

# The nputhesis class\*

Zongze Yang

yangzongze@gmail.com

2020/03/28

## 目录

第 1 节 简介	1	4.3 盲评命令	8
第 2 节 使用方法	1	4.4 设置页面版式格式	8
2.1 加载文类	1	4.5 设置默认章节标题格式	8
2.2 加载常用宏包	2	4.6 目录字体设置	9
2.3 参考文献	2	4.7 变量设置	9
2.4 变量设置	2	4.8 设置字体和行距	10
2.5 开始文档	3	4.9 封面	10
2.6 摘要部分	3	4.10 选项 blankinfo 的实现	12
2.7 目录和符号表	3	4.11 摘要环境	12
2.8 正文部分	3	4.12 图表标题设置	13
2.9 参考文献, 附录等	4	4.13 表格和列表环境	13
2.10 结束文档	4	4.14 特殊章节设置	13
2.11 完整的例子	4	4.15 默认定理环境	14
第 3 节 安装	6	4.16 定义符号表	14
3.1 编译 nputhesis.dtx	6	4.17 配置变量	15
第 4 节 代码实现	7	版本历史	16
4.1 文档选项	7	代码索引	16
4.2 使用的宏包	7		

## 第 1 节 简介

## 第 2 节 使用方法

### 2.1 加载文类

加载 nputhesis 文档类

```
\documentclass[twoside, UTF8, phd, AutoFakeBold]{nputhesis}
```

这里使用 `AutoFakeBold` 为外封面的字体加黑. 在 `TeXLive 2019` 之前的版本中, 启用选项使得 `xelatex` 编译生成的 pdf 文件不能复制, 即复制为乱码. 解决方法有以下几种:

\*This document corresponds to nputhesis v1.0.0, dated 2020/03/28.

1. 升级 TeXLive 到 2019 版.
2. 使用 Adobe 字体. 首先自行下载安装 Adobe 字体, 然后 tex 源文件导言区重新定义相关字体.

```
\documentclass[twoside, UTF8, phd, dbr, AutoFakeBold]{nputhesis}
% 导言区
\renewcommand{\songti}{\CJKfontspec{Adobe Song Std L}}      % adobe 宋体
\renewcommand{\kaishu}{\CJKfontspec{Adobe Kaiti Std R}}      % adobe 楷体
\renewcommand{\heiti}{\CJKfontspec{Adobe Heiti Std R}}       % adobe 黑体
\renewcommand{\fangsong}{\CJKfontspec{Adobe Fangsong Std R}} % adobe 仿宋
% other command
\begin{document}
正文
\end{document}
```

3. 去掉 AutoFakeBold 选项. 这样会导致外封面字体不能加黑.

若需生成盲评版本, 添加选项 dbr 即可, 如

```
\documentclass[twoside, UTF8, phd, dbr, AutoFakeBold]{nputhesis}
```

关于 \dbr 命令的使用请参考 2.4 节, 2.9 节以及 4.3 节.

## 2.2 加载常用宏包

```
\usepackage{lipsum}
```

## 2.3 参考文献

推荐使用 biblatex 处理参考文献. 参考文献格式使用 gb7714-2015, 其详细信息请参考 <https://github.com/hushidong/biblatex-gb7714-2015>. 宏包 biblatex-gb7714-2015 已包含在 TeXLive 和 MikTeX 中. 使用如下命令载入 biblatex 宏包即可.

```
\usepackage[backend=biber,
             style=gb7714-2015, maxbibnames=3,minbibnames=3,
             gbnamefmt=givenahead,
             doi=false,
             url=false,
             %
             gbpub=false
]{biblatex}
```

上面的选项 gbnamefmt 需要使用 v1.0k 以上版本的 biblatex-gb7714-2015. 如果宏包版本不能满足, 可以注释掉选项 gbnamefmt=givenahead.

然后使用 addbibresource 添加参考文献文件 myrefs.bib.

```
\addbibresource{myrefs.bib}
```

## 2.4 变量设置

设置学校编号, 分类号, 题目, 姓名等信息

```
\schoolno{10699}
\classno{0242}
\secretlevel{公开}
\authorno{0000999999}
\title[LaTeX Template of NPU Thesis]{西工大硕博学位论文 LaTeX 模板}
\author[\dbr{San Zhang}]{\dbr{张三}}
\major[Philosophy in Mathematics]{数学}
\supervisor[\dbr{Si Li}]{\dbr{李四}}
```

```
\applydate[April 2046]{2046~年~4~月}  
\support{本文研究得到某某基金(编号:XXXXXXX)资助。}
```

## 2.5 开始文档

使用 `makecover` 生成封面: 包括外封面和内封面, 然后用 `frontmatter` 分割封面和正文部分.

```
\begin{document}  
\makecover  
\frontmatter
```

