> 用于生成标题。
-------------------------	---------------------------------

<code>\bibliography</code>	<code>\bibliography{<.bib file>}</code>
----------------------------	---

用于生成参考文献。

<code>\TurnOffTabFontSetting</code>

<code>\TurnOnTabFontSetting</code>

因为模板中设定了表格的行距和字号，使得使用中无法临时自定义表格的行距和字号。故提供两个命令用于关闭和开启默认表格的行距和字号设置。比如你如果需要输出一个自己定义字号的表格，可以使用如下示例：

```
\begin{group}
\TurnOffTabFontSetting
\footnotesize % 设置字号
\begin{tabular}{...}
    <content>
\end{tabular}
\TurnOnTabFontSetting
\end{group}
```

<code>\email</code>	<code>\email{<Email Address>}</code>
---------------------	--

用于生成邮箱地址。如`\email{name@example.com}`会生成如下效果的地址：
`name@example.com`。

4 示例

如下为一个使用本模板的示例。

```

1 \documentclass[language=chinese]{hustproposal}
2
3 \department{院系}
4 \title{标题}
5 \author{作者名}
6 \major{专业}
7 \division{所属教研室}
8 \supervisor{导师}{职称}
9
10 \begin{document}
11 \maketitle
12
13 \section{目的和意义}
14 \section{应用现状}
15 \section{内容与目标}
16 \section{思路与步骤}
17 \section{进度安排}
18
19 \bibliography{参考文献.bib文件}
20
21 \end{document}

```

5 预设宏包介绍

本模板中预设了一些宏包，下面对其进行简单介绍。

- **algorithm2e** 算法环境。
- **enumitem** 自定义列表环境的式样。
- **fancyenum** 用于将大数每三位断开。
- **listings** 代码环境。如需更好的代码高亮可以使用 **minted** 宏包。
- **longtable** 跨页的超长表格环境。
- **ltxtable** **longtable** 环境和 **tabularx** 环境的合并。
- **multirow** 用于表格中合并行。
- **overpic** 用于在图片上层叠其他内容。
- **tabularx** 扩展到表格环境。
- **xy-pic** 用于绘制简单图形。如需更高级功能可以使用 **tikz** 宏包。
- **zhnumber** 用于生成中文数字。

6 高级设置

6.1 切换字体

模板正文字体为宋体 (AdobeSongStd-Light)，同时我们提供如下命令切换中文字体：

`\HEI` `{\HEI <content>}`

`\hei` `{\hei{<content>}}`

切换字体为黑体 (AdobeHeitiStd-Regular)。

`\KAI` `{\KAI <content>}`

`\kai` `{\kai{<content>}}`

切换字体为楷体 (AdobeKaitiStd-Regular)。

`\FANGSONG` `{\FANGSONG <content>}`

`\fangsong` `{\fangsong{<content>}}`

切换字体为仿宋 (AdobeFangsongStd-Regular)。

如果需要加载其他字体，请参阅宏包 **fontspec**，宏包 **xeCJK** (对于 Xe_{La}TeX) 和宏包 **luatex-j**a (对于 Lua_{La}TeX) 的文档。

III English Version Instruction

1 Requirement

Install the latest version of **TeXLive**(Recommend) or **MiKTeX**. Please ensure that all the packages are up-to-date.

2 Installation

2.1 Install into local

Use the command below to install this template into local.

```
make install
```

If you need uninstall it, use the command below.

```
make uninstall
```

For Windows User who don't install Make, use the command below to install.

```
makewin32.bat install
```

If you need uninstall it, use the command below.

```
makewin32.bat uninstall
```

Although `makewin32.bat` behaves much like `Makefile`, I still recommend you install Make into your Windows. You can download it from [here](#).

2.2 Use without installation

If you want to use this template temporary rather than installing it into local for long term use. Run below command to unpack the package.

```
make unpack
```

For Windows User who don't install Make, use the command below to unpack the package.

```
makewin32.bat unpack
```

Then copy the file `hustproposal.cls` into your \TeX project root directory.

3 Usage



*This template can only be compiled by
X_YLaTeX or LuaLaTeX (Recommend).*

Insert below code in the top of source code to use this template:

```
\documentclass[language=english]{hustproposal}
```

3.1 Option

There's one option available when use this template.

`language` `language = <chinese | english>`

Set what language is used in the document. The default value is chinese.

3.2 Variables setting

There're some commands which are used to set the variables for the thesis.

`\title` `\title{<title>}`

Set title.

`\author` `\author{<author>}`

Set author.

`\major` `\major{<major>}`

Set your major.

`\department` `\department{<department>}`

Set your department.

`\division` `\division{<division>}`

Set your research division.

`\supervisor` `\supervisor{<supervisor>}`

Set your supervisor.

3.3 Other commands

<code>\maketitle</code>	<code>\maketitle</code> is used to create the title.
-------------------------	--

<code>\bibliography</code>	<code>\bibliography{<.bib file>}</code>
----------------------------	---

Used to create bibliography page.

`\TurnOffTabFontSetting`

`\TurnOnTabFontSetting`

This template has set the font size and line spread for all the tables which makes it's impossible to change font format temporary in one table. So it provides these to command to temporary disable or enable default font setting in table. For example, if you want to change table font size, you can use the code like this:

```
\begin{group}
\TurnOffTabFontSetting
\footnotesize % Set your font format as you like.
\begin{tabular}{...}
    <content>
\end{tabular}
\TurnOnTabFontSetting
\end{group}
```

<code>\email</code>	<code>\email{<Email Address>}</code>
---------------------	--

A command to display email address. For example, `\email{name@example.com}` would look like this: `name@example.com`.

4 example

Below is a example of using this template.

```
1 \documentclass[language=english]{hustproposal}
2
3 \department{your department}
4 \title{your title}
5 \author{your name}
6 \major{your major}
7 \division{your research division}
8 \supervisor{your supervisor}
```

```

9
10 \begin{document}
11 \maketitle
12
13 \section{Research Motivation}
14 \section{Related Work}
15 \section{Research Objective}
16 \section{Research Plan}
17 \section{Schedule}
18
19 \bibliography{.bib file}
20
21 \end{document}

```

5 Introduction to some packages used in the template

Here's a list of some packages used in the template.

- **algorithm2e** For display algorithm.
- **enumitem** For set the style of enumerate, itemize and description environment.
- **fancynum** Display the really big number.
- **listings** For display the highlighted code. If you need better quality, use the package **minted**.
- **longtable** Create a very long table.
- **ltxtable** Combine the features of longtable and tabularx.
- **multirow** Combine multi-rows in table.
- **overpic** Put something over a picture,
- **tabularx** A better table environment.
- **xy-pic** To draw some picture. If you need more advanced features, use the package **tikz**.

IV Implementation

```
1 <*class>
2 \RequirePackage{ifthen}
```

1 Process Options

Use **xkeyval** to process options.

```
3 \RequirePackage{xkeyval}
   Option language.
4 \gdef\HUST@language{chinese}
5 \DeclareOptionX{language}[chinese]{
6   \ifthenelse{\equal{#1}{chinese} \OR \equal{#1}{english}}{
7     \gdef\HUST@language{#1}
8   }{
9     \ClassError{hustproposal}
10    {Option language can only be 'chinese' or 'english'}
11    {Try to remove option language^^J}
12  }
13 }
```

Process options and load class article.

```
14 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}}
15 \ProcessOptionsX
16 \LoadClass[12pt, a4paper]{article}
```

2 Check Engine

Check engine, only Xe^LA^TE^X and Lua^LA^TE^X are supported.

```
17 \RequirePackage{iftex}
18 \ifXeTeX\else
19   \ifLuaTeX\else
20     \begingroup
21       \errorcontextlines=-1\relax
22       \newlinechar=10\relax
23       \errmessage{^^J
24         *****^^J
25         * XeTeX or LuaTeX is required to compile this document.^^J
26         * Sorry!^^J}
```

```

27      *****~J
28      }%
29      \endgroup
30      \fi
31      \fi

```

3 Font Setting

Set font used in document. Firstly, it's font setting for English font under english mode. We use **fontspec** package to handle font. We choose Tex Gyre Termes, Droid Sans and CMU Typewriter Text as document main font, sans font and mono font.

```

32 \ifthenelse{\equal{\HUST@language}{english}}{
33     \RequirePackage{fontspec}
34     \setmainfont[
35         Ligatures={Common,TeX},
36         Extension=.otf,
37         UprightFont=*-regular,
38         BoldFont=*-bold,
39         ItalicFont=*-italic,
40         BoldItalicFont=*-bolditalic]{texgyretermes}
41     \setsansfont[Ligatures={Common,TeX}]{Droid Sans}
42     \setmonofont{CMU Typewriter Text}
43     \defaultfontfeatures{Mapping=tex-text}

```

Now let's set the Chinese font commands into empty, when document is under english mode.

```

44     \let\HEI\relax
45     \let\KAI\relax
46     \let\FANGSONG\relax
47     \newcommand{\hei}[1]{#1}
48     \newcommand{\kai}[1]{#1}
49     \newcommand{\fangsong}[1]{#1}
50 }{}

```

Below is the font setting under chinese mode. We chooses the same English font as under english mode. We use **xecjk** package (for X_YLA_TE_X) or **luatex-jafont** package (for Lua_YLA_TE_X, recommend) to handle Chinese font. We will use font: AdobeSongStd-Light, AdobeKaitiStd-Regular, AdobeHeitiStd-Regular and AdobeFangsongStd-Regular.

```

51 \ifthenelse{\equal{\HUST@language}{chinese}}{

```

```

52 \ifXeTeX % XeTeX 下使用 fontspec + xeCJK 处理字体
53 % 英文字体
54 \RequirePackage{fontspec}
55 \RequirePackage{xunicode}
56 \setmainfont[
57     Ligatures={Common,TeX},
58     Extension=.otf,
59     UprightFont=*-regular,
60     BoldFont=*-bold,
61     ItalicFont=*-italic,
62     BoldItalicFont=*-bolditalic]{texgyretermes}
63 \setsansfont[Ligatures={Common,TeX}]{Droid Sans}
64 \setmonofont{CMU Typewriter Text}
65 \defaultfontfeatures{Mapping=tex-text}
66 % 中文字体
67 \RequirePackage[CJKmath]{xeCJK}
68 \setCJKmainfont[
69     BoldFont={Adobe Heiti Std},
70     ItalicFont={Adobe Kaiti Std}]{Adobe Song Std}
71 \setCJKsansfont{Adobe Kaiti Std}
72 \setCJKmonofont{Adobe Fangsong Std}
73 \xeCJKsetup{PunctStyle=kaiming}
74
75 \newcommand\ziju[2]{\renewcommand{\CJKglue}{\hskip #1} #2}}

\HEI
76 \newCJKfontfamily\HEI{Adobe Heiti Std}

\KAI
77 \newCJKfontfamily\KAI{Adobe Kaiti Std}

\FANGSONG
78 \newCJKfontfamily\FANGSONG{Adobe Fangsong Std}

\hei
79 \newcommand{\hei}[1]{\HEI #1}}

\kai
80 \newcommand{\kai}[1]{\KAI #1}}

\fangsong
81 \newcommand{\fangsong}[1]{\FANGSONG #1}}