## 2.6 摘要部分

中文摘要

```
\begin{abstract}  
本模板基本实现了西北工业大学硕博论文格式要求: 封皮, 页眉页脚,  
章节标题格式, 参考文献格式等.  
\begin{keywords}  
学位论文, \LaTeX\ 模板, 西工大  
\end{keywords}  
\end{abstract}
```

英文摘要

```
\begin{Abstract}  
We implement the class |nputhesis| for the thesis of NWPU.  
\begin{Keywords}  
Thesis Template, \LaTeX, NPU  
\end{Keywords}  
\end{Abstract}
```

## 2.7 目录和符号表

```
\tableofcontents  
\printnomenclature
```

正文中使用 `\nomenclature{<sym>}{<text explanation>}` 向符号表中添加内容.

## 2.8 正文部分

使用 `mainmatter` 开始正文.

```
\mainmatter
```

正文结构

```
\chapter{绪论}  
\section{\TeX 和 \LaTeX 介绍}  
\section{nputhesis 简介}  
\chapter{基础知识}  
\section{基本命令}  
\section{宏包}
```

### 2.8.1 图与表

## 2.9 参考文献, 附录等

```

\backmatter
% 以下两种参考文献格式, 根据实际宏包使用情况添加
\printbibliography           % biblatex 输出参考文献方式
% \bibliographystyle{gbt7714-2005} % 传统输出参考文献方式
% \bibliography{ref}          % 传统输出参考文献方式

% \Appendix % 如果有多个附录, 可重复使用该命令, 自动按字母编号.

\Thanks      % 致谢

\Work
\papersection % 以下填写发表论文情况

\begin{npulist}
  \item {\bf \dbr{S. Zhang}}, \dbr{S. Li}. NPU 硕博学位论文
    \LaTeX\ 模板 [D]. 2019.
\end{npulist}

\researchsection % 以下填写参加科研情况
\begin{npulist}
  \item NPU \LaTeX 模板. 编号: 000000000, 参与.
  \item NPU \LaTeX 模板. 编号: 000000001, 参与.
  \item NPU \LaTeX 模板. 编号: 000000002, 参与.
\end{npulist}

```

### 2.10 结束文档

```

\statement
\end{document}

```

### 2.11 完整的例子

```

1 < *sample>
2 \documentclass[oneside, UTF8, phd, AutoFakeBold]{nputhesis}
3 \usepackage{lipsum}
4 \usepackage{filecontents}
5 \usepackage[backend=biber,
6             style=gb7714-2015, maxbibnames=3,minbibnames=3,
7             gbnamefmt=givenahead,
8             doi=false,
9             url=false,
10            ]{biblatex}
11 \begin{filecontents}{myrefs.bib}
12 @Book{Knuth1986,
13   Title           = {The \TeX book},
14   Author          = {Donald~Ervin Knuth},
15   Publisher       = {Addison-Wesley},
16   Year            = {1986}
17 }
18 @Book{Lamport1994,
19   Title           = {A Document Preparation System},
20   Author          = {Leslie Lamport},
21   Publisher       = {Addison-Wesley},
22   Year            = {1994}
23 }
24
25 @Book{Liu2013,
26   Title           = {\LaTeX 入门},
27   Author          = {刘海洋},
28   Publisher       = {电子工业出版社},

```

```

29 Year = {2013}
30 }
31 \end{filecontents}
32 \addbibresource{myrefs.bib}
33 \schoolno{10699}
34 \classno{0242}
35 \secretlevel{公开}
36 \authorno{0000999999}
37 \title[\LaTeX\ Template of NPU Thesis]{西工大硕博学位论文 \LaTeX 模板}
38 \author[\dbr{San Zhang}]{\dbr{张三}}
39 \major[Philosophy in Mathematics]{数学}
40 \supervisor[\dbr{Si Li}]{\dbr{李四}}
41 \applydate[April 2046]{2046~年~4~月}
42 \support{本文研究得到某某基金(编号:XXXXXX)资助。}
43 \begin{document}
44 \makecover
45 \frontmatter
46
47 \begin{abstract}
48 本模板基本实现了西北工业大学硕博论文格式要求: 封皮, 页眉页脚,
49 章节标题格式, 参考文献格式等.
50 \begin{keywords}
51 学位论文, \LaTeX\ 模板, 西工大
52 \end{keywords}
53 \end{abstract}
54 \begin{Abstract}
55 We implement the class |nputhesis| for the thesis of NWPU.
56 \begin{Keywords}
57 Thesis Template, \LaTeX, NPU
58 \end{Keywords}
59 \end{Abstract}
60
61 \tableofcontents
62 \printnomenclature
63
64 \mainmatter
65
66 \chapter{绪论}
67 \section{\TeX 和 \LaTeX 介绍}
68 \TeX \parencite{Knuth1986} 和 \LaTeX \cite{Lamport1994, Liu2013}的介绍.
69 \section{nputhesis 简介}
70 \chapter{基础知识}
71 \section{基本命令}
72 \section{宏包}
73
74 \backmatter
75
76 \printbibliography % biblatex 输出参考文件方式
77
78 \Appendix % 编号附录
79
80 \Appendix* % 不编号附录
81
82 \Thanks % 致谢
83
84 \Work
85 \papersection % 以下填写发表论文情况
86
87 \begin{npulist}
88 \item {\bf \dbr{S. Zhang}}, \dbr{S. Li}. NPU 硕博学位论文
89 \LaTeX\ 模板[D]. 2019.
90 \end{npulist}
91
92 \researchsection % 以下填写参加科研情况
93 \begin{npulist}
94 \item NPU \LaTeX 模板. 编号: 000000000, 参与.
95 \end{npulist}