```

```

82 \else\fi
83 \ifLuaTeX % LuaTeX 下使用 luatex-jan 处理字体 [推荐]
84 \RequirePackage{luatexja-fontspec}
85 % 英文字体
86 \setmainfont[Ligatures={Common,TeX}]{Tex Gyre Termes}
87 \setsansfont[Ligatures={Common,TeX}]{Droid Sans}
88 \setmonofont{CMU Typewriter Text}
89 \defaultfontfeatures{Mapping=tex-text,Scale=MatchLowercase}
90 % 中文字体
91 \setmainfont[
92 BoldFont={AdobeHeitiStd-Regular},
93 ItalicFont={AdobeKaitiStd-Regular}]{AdobeSongStd-Light}
94 \setsansfont{AdobeKaitiStd-Regular}
95 \defaultjfontfeatures{JFM=kaiming}
96
97 \newcommand\ziju[2]{\vbox{\ltjsetparameter{kanjiskip=#1} #2}}

\HEI
98 \newjfontfamily\HEI{AdobeHeitiStd-Regular}

\KAI
99 \newjfontfamily\KAI{AdobeKaitiStd-Regular}

\FANGSONG
100 \newjfontfamily\FANGSONG{AdobeFangsongStd-Regular}

\hei
101 \newcommand{\hei}[1]{\jfontspec{AdobeHeitiStd-Regular} #1}

\kai
102 \newcommand{\kai}[1]{\jfontspec{AdobeKaitiStd-Regular} #1}

\fangsong
103 \newcommand{\fangsong}[1]{\jfontspec{AdobeFangsongStd-Regular} #1}
104 \else\fi

Generate Chinese number using zhnumber.

105 \RequirePackage{zhnumber}
106 \def\CJKnumber#1{\zhnumber{#1}} % 兼容 CJKnumb
107 }{}

```


4 Basic Format

Use **interfaces** package to handle font size and line spread. We set global line spread to 1.3.

```
108 \RequirePackage{interfaces-Latex}
109 \changeFont{linespread=1.3}
```

Use **geometry** package to handle paper page.

```
110 \RequirePackage{geometry}
111 \geometry{
112     a4paper,
113     top=1.77in,
114     bottom=1.1in,
115     left=1.1in,
116     right=1.1in,
117     includeFoot
118 }
119 \pdfpagewidth=\paperwidth
120 \pdfpageheight=\paperheight
```

Indent of paragraph and skip between paragraphs.

```
121 \RequirePackage{indentfirst}
122 \setlength{\parindent}{2em}
123 \setlength{\parskip}{0pt plus 2pt minus 1pt}
```

Packages to handle color.

```
124 \RequirePackage{color}
125 \RequirePackage[table]{xcolor}
```

Use **hyperref** package to generate cross-reference link.

```
126 \RequirePackage[unicode]{hyperref}
127 \hypersetup{
128     bookmarksnumbered=true,
129     bookmarksopen=true,
130     bookmarksopenlevel=1,
131     breaklinks=true,
132     colorlinks=true,
133     allcolors=black,
134     linktoc=all,
135     plainpages=false,
136     pdfpagelabels=true,
137     pdfstartview={XYZ null null 1},
138     pdfinfo={Template.Info={hustproposal.cls v1.0 2014/07/01, Copyright (C) 2013-2014
```

139 }

5 Load Packages

Load packages for math.

```
140 \RequirePackage{amsmath,amssymb,amsfonts}
141 \RequirePackage[amsmath,amsthm,thmmarks,hyperref,thref]{ntheorem}
142 \RequirePackage{fancynum}
143 \setfnumgsym{\,}
144 \RequirePackage[lined,boxed,linesnumbered,ruled,vlined]{algorithm2e}
```

Load packages for picture.

```
145 \RequirePackage[all]{xy}
146 \RequirePackage{overpic}
147 \RequirePackage{graphicx,caption,subcaption}
```

Load packages for table.

```
148 \RequirePackage{array}
149 \RequirePackage[multirow,tabularx,ltxtable]
```

Load package for code highlight. Here we use **listings** to highlight the code. But if you need more features, use **minted**.

```
150 \RequirePackage{listings}
```

Load package for bibliography cite style.

```
151 \RequirePackage[numbers,square,comma,super,sort&compress]{natbib}
```

Other packages for style setting.

```
152 \RequirePackage{titlesec}
153 \RequirePackage{titletoc}
154 \RequirePackage{tocvsec2}
155 \RequirePackage[inline]{enumitem}
156 \RequirePackage{fancyhdr}
157 \RequirePackage{afterpage}
158 \RequirePackage{datenumbers}
159 \RequirePackage{etoolbox}
160 \RequirePackage{appendix}
161 \RequirePackage[titles]{tocloft}
162 \RequirePackage{xstring}
163 \RequirePackage{perpage}
```

6 Variables Setting

\title Commands to set the title.

```
164 \def\title#1{\gdef\HUST@title{#1}\hypersetup{pdftitle={#1}}}  
165 \title{}
```

\author Commands to set the author.

```
166 \def\author#1{\gdef\HUST@author{#1}\hypersetup{pdfauthor={#1}}}  
167 \author{}
```

\department Commands to set the department.

```
168 \def\department#1{\gdef\HUST@department{#1}}  
169 \department{}
```

\major Commands to set the major.

```
170 \def\major#1{\gdef\HUST@major{#1}}  
171 \major{}
```

\division Commands to set the division.

```
172 \def\division#1{\gdef\HUST@division{#1}}  
173 \division{}
```

\supervisor Commands to set the supervisor.

```
174 \ifthenelse{\equal{\HUST@language}{english}}{  
175     \def\supervisor#1{\gdef\HUST@supervisor{#1}}  
176     \supervisor{  
177 }{  
178     \def\supervisor#1#2{  
179         \gdef\HUST@supervisor{#1}  
180         \gdef\HUST@supervisortitle{#2}  
181     }  
182     \supervisor{}{  
183 }
```

7 Localization

Chinese localization. ²

```
184 \ifthenelse{\equal{\HUST@language}{chinese}}{  
185     \def\indexname{索引}
```

²The `autorefname` Reference:<http://tex.stackexchange.com/questions/52410/how-to-use-the-command-autorefname-to-implement-the-same-effect-when-use-the-command>

```

186 \def\figurename{图}
187 \def\tablename{表}
188 \AtBeginDocument{\def\listingscaption{代码}}
189 \def\refname{参考文献}
190 \def\contentsname{目录}
191 \def\appendixname{附录}
192 \def\listfigurename{插图索引}
193 \def\listtablename{表格索引}
194 \def\equationautorefname{公式}
195 \def\footnoteautorefname{脚注}
196 \def\itemautorefname~#1\null{第~#1~项\null}
197 \def\figureautorefname{图}
198 \def\tableautorefname{表}
199 \def\appendixautorefname{附录}
200 \expandafter\def\csname\appendixname autorefname\endcsname{\ap-
pendixname}
201 \def\sectionautorefname~#1\null{#1~小节\null}
202 \def\subsectionautorefname~#1\null{#1~小节\null}
203 \def\subsubsectionautorefname~#1\null{#1~小节\null}
204 \def\FancyVerbLineautorefname~#1\null{第~#1~行\null}
205 \def\pageautorefname~#1\null{第~#1~页\null}
206 \def\lstlistingautorefname{代码}
207 \def\definitionautorefname{定义}
208 \def\propositionautorefname{命题}
209 \def\lemmaautorefname{引理}
210 \def\theoremautorefname{定理}
211 \def\axiomautorefname{公理}
212 \def\corollaryautorefname{推论}
213 \def\exerciseautorefname{练习}
214 \def\exampleautorefname{例}
215 \def\proofautorefname{证明}
216 \SetAlgorithmName{算法}{算法}{算法索引}
217 \SetAlgoProcName{过程}{过程}
218 \SetAlgoFuncName{函数}{函数}
219 \def\AlgoLineautorefname~#1\null{第~#1~行\null}
220 }{}

```

English localization.

```

221 \ifthenelse{\equal{\HUST@language}{chinese}}{}{
222 \def\equationautorefname{Equation}
223 \def\footnoteautorefname{Footnote}
224 \def\itemautorefname{Item}

```

```

225 \def\figureautorefname{Figure}
226 \def\tableautorefname{Table}
227 \def\appendixautorefname{Appendix}
228 \expandafter\def\csname\appendixname autorefname\endcsname{\ap-
pendixname}
229 \def\sectionautorefname{Section}
230 \def\subsectionautorefname{Subsection}
231 \def\subsubsectionautorefname{Sub-subsection}
232 \def\FancyVerbLineautorefname{Line}
233 \def\pageautorefname{Page}
234 \def\lstlistingautorefname{Code Fragment}
235 \def\definitionautorefname{Definition}
236 \def\propositionautorefname{Proposition}
237 \def\lemmaautorefname{Lemma}
238 \def\theoremautorefname{Theorem}
239 \def\axiomautorefname{Axiom}
240 \def\corollaryautorefname{Corollary}
241 \def\exerciseautorefname{Exercise}
242 \def\exampleautorefname{Example}
243 \def\proofautorefname{Proof}
244 \SetAlgorithmName{Algorithm}{Algorithm}{List of Algorithms}
245 \SetAlgoProcName{Procedure}{Procedure}
246 \SetAlgoFuncName{Function}{Function}
247 \def\AlgoLineautorefname{Line}
248 }

```

Internal variables.

```

249 \ifthenelse{\equal{\HUST@language}{chinese}}{
250 \def\HUST@maintitle{毕业设计（论文）开题报告}
251 \def\HUST@departmenttitle{学院（系）：}
252 \def\HUST@titletitle{毕业设计（论文）题目：}
253 \def\HUST@authortitle{学生姓名：}
254 \def\HUST@majortitle{专业：}
255 \def\HUST@divisiontitle{所属教研室名称：}
256 \def\HUST@supervisorentrytitle{指导教师：}
257 \def\HUST@supervisortitleentrytitle{专业技术职称：}
258 }{
259 \def\HUST@maintitle{Final Year Project Proposal}
260 \def\HUST@departmenttitle{Department:}
261 \def\HUST@titletitle{Title:}
262 \def\HUST@authortitle{Student Name:}
263 \def\HUST@majortitle{Major:}