```

```

96 \statement
97 \end{document}
98 </sample>

```

## 第 3 节 安装

从 github 下载的压缩包已所有文件, 直接解压即可使用. 下面介绍从 dtx 文件生成相关文件的过程.

### 3.1 编译 nputhesis.dtx

运行如下命令即可得到所有文件

```
xelatex nputhesis.dtx
```

但是这样生成文档 nputhesis.pdf 中没有索引等信息, 因此需要进行多次编译. 下面给出生成 pdf 文件的两种方式.

#### 3.1.1 方法一

进入 nputhesis.dtx 所在文件夹, 依次运行下面命令.

```

xelatex nputhesis.dtx
makeindex -s gglo.ist -o nputhesis.gls nputhesis.glo
makeindex -s gind.ist -o nputhesis.ind nputhesis.idx
xelatex nputhesis.dtx
xelatex nputhesis.dtx
del nputhesis.gls nputhesis.glo nputhesis.ind nputhesis.idx
del nputhesis.ilg nputhesis.aux nputhesis.log nputhesis.toc
del nputhesis.hd nputhesis.out

```

#### 3.1.2 方法二

使用 latexmk 进行编译. 首先, 进入 nputhesis.dtx 所在文件夹, 创建文件 dtxrc 内容如下:

```

@cus_dep_list = (@cus_dep_list, "glo gls 0 makegls");
sub makegls {
    system("makeindex -s gglo.ist -o $_[0].gls $_[0].glo"); }
$makeindex="makeindex -s gind.ist -o %D %S";
push @generated_exts, 'idx', 'ind', 'glo', 'gls', 'hd';

```

然后在该文件夹运行如下命令即可生成所需文件.

```

latexmk -xelatex nputhesis.dtx -r dtxrc
latexmk -c nputhesis.dtx -r dtxrc

```

#### 3.1.3 方法三

在 Windows 环境下直接运行 build.bat 即可.

## 第4节 代码实现

### 4.1 文档选项

使用布尔变量实现文档的选项设置

```

99 <*class>
100 \newif\if@npu@phd
101 \newif\if@npu@blankinfo
102 \newif\if@npu@dbr % for double-blind review
103 \def\set@npu@phd{\@npu@phdtrue}
104 \def\set@npu@ma{\@npu@phdfalse}

```

使用 xkeyval 声明文档选项

```
105 \RequirePackage{xkeyval}
```

声明选项 blankinfo, 用于控制是否现实空白页标识信息.

```
106 \DeclareOptionX{blankinfo}[false]{\csname @npu@blankinfo#1\endcsname}
```

声明选项 thesistype, 可选参数为 phd 和 ma, 用于选择文档类型: 博士论文还是硕士论文.

```
107 \DeclareOptionX{thesistype}[phd]{\csname set@npu@#1\endcsname}
```

声明选项 phd 和 ma, 要废弃的选项, 被 thesistype 代替, 请使用 thesistype.

```

108 \DeclareOptionX{phd}{\@npu@phdtrue}
109 \DeclareOptionX{ma}{\@npu@phdfalse}

```

声明选项 dbr, 用于生成盲评版本, 参考 \dbr.

```
110 \DeclareOptionX{dbr}[true]{\csname @npu@dbr#1\endcsname}
```

该文档类基于 book 类实现, 加载 book 文档类.

```

111 \DeclareOptionX*{\PassOptionsToClass{\CurrentOption}{ctexbook}}
112 \ExecuteOptionsX{thesistype=phd}
113 \ExecuteOptionsX{dbr=false}
114 \ProcessOptionsX \relax
115 \LoadClass[heading=true,zihao=-4]{ctexbook}