```

```

264 \def\HUST@divisiontitle{Research Division:}
265 \def\HUST@supervisorentrytitle{Supervisor:}
266 }
267 \hypersetup{pdfsubject={\HUST@maintitle}}

```

8 Style Setting

8.1 Equation Style

Allow long equation breaking between lines or pages.

```

268 \allowdisplaybreaks[4]

```

Set skip between equation and context.

```

269 \abovedisplayskip=10bp plus 2bp minus 2bp
270 \abovedisplayshortskip=10bp plus 2bp minus 2bp
271 \belowdisplayskip=\abovedisplayskip
272 \belowdisplayshortskip=\abovedisplayshortskip

```

Set equation numbering style.

```

273 \numberwithin{equation}{section}

```

8.2 Theorem Style

We use **amsthm** to handle the proof environment and use **ntheorem** to handle other theorem environments.

```

274 \theoremnumbering{arabic}
275 \ifthenelse{\equal{\HUST@language}{chinese}}{
276 \theoremseparator{: }
277 }{
278 \theoremseparator{:}
279 }
280 \theorempreskip{1.2ex plus 0ex minus 1ex}
281 \theorempostskip{1.2ex plus 0ex minus 1ex}
282 \theoremheaderfont{\normalfont\bfseries\HEI}
283 \theoremsymbol{}
284
285 \theoremstyle{definition}
286 \theorembodyfont{\normalfont}
287 \ifthenelse{\equal{\HUST@language}{chinese}}{
288 \newtheorem{definition}{定义}
289 }{
290 \newtheorem{definition}{Definition}

```

```

291 }
292
293 \theoremstyle{plain}
294 \theorembodyfont{\itshape}
295 \ifthenelse{\equal{\HUST@language}{chinese}}{
296   \newtheorem{proposition}{命题}
297   \newtheorem{lemma}{引理}
298   \newtheorem{theorem}{定理}
299   \newtheorem{axiom}{公理}
300   \newtheorem{corollary}{推论}
301   \newtheorem{exercise}{练习}
302   \newtheorem{example}{例}
303   \def\proofname{\hei{证明}}
304 }{
305   \newtheorem{proposition}{Proposition}
306   \newtheorem{lemma}{Lemma}
307   \newtheorem{theorem}{Theorem}
308   \newtheorem{axiom}{Axiom}
309   \newtheorem{corollary}{Corollary}
310   \newtheorem{exercise}{Exercise}
311   \newtheorem{example}{Example}
312   \def\proofname{\textbf{Proof}}
313 }

```

8.3 Floating Objects Style

Set the skip to the context for floating object with argument ‘h’.

```

314 \setlength{\intextsep}{0.7\baselineskip plus 0.1\baselineskip minus 0.1\baselineskip}

```

Set the skip to the context for top or bottom floating object.

```

315 \setlength{\textfloatsep}{0.8\baselineskip plus 0.1\baselineskip minus 0.2\baselineskip}

```

Set the fraction of floating object. Make the fraction less crowded than default value to prevent floating object occupying too much space.

```

316 \renewcommand{\textfraction}{0.15}
317 \renewcommand{\topfraction}{0.85}
318 \renewcommand{\bottomfraction}{0.65}
319 \renewcommand{\floatpagefraction}{0.60}

```

8.4 Table Style

`\tabincell` A command make it easier to insert a new table into an existing cell.

```
320 \newcommand{\tabincell}[2]{\begin{tabular}{@{}#1@{}}#2\end{tabular}}
```

To prevent `\cline` breaking page in **longtable** environment, use in this way: `\table content * \nopagebreak \cline{i-j}`³

```
321 \def\@cline#1-#2\@nil{%
322   \omit
323   \@multicnt#1%
324   \advance\@multispan\m@ne
325   \ifnum\@multicnt=\@ne\@firstofone{&\omit}\fi
326   \@multicnt#2%
327   \advance\@multicnt-#1%
328   \advance\@multispan\@ne
329   \leaders\hrule\@height\arrayrulewidth\hfill
330   \cr
331   \noalign{\nobreak\vskip-\arrayrulewidth}}
```

Here we set the global font setting (font size: 11pt and line spread: 1.4) for tables. But first we will declare a variable to determine whether table global font setting is activated.

```
332 \newif\ifHUST@useoldtabular
333 \HUST@useoldtabularfalse
```

OffTabFontSetting Use `\TurnOffTabFontSetting` to deactivate global font setting.

```
334 \def\TurnOffTabFontSetting{\HUST@useoldtabulartrue}
```

OnTabFontSetting Use `\TurnOnTabFontSetting` to activate global font setting.

```
335 \def\TurnOnTabFontSetting{\HUST@useoldtabularfalse}
```

Hook the **tabular**, **tabularx** and **longtable** environment to imply the global font setting.

```
336 \AtBeginEnvironment{tabular}{
337   \ifHUST@useoldtabular\else
338     \changefont{size=11pt,linespread=1.4}
339   \fi
340 }
341 \AtBeginEnvironment{tabularx}{
342   \ifHUST@useoldtabular\else
343     \changefont{size=11pt,linespread=1.4}
```

³Reference:<http://tex.stackexchange.com/questions/52100/longtable-multirow-problem-with-cline-and-nopagebreak>


```

344 \fi
345 }
346 \AtBeginEnvironment{longtable}{
347 \ifHUST@useoldtabular\else
348 \changeont{size=11pt,linespread=1.4}
349 \fi
350 }