```

### 4.2 使用的宏包

加载需要的宏包

```

116 \RequirePackage{geometry}
117 \RequirePackage{xcolor}
118 \RequirePackage{fancyhdr}
119 \RequirePackage{titletoc}
120 \RequirePackage{caption}
121 \RequirePackage{ulem}
122 \RequirePackage{amsthm}
123 \RequirePackage{amsmath}
124 \RequirePackage{amsfonts}
125 \RequirePackage{setspace}
126 \RequirePackage{longtable}
127 \RequirePackage{booktabs}
128 \RequirePackage{tabularx}
129 \RequirePackage{multirow}
130 \RequirePackage{graphicx}
131 % \RequirePackage[heading=true,zihao=-4]{ctex}
132 \RequirePackage{ifxetex}
133 \ifxetex
134 \setmainfont{Times New Roman}
135 \fi

```

### 4.3 盲评命令

当 dbr 选项开启, 即 `dbr=true` 时在文件中 `\dbr` 命令以隐藏作者相关信息, 使用命令 `\dbr{张三}` 将会使用黑框代替 ‘张三’ 的显示.

```
136 \newcommand\@npu@replace[1]{\%
137   \setlength{\fboxsep}{0pt}%
138   \colorbox{black}{\phantom{#1}}}%
139 \newcommand{\dbr}[1]{\if@npu@dbr \@npu@replace{#1}\relax\else #1\fi}
```

### 4.4 设置页面版式格式

```
140 \geometry{paperwidth=210mm,paperheight=297mm,%
141   left=2.5cm,right=2.5cm,top=2.54cm,bottom=2.54cm}
142 \topmargin=-10.4mm
143 \headheight=17pt
144 \footskip=8mm
145 \headsep=5mm
```

页眉设置

```
146 \pagestyle{fancy}
147 % \renewcommand\chaptermark[1]{\markboth{%
148 %   \if@mainmatter%
149 %     %\ifnum\arabic{chapter}>0%
150 %       \arabic{chapter}\quad%
151 %     %\fi%
152 %   \fi#1}{}}
153 \fancyhf{}
154 \fancyhead[EC]{\songti\zihao{-5}\npu@rightmark}
155 \fancyhead[OC]{\songti\zihao{-5}\leftmark}
156 \fancyfoot[C]{\songti\zihao{5}\thepage}
157 \renewcommand{\headrule}{%
158   \hrule width\headwidth height2.8pt \vspace{1pt}%
159   \hrule width\headwidth height0.8pt}
160 \fancypagestyle{plain}{\thispagestyle{fancy}}
161 \newcommand{\clearpagestyle}{\clearpage{\pagestyle{empty}\cleardoublepage}}
```

### 4.5 设置默认章节标题格式

```
162 \ifx\ctexset\undefined
163   \CTEXsetup[ % name={,}, number={\arabic{chapter}},% use default value
164     beforekip={0pt}, afterskip={20pt}]{chapter}
165   \CTEXsetup[nameformat={\heiti\zihao{3}\bf}]{chapter}
166   \CTEXsetup[titleformat={\heiti\zihao{3}}]{chapter}
167   \CTEXsetup[format={\heiti\zihao{4}}]{section}
168   \CTEXsetup[format={\heiti\zihao{-4}}]{subsection}
169 \else
170   \ctexset{
171     contentsname = {\npu@contents}
172   }
173   % title format of chapter
174   \ctexset{
175     % chapter/name={,}, % use default value in ctex
176     % chapter/number=\arabic{chapter}, % use default value in ctex
177     chapter/beforekip={0pt},
178     chapter/afterskip={20pt},
179     chapter/format={\heiti\zihao{3}\centering}
180   }
181   % title format of section
182   \ctexset{
183     section/name={,},
184     % section/beforekip={2ex plus .5ex minus .1ex},
185     % section/afterskip={1ex plus .1ex},
186     section/format={\heiti\zihao{4}}
187   }
188   % title format of subsection
189   \ctexset{
```



```

190 subsection/name={,},
191 % subsection/beforeskip={2ex plus .5ex minus .1ex},
192 % subsection/afterskip={1ex plus .1ex},
193 subsection/format={\heiti\zihao{-4}}
194 }
195 \ctexset{
196 subsubsection/name={,},
197 % subsubsection/beforeskip={1ex plus .3ex minus .1ex},
198 % subsubsection/afterskip={.5ex plus .1ex},
199 subsubsection/format={\heiti\zihao{-4}}
200 }
201 \ctexset{
202 paragraph/name={,},
203 % paragraph/beforeskip={1ex plus .3ex minus .1ex},
204 % paragraph/afterskip={.5ex plus .1ex},
205 paragraph/format={\heiti\zihao{-4}}
206 }
207 \ctexset{
208 subparagraph/name={,},
209 % subparagraph/beforeskip={1ex plus .3ex minus .1ex},
210 % subparagraph/afterskip={.5ex plus .1ex},
211 subparagraph/format={\heiti\zihao{-4}}
212 }
213 \fi

```

## 4.6 目录字体设置

```

214 \def\@contentfont{\songti\zihao{-4}}
215 \titlecontents{chapter}[0pt]{\@contentfont}
216 {\thecontentslabel\hspace{.5em}}{}
217 {\hspace{.5em}\titlerule*{.}\contentspage}
218 \titlecontents{section}[15pt]{\@contentfont}
219 {\thecontentslabel\quad}{}
220 {\hspace{.5em}\titlerule*{.}\contentspage}
221 \titlecontents{subsection}[30pt]{\@contentfont}
222 {\thecontentslabel\quad}{}
223 {\hspace{.5em}\titlerule*{.}\contentspage}

```

## 4.7 变量设置

定义变量,用于存储包括论文题目,作者,导师等信息.

```

224 \def\title{\@ifnextchar[\@title{\@title[]}}
225 \def\author{\@ifnextchar[\@author{\@author[]}}
226 \def\major{\@ifnextchar[\@major{\@major[]}}
227 \def\supervisor{\@ifnextchar[\@supervisor{\@supervisor[]}}
228 \def\applydate{\@ifnextchar[\@applydate{\@applydate[]}}
229 \def\@title[#1]#2{\def\@titleen{#1}\def\@title{#2}}
230 \def\@author[#1]#2{\def\@authoren{#1}\def\@author{#2}}
231 \def\@major[#1]#2{\def\@majoren{#1}\def\@major{#2}}
232 \def\@supervisor[#1]#2{\def\@supervisoren{#1}\def\@supervisor{#2}}
233 \def\@applydate[#1]#2{\def\@applydateen{#1}\def\@applydate{#2}}
234 \def\@title{}\def\@titleen{}
235 \def\@author{}\def\@authoren{}
236 \def\@major{}\def\@majoren{}
237 \def\@supervisor{}\def\@supervisoren{}
238 \def\@applydate{}\def\@applydateen{}
239 \def\npu@empty{}
240 \def\schoolno#1{\def\@schoolno{#1}}\def\@schoolno{}
241 \def\classno#1{\def\@classno{#1}}\def\@classno{}
242 \def\secretlevel#1{\def\@secretlevel{#1}}\def\@secretlevel{}
243 \def\authorno#1{\def\@authorno{#1}}\def\@authorno{}
244 \def\support#1{\def\@support{#1}}\def\@support{}
245 \ifnpu@phd
246 \def\npu@degreenameen{Doctor}
247 \else
248 \def\npu@degreenameen{Master}
249 \fi

```

## 4.8 设置字体和行距

```
250 % \renewcommand{\normalsize}{\zihao{-4}}
251 \linespread{1.25}
```

## 4.9 封面

定义外封面

```
252 \def\makeoutercover{
253   \begin{titlepage}
254     \bfseries
255     \linespread{1.25}
256     \begin{center}
257       \hfill% default \bf font
258       \heiti\zihao{5}
259       \newlength{\max@length}
260       \settowidth{\max@length}{\npu@schoolno\npu@comma 2000000000}
261       \newlength{\name@length}
262       \settowidth{\name@length}{\npu@schoolno}
263       \begin{minipage}{\max@length}
264         \vskip.5cm
265         \renewcommand\arraystretch{1.2}
266         \begin{tabular}{|c|c|}\hline
267           \makebox[\name@length][s]{\npu@schoolno} & \@schoolno & \\\hline
268           \makebox[\name@length][s]{\npu@classno} & \@classno & \\\hline
269           \makebox[\name@length][s]{\npu@secretlevel}& \@secretlevel & \\\hline
270           \makebox[\name@length][s]{\npu@authorno} & \@authorno & \\\hline
271         \end{tabular}
272       \end{minipage}
273       \par\vspace{9cm}
274       \songti\zihao{2}
275       \begin{minipage}[t]{2cm}
276         \hfill\npu@title\\
277       \end{minipage}
278       %\hbox to 2.5cm{\hfill \npu@title}
279       \setbox123=\hbox{
280         \begin{minipage}[t]{12cm}
281           \begin{center}
282             \heiti\@title
283           \end{center}
284         \end{minipage} }
285       \setbox124=\hbox{
286         \begin{minipage}[t]{12cm}
287           \begin{center}
288             \uline{\hfill\quad\hfill}\\
289             \uline{\hfill\quad\hfill}\\
290           \end{center}
291         \end{minipage} }
292       \hskip-0.5cm
293       \copy123\kern-\wd123\box124
294       \zihao{3}
295       \par\vspace{2.5\baselineskip}
296       \begin{minipage}{5cm}
297         {\kaishu\npu@author} \uline{\hfill\@author\hfill}
298       \end{minipage}
299       \par\vspace{2.5\baselineskip}
300       \settowidth{\name@length}{\npu@applydate}
301       \begin{minipage}{12.5cm}
302         \noindent
303         \makebox[\name@length][s]{\npu@major}%
304         {\uline{\hfill{\@major}\hfill}} \par
305         \vspace{0.5\baselineskip}
306         \makebox[\name@length][s]{\npu@supervisor}%
307         {\uline{\hfill\@supervisor\hfill}} \par
308         \vspace{0.5\baselineskip}
309         \makebox[\name@length][s]{\npu@applydate}%
310         {\uline{\hfill\@applydate\hfill}} \par
```

```

311 \end{minipage}
312 \vspace{2\baselineskip}
313 \end{center}
314 \end{titlepage}
315 \clearpagestyle
316 }