```

8.5 Caption Style

Set caption font size as 11pt, use hang format, remove ‘.’ after number and set the skip between context as 12pt.

```

351 \DeclareCaptionFont{HUST@captionfont}{\changeont{size=11pt}}
352 \DeclareCaptionLabelFormat{HUST@caplabel}{#1~#2}
353 \captionsetup{
354 font=HUST@captionfont,
355 labelformat=HUST@caplabel,
356 format=hang,
357 labelsep=quad,
358 skip=12pt
359 }

```

8.6 Code Highlight Style

```

360 \definecolor{HUST@lstgreen}{rgb}{0,0.6,0}
361 \definecolor{HUST@lstmauve}{rgb}{0.58,0,0.82}
362
363 \lstset{
364 basicstyle=\footnotesize\ttfamily\changeont{linespread=1}\FANGSONG,
365 keywordstyle=\color{blue}\bfseries,
366 commentstyle=\color{HUST@lstgreen}\itshape\KAI,
367 stringstyle=\color{HUST@lstmauve},
368 showspaces=false,
369 showstringspaces=false,
370 showtabs=false,
371 numbers=left,
372 numberstyle=\tiny\color{black},
373 frame=lines,
374 rulecolor=\color{black},
375 breaklines=true
376 }

```

8.7 Section Title Style

Set the numbering depth for section.

```
377 \setcounter{secnumdepth}{3}
```

Section title format and spacing setting.

```
378 \ifthenelse{\equal{\HUST@language}{chinese}}{
379     \titleformat{\section}{\bfseries\HEI\changeont{size=16pt}}
380         {\zhnumber{\thesection}}{1em}{}
381 }{
382     \titleformat*{\section}{\bfseries\HEI\changeont{size=16pt}}
383 }
384 \titlespacing*{\section}{0pt}{18pt}{6pt}
```

Subsection title format and spacing setting.

```
385 \titleformat*{\subsection}{\bfseries\HEI\changeont{size=14pt}}
386 \titlespacing*{\subsection}{0pt}{12pt}{6pt}
```

Subsubsection title format and spacing setting.

```
387 \titleformat*{\subsubsection}{\bfseries\HEI\changeont{size=13pt}}
388 \titlespacing*{\subsubsection}{0pt}{12pt}{6pt}
```

8.8 Head & Foot Style

```
389 \let\ps@plain\ps@fancy
390 \pagestyle{fancy}
391 \fancyhf{}
392 \renewcommand{\headrulewidth}{0pt}
393 \renewcommand{\footrulewidth}{0pt}
394 \fancyfoot[C]{\thepage}
```

8.9 List Environment Style

```
395 \setlist{noitemsep,partopsep=0pt,topsep=.8ex}
396 \setlist[1]{labelindent=\parindent}
397 \setlist[enumerate,1]{label=\arabic*.,ref=\arabic*}
398 \setlist[enumerate,2]{label*=\arabic*,ref=\theenumi.\arabic*}
399 \setlist[enumerate,3]{label=\emph{\alph*}},ref=\theenumii\emph{\alph*}}
400 \setlist[description]{font=\bfseries\HEI}
```

8.10 Footnote Style

```
401 \MakePerPage{footnote}
```

9 Special Page

`\maketitle` Commands to generate title.

```
402 \let\HUST@oldmaketitle\maketitle
403 \def\maketitle{
404     \newgeometry{top=1.2in}
405     \begingroup
406     \gdef\@title{\HEI\bfseries\HUST@maintitle}
407     \gdef\@author{}
408     \gdef\@date{}
409     \HUST@oldmaketitle
410     \vspace{-3em}\sffamily\KAI\changeont{size=13.75pt}
411     \ifthenelse{\equal{\HUST@language}{chinese}}{
412         \noindent \HUST@departmenttitle \\\
413         \null\hspace{2em} \HUST@department \par
414         \noindent \HUST@titletitle \\\
415         \null\hspace{2em} \HUST@title \par
416         \noindent \HUST@authortitle \\\
417         \null\hspace{2em} \HUST@author \par
418         \noindent \HUST@majortitle \hspace{.8em}
419         \ifthenelse{\equal{\HUST@major}{}}{\hspace{5em}}{\HUST@major}
420         \hspace{3em} \HUST@divisiontitle \hspace{.8em} \HUST@division \par
421         \noindent \HUST@supervisorentrytitle \hspace{.8em}
422         \ifthenelse{\equal{\HUST@supervisor}{}}{\hspace{5em}}{\HUST@su-
pervisor}
423         \hspace{3em} \HUST@supervisortitleentrytitle \hspace{.8em} \HUST@su-
pervisortitle \par
424     }{
425         \noindent \HUST@departmenttitle \hspace{.8em} \HUST@depart-
ment \par
426         \noindent \HUST@titletitle \hspace{.8em} \HUST@title \par
427         \noindent \HUST@authortitle \hspace{.8em} \HUST@author \par
428         \noindent \HUST@majortitle \hspace{.8em} \HUST@major \par
429         \noindent \HUST@divisiontitle \hspace{.8em} \HUST@division \par
430         \noindent \HUST@supervisorentrytitle \hspace{.8em} \HUST@su-
pervisor \par
431     }
432     \endgroup
433 }
```