```

#### 定义内封面

```

317 \def\makeinnercover@zh{
318 \begin{titlepage}
319 \linespread{1.25}
320 \vspace*{2cm}
321 \begin{center}
322 \settowidth{\name@length}{\zihao{3}\npu@schoolname}
323 \divide\name@length by 12
324 \multiply\name@length by 17
325 \makebox[\name@length][s]{\zihao{3}\npu@schoolname}
326 \vskip5mm
327 \settowidth{\name@length}{\zihao{1}\npu@degree}
328 \divide\name@length by 12
329 \multiply\name@length by 17
330 \makebox[\name@length][s]{\zihao{1}\npu@degree}
331 \vskip5mm
332 \centerline{\zihao{4}\npu@degreeclass}
333 \vskip5cm
334 \zihao{2}
335 \begin{minipage}[t]{2.5cm}
336 \hfil\npu@title\npu@comma
337 \end{minipage}
338 \setbox123=\hbox{
339 \begin{minipage}[t]{11cm}
340 \begin{center}
341 \@title
342 \end{center}
343 \end{minipage}}
344 \setbox124=\hbox{
345 \begin{minipage}[t]{11cm}
346 \begin{center}
347 \uline{\hfill\quad\hfill}\\
348 \uline{\hfill\quad\hfill}\\
349 \end{center}
350 \end{minipage}}
351 \hskip-1cm
352 \copy123\kern-\wd123\box124
353 \par\vspace{4cm}
354 \zihao{3}
355 \settowidth{\name@length}{\npu@major}
356 \begin{minipage}{8cm}
357 \noindent
358 \makebox[\name@length][s]{\npu@author}\npu@comma%
359 \uline{\hfill\@author\hfill} \par
360 \vspace{0.25\baselineskip}
361 \makebox[\name@length][s]{\npu@major}\npu@comma%
362 \uline{\hfill\@major\hfill} \par
363 \vspace{0.25\baselineskip}
364 \makebox[\name@length][s]{\npu@supervisor}\npu@comma%
365 \uline{\hfill\@supervisor\hfill}\par
366 \vspace{1\baselineskip}
367 \end{minipage}
368 \vspace{2\baselineskip}
369 \par\makebox[30mm]{\@applydate}\hfill
370 \end{center}
371 \end{titlepage}
372 \clearpagestyle
373 }

```

## 定义英文封面

```

374 \def\makeinnercover@en{
375   \begin{titlepage}
376     \linespread{1.25}
377     \vspace*{1.5cm}
378     \zihao{3}
379     \begin{center}
380       {\bf
381         %\Large
382         \@title@en \\
383         \vspace{3\baselineskip}
384         \zihao{-3}
385         By\\
386         \ifx\@author@en\npu@empty\quad\else\@author@en\fi\\
387         \vspace{1\baselineskip}
388         Under the Supervision of Professor\\
389         \ifx\@supervisor@en\npu@empty\quad\else\@supervisor@en\fi\\}
390       %\Large
391       \vspace{4\baselineskip}
392       A Dissertation Submitted to\\
393       Northwestern Polytechnical University\\
394       \vspace{1\baselineskip}
395       In Partial Fulfillment of the Requirement\\
396       for the Degree of\\
397       \npu@degreename@en\ of \@major@en\\
398       \vspace{4\baselineskip}
399       Xi'an P. R. China\\
400       \@applydate@en
401     \end{center}
402   \end{titlepage}
403   \clearpagestyle
404 }

```

整合以上封面为一个命令 makecover

```

405 \def\makecover{\makeoutercover\makeinnercover@zh\makeinnercover@en}

```

正文之前使用罗马数字编号

```

406 \let\npu@frontmatter\frontmatter
407 \def\frontmatter{\npu@frontmatter\pagenumbering{Roman}}

```

## 4.10 选项 blankinfo 的实现

重定义 cleardoublepage, 用于实现 blankinfo 选项的功能.

```

408 \def\cleardoublepage{\clearpage\if@twoside \ifodd\c@page\else
409   \hbox{}
410   \vspace*{\fill}
411   \begin{center}\Large
412     \if@npu@blankinfo
413       \textcolor{gray!60}{This Page Intentionally Left Blank!}
414     \fi
415   \end{center}
416   \vspace{\fill}
417   \thispagestyle{empty}
418   \newpage
419   \if@twocolumn\hbox{}\newpage\fi\fi\fi}

```

## 4.11 摘要环境

定义中英文摘要环境

```

420 \newenvironment{abstract}{%
421   \chapter{\npu@abstract}%\addcontentsline{toc}{chapter}{\npu@abstract}%
422   \newenvironment{keywords}{%
423     \vspace{2\baselineskip}\par\textbf{\npu@keywords\npu@comma}}{}
424   }{\vfill\zihao{5}\@support}

```

```

425
426 \newenvironment{Abstract}{%
427   \chapter{\npu@Abstract}%\addcontentsline{toc}{chapter}{\npu@Abstract}%
428   \newenvironment{Keywords}{%
429     \vspace{2\baselineskip}\par\textbf{\npu@Keywords\npu@comma}}{}{}

```

## 4.12 图表标题设置

```

430 \DeclareCaptionFont{song}{\songti\zihao{5}}
431 \captionsetup{labelsep=quad, font=song}
432 \captionsetup[figure]{aboveskip=10pt, belowskip=10pt}
433 \captionsetup[table]{aboveskip=10pt, belowskip=10pt}
434 \renewcommand\thetable{\arabic{chapter}-\arabic{table}}
435 \renewcommand\thefigure{\arabic{chapter}-\arabic{figure}}
436 \renewcommand\theequation{\arabic{chapter}-\arabic{equation}}

```

## 4.13 表格和列表环境

```

437 \let\ldtabular\tabular
438 \let\endldtabular\endtabular
439 \renewenvironment{tabular}{\zihao{5}\ldtabular}{\endldtabular}
440
441 % define nputabu environment which will stretch to textwidth
442 \newcolumntype{L}{>\raggedright\arraybackslash}X}
443 \newcolumntype{R}{>\raggedleft\arraybackslash}X}
444 \newcolumntype{C}{>\centering\arraybackslash}X}
445 \newenvironment{nputabu}[1][\zihao{5}]%
446   {#1\tabularx{\textwidth}{\endtabularx}
447
448 \newenvironment{npulist}{%
449 \begin{group}\renewcommand{\labelenumi}{[\theenumi].}\enumerate}%
450   {\endenumerate\endgroup}

```

## 4.14 特殊章节设置

附录自动以英文字母编号

```

451 \let\npu@chapter\chapter
452 \def\npu@star@chapter#1{\npu@chapter{#1}}
453 \def\chapter{\secdef\npu@chapter\npu@star@chapter}
454 \newcounter{npu@c@appendix}
455 \setcounter{npu@c@appendix}{0}
456 \def\npu@star@Appendix{\chapter{\npu@appendix}}
457 \def\npu@Appendix{\addtocounter{npu@c@appendix}{1}%
458   \chapter{\npu@appendix\Alph{npu@c@appendix}}}
459 \def\Appendix{\@ifstar{\npu@star@Appendix}{\npu@Appendix}}

```

致谢章节

```
460 \def\Thanks{\chapter{\npu@thanks}}
```

参加科研工作章节, 设置标题内容

```

461 \newcommand\Work{\chapter{\npu@work}}
462 \newcommand\papersection{\section*{\npu@work@paper}}
463 \newcommand\researchsection{\section*{\npu@work@research}}

```

声明页

```

464 \def\statement{
465   \begin{titlepage}
466     \linespread{1.5}
467     \parskip=7pt
468     \vspace*{0pt}
469     \songti\zihao{4}
470     \centerline{\bf \npu@schoolname}
471     \centerline{\bf \npu@p@statement}
472     \songti\zihao{5}
473     \npu@longp@statement\par
474     \npu@a@signature\npu@comma\hrule\qquad\qquad\qquad \hfill
475     \npu@s@signature\npu@comma\hrule\qquad\qquad\qquad \par

```

```

476 \hskip 3cm \npu@ymd \hfill\hskip 3cm \npu@ymd
477 \vspace*{30pt}
478 \hbox to \hsize{\leaders\hbox to 1em{\hss--\hss}\hfill}
479
480 \vspace*{50pt}
481 \songti\zihao{4}
482 \centerline{\bf \npu@schoolname}
483 \centerline{\bf \npu@c@statement}
484 \songti\zihao{5}
485 \npu@longc@statement\par
486 \hskip5.5cm
487 \hfill\npu@a@signature\npu@comma\underline{\qqquad\qqquad\qqquad}\par
488 \hfill\hskip8.5cm \npu@ymd
489 \end{titlepage}}