`\bibliography` A command to generate bibliography page. We use thubib.bst in `thuthesis`

to typeset bibliography in Chinese language mode. And use **IEEEtran** in English language mode.

```

434 \ifthenelse{\equal{\HUST@language}{chinese}}{
435   \def\thudot{\unskip.}
436   \def\thumasterbib{[Master Thesis]}
437   \def\thuphdbib{[Doctor Thesis]}
438   \bibliographystyle{thubib}
439 }{
440   \bibliographystyle{IEEEtran}
441 }
442 \let\HUST@bibliography\bibliography
443 \renewcommand\bibsection{}
444 \setlength\bibsep{0pt}
445 \def\bibliography#1{
446   \section{\refname}
447   \ifthenelse{\equal{\HUST@language}{chinese}}{
448     \HUST@bibliography{#1}
449   }{
450     \HUST@bibliography{IEEEabrv,#1}
451   }
452 }

```

10 Other Command

\email

```

453 \def\email#1{
454   \href{mailto:#1}{\texttt{#1}}
455 }
456 </class>

```

V Index

The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

Symbols	
\@author	407
\@cline	321
\@date	408
\@firstofone	325
\@height	329
\@multicnt	323, 325, 326, 327
\@multispan	324, 328
\@title	406
A	
\abovedisplayshortskip . .	270, 272
\abovedisplayskip	269, 271
\AlgoLineautorefname . . .	219, 247
\allowdisplaybreaks	268
\alph	399
language	4, 9
\appendixautorefname . . .	199, 227
\appendixname	191, 200, 228
\arabic	397, 398
\arrayrulewidth	329, 331
\AtBeginDocument	188
\AtBeginEnvironment . . .	336, 341, 346
\author	4, 9, <u>166</u> , 166, 167
\axiomautorefname	211, 239
B	
\baselineskip	314, 315
\begin	320
\belowdisplayshortskip . . .	272
\belowdisplayskip	271
\bfseries	282,
	365, 379, 382, 385, 387, 400, 406
\bibliography	5, 10, <u>434</u> , 442, 445
\bibliographystyle	438, 440
\bibsection	443
\bibsep	444
\bottomfraction	318
C	
\captionsetup	353
\changeont	109, 338, 343, 348,
	351, 364, 379, 382, 385, 387, 410
\CJKglue	75
\CJKnumber	106
\ClassError	9
\color	365, 366, 367, 372, 374
\contentsname	190
\corollaryautorefname . . .	212, 240
\cr	330
\csname	200, 228
\CurrentOption	14
D	
\DeclareCaptionFont	351
\DeclareCaptionLabelFormat . .	352
\DeclareOption	14
\DeclareOptionX	5
\defaultfontfeatures	43, 65, 89
\defaultjfontfeatures	95
\definecolor	360, 361
\definitionautorefname . . .	207, 235
\department	4, 9, <u>168</u> , 168, 169
\division	5, 9, <u>172</u> , 172, 173
E	
\email	5, 10, <u>453</u> , 453
\emph	399

<code>\end</code>	320	<code>\HUST@bibliography</code> ..	442, 448, 450
<code>\endcsname</code>	200, 228	<code>\HUST@department</code>	168, 413, 425
<code>\equal</code>	6, 32, 51, 174, 184, 221, 249, 275, 287, 295, 378, 411, 419, 422, 434, 447	<code>\HUST@departmenttitle</code>	251, 260, 412, 425
<code>\equationautorefname</code>	194, 222	<code>\HUST@division</code>	172, 420, 429
<code>\errmessage</code>	23	<code>\HUST@divisiontitle</code>	255, 264, 420, 429
<code>\errorcontextlines</code>	21	<code>\HUST@language</code>	4, 7, 32, 51, 174, 184, 221, 249, 275, 287, 295, 378, 411, 434, 447
<code>\exampleautorefname</code>	214, 242	<code>\HUST@maintitle</code> ..	250, 259, 267, 406
<code>\exerciseautorefname</code>	213, 241	<code>\HUST@major</code>	170, 419, 428
<code>\expandafter</code>	200, 228	<code>\HUST@majortitle</code> ..	254, 263, 418, 428
F		<code>\HUST@oldmaketitle</code>	402, 409
<code>\fancyfoot</code>	394	<code>\HUST@supervisor</code> ..	175, 179, 422, 430
<code>\fancyhf</code>	391	<code>\HUST@supervisorentrytitle</code> ..	256, 265, 421, 430
<code>\FancyVerbLineautorefname</code>	204, 232	<code>\HUST@supervisortitle</code> ...	180, 423
<code>\FANGSONG</code> 7, 46, <u>78</u> , 78, 81, <u>100</u> , 100, 364		<code>\HUST@supervisortitleentrytitle</code>	257, 423
<code>\fangsong</code>	7, 49, <u>81</u> , 81, <u>103</u> , 103	<code>\HUST@title</code>	164, 415, 426
<code>\figureautorefname</code>	197, 225	<code>\HUST@titletitle</code> ..	252, 261, 414, 426
<code>\figurename</code>	186	<code>\HUST@useoldtabularfalse</code>	333, 335
<code>\floatpagefraction</code>	319	<code>\HUST@useoldtabulartrue</code>	334
<code>\footnoteautorefname</code>	195, 223	<code>\hypersetup</code>	127, 164, 166, 267
<code>\footnotesize</code>	364	I	
<code>\footrulewidth</code>	393	<code>\ifHUST@useoldtabular</code>	332, 337, 342, 347
G		<code>\ifLuaTeX</code>	19, 83
<code>\geometry</code>	111	<code>\ifnum</code>	325
H		<code>\ifthenelse</code>	6, 32, 51, 174, 184, 221, 249, 275, 287, 295, 378, 411, 419, 422, 434, 447
<code>\headrulewidth</code>	392	<code>\ifXeTeX</code>	18, 52
<code>\HEI</code>	7, 44, <u>76</u> , 76, 79, <u>98</u> , 98, 282, 379, 382, 385, 387, 400, 406	<code>\indexname</code>	185
<code>\hei</code>	7, 47, <u>79</u> , 79, <u>101</u> , 101, 303	<code>\intextsep</code>	314
<code>\hfill</code>	329	<code>\itemautorefname</code>	196, 224
<code>\href</code>	454	<code>\itshape</code>	294, 366
<code>\hrule</code>	329	J	
<code>\hskip</code>	75	<code>\jfontspec</code>	101, 102, 103
<code>\hspace</code>	413, 415, 417, 418, 419, 420, 421, 422, 423, 425, 426, 427, 428, 429, 430		
<code>\HUST@author</code>	166, 417, 427		
<code>\HUST@authortitle</code>	253, 262, 416, 427		

K		P	
\KAI ..	7, 45, <u>77</u> , 77, 80, <u>99</u> , 99, 366, 410	\pageautorefname	205, 233
\kai	7, 48, <u>80</u> , 80, <u>102</u> , 102	\pagestyle	390
L		\paperheight	120
\leaders	329	\paperwidth	119
\lemmaautorefname	209, 237	\par	413, 415, 417, 420, 423, 425, 426, 427, 428, 429, 430
\listfigurename	192	\parindent	122, 396
\listingscaption	188	\parskip	123
\listtablename	193	\PassOptionsToClass	14
\LoadClass	16	\pdfpageheight	120
\lstlistingautorefname ..	206, 234	\pdfpagewidth	119
\lstset	363	\ProcessOptionsX	15
\ltjsetparameter	97	\proofautorefname	215, 243
M		\proofname	303, 312
\m@ne	324	\propositionautorefname ..	208, 236
\major	4, 9, <u>170</u> , 170, 171	\ps@fancy	389
\MakePerPage	401	\ps@plain	389
\maketitle	5, 10, <u>402</u> , 402, 403	R	
N		\refname	189, 446
\newCJKfontfamily	76, 77, 78	\relax	21, 22, 44, 45, 46
\newgeometry	404	S	
\newif	332	\section	379, 382, 384, 446
\newjfontfamily	98, 99, 100	\sectionautorefname	201, 229
\newlinechar	22	\SetAlgoFuncName	218, 246
\newtheorem	288, 290, 296, 297, 298, 299, 300, 301, 302, 305, 306, 307, 308, 309, 310, 311	\SetAlgoProcName	217, 245
\noalign	331	\SetAlgorithmName	216, 244
\nobreak	331	\setCJKmainfont	68
\noindent	412, 414, 416, 418, 421, 425, 426, 427, 428, 429, 430	\setCJKmonofont	72
\normalfont	282, 286	\setCJKsansfont	71
\null	196, 201, 202, 203, 204, 205, 219, 413, 415, 417	\setcounter	377
\numberwithin	273	\setfnunmsym	143
O		\setlength ..	122, 123, 314, 315, 444
\omit	322, 325	\setlist ..	395, 396, 397, 398, 399, 400
\OR	6	\setmainfont	34, 56, 86
		\setmainjfont	91
		\setmonofont	42, 64, 88
		\setsansfont	41, 63, 87
		\setsansjfont	94
		\sffamily	410

<code>\subsection</code>	385, 386	<code>\thesection</code>	380
<code>\subsectionautorefname</code> ..	202, 230	<code>\thudot</code>	435
<code>\subsubsection</code>	387, 388	<code>\thumasterbib</code>	436
<code>\subsubsectionautorefname</code>	203, 231	<code>\thuphdbib</code>	437
<code>\supervisor</code> 5, 9, <u>174</u> , 175, 176, 178, 182		<code>\tiny</code>	372
T		<code>\title</code>	4, 9, <u>164</u> , 164, 165
<code>\tabincell</code>	<u>320</u> , 320	<code>\titleformat</code>	379, 382, 385, 387
<code>\tableautorefname</code>	198, 226	<code>\titlespacing</code>	384, 386, 388
<code>\tablename</code>	187	<code>\topfraction</code>	317
<code>\textbf</code>	312	<code>\ttfamily</code>	364
<code>\textfloatsep</code>	315	<code>\TurnOffTabFontSetting</code>	
<code>\textfraction</code>	316	5, 10, <u>334</u> , 334
<code>\texttt</code>	454	<code>\TurnOnTabFontSetting</code> 5, 10, <u>335</u> , 335	
<code>\theenumi</code>	398	U	
<code>\theenumii</code>	399	<code>\unskip</code>	435
<code>\theoremautorefname</code>	210, 238	V	
<code>\theorembodyfont</code>	286, 294	<code>\vbox</code>	97
<code>\theoremheaderfont</code>	282	<code>\vskip</code>	331
<code>\theoremnumbering</code>	274	<code>\vspace</code>	410
<code>\theorempostskip</code>	281	X	
<code>\theorempreskip</code>	280	<code>\xeCJKsetup</code>	73
<code>\theoremseparator</code>	276, 278	Z	
<code>\theoremstyle</code>	285, 293	<code>\zhnumber</code>	106, 380
<code>\theoremsymbol</code>	283	<code>\ziju</code>	75, 97
<code>\thepage</code>	394		