```

## 4.15 默认定理环境

定义定理环境

```

490 % ref amsthdoc.pdf
491 \newtheoremstyle{nptheorem}% name
492 {0pt}% Space above
493 {0pt}% Space below
494 {\itshape}% Body font
495 {}% Indent amount
496 {\bfseries}% Theorem head font
497 {}% Punctuation after theorem head
498 {.5em}% Space after theorem head
499 {}% Theorem head spec (can be left empty, meaning ‘normal’ )
500
501 \newtheoremstyle{npuplain}% name
502 {0pt}% Space above
503 {0pt}% Space below
504 {}% Body font
505 {}% Indent amount
506 {\bfseries}% Theorem head font
507 {}% Punctuation after theorem head
508 {.5em}% Space after theorem head
509 {}% Theorem head spec (can be left empty, meaning ‘normal’ )
510
511 \theoremstyle{npuplain} % set default style to npuplain

```

## 4.16 定义符号表

```

512 \RequirePackage{nomencl} % add symbol notation
513 \RequirePackage{multicol} % for two column notation
514 % \AtEndPreamble{\makenomenclature}
515 \makenomenclature
516 \renewcommand{\nomname}{\npu@nomname}
517
518 % code come from @egreg
519 % https://tex.stackexchange.com/questions/78764/two-column-nomenclature
520 \ifundefined{chapter}
521 {\def\wilh@nomsection{section}}
522 {\def\wilh@nomsection{chapter}}
523
524 \def\thenomenclature{%
525 % \newlength{\npu@columnsep@save}
526 % \setlength{\npu@columnsep@save}{\columnsep}
527 % \setlength{\columnsep}{20pt}
528 % \begin{multicols}{2}[%
529 % \csname\wilh@nomsection\endcsname*{\nomname}
530 % \if@intoc\addcontentsline{toc}{\wilh@nomsection}{\nomname}\fi
531 % \nompreable % \raggedcolumns
532 % ]
533 \list{}{%

```

```

534 \labelsep=15pt
535 \labelwidth\nom@tempdim
536 \leftmargin\labelwidth
537 \advance\leftmargin\labelsep
538 \itemsep\nomitemsep
539 \let\makelabel\nomlabel}%
540 }
541 \def\endthenomenclature{%
542 \endlist
543 % \end{multicols}
544 % \setlength{\columnsep}{\npu@columnsep@save}
545 \nompostamble}

```

#### 4.17 配置变量

```

546 \def\npu@degreename@zh{\if@npu@phd 博士\else 硕士\fi}
547 \def\npu@comma{~::~}
548 \def\npu@schoolno{学校代码}
549 \def\npu@classno{分类号}
550 \def\npu@secretlevel{密级}
551 \def\npu@authorno{学号}
552 \def\npu@title{题目}
553 \def\npu@author{作者}
554 \def\npu@major{学科、专业}
555 \def\npu@supervisor{指导教师}
556 \def\npu@applydate{申请学位日期}
557 \def\npu@schoolname{西北工业大学}
558 \def\npu@degree{\npu@degreename@zh 学位论文}
559 \def\npu@degreeclass{(学位研究生)}
560 \def\npu@rightmark{西北工业大学\npu@degreename@zh 学位论文}
561 \def\npu@Abstract{Abstract}
562 \def\npu@abstract{摘\quad 要}
563 \def\npu@Keywords{Key words}
564 \def\npu@keywords{关键词}
565 \def\npu@contents{目\quad 录}
566 \def\npu@nomname{符号表}
567 \def\npu@appendix{附\quad 录}
568 \def\npu@thanks{致\quad 谢}
569 \def\npu@work{攻读\npu@degreename@zh 学位期间发表的学术论文和参加科研情况}
570 \def\npu@work@paper{发表学术论文}
571 \def\npu@work@research{参加科研情况}
572 \def\npu@p@statement{学位论文知识产权声明书}
573 \def\npu@c@statement{学位论文原创性声明}
574 \def\npu@ymd{年\quad 月\quad 日}
575 \def\npu@a@signature{学位论文作者签名}
576 \def\npu@s@signature{指导教师签名}
577 \long\def\npu@longp@statement{%
578 本人完全了解学校有关保护知识产权的规定，即：研究生在校攻读学位期间论文工作的
579 知识产权单位属于西北工业大学。学校有权保留并向国家有关部门或机构送交论文的复
580 印件和电子版。本人允许论文被查阅和借阅。学校可以将本学位论文的全部或部分内
581 容编入有关数据库进行检索，可以采用影印、缩印或扫描等复制手段保存和汇编本学位
582 论文。同时本人保证，毕业后结合学位论文研究课题再撰写的文章一律注明作者单位
583 为西北工业大学。
584 \par 保密论文待解密后适用本声明。}
585 \long\def\npu@longc@statement{%
586 秉承学校严谨的学风和优良的科学道德，本人郑重声明：所呈交的学位论文，是本人在
587 导师的指导下进行研究工作所取得的成果。尽我所知，除文中已经注明引用的内容和
588 致谢的地方外，本论文不包含任何其他个人或集体已经公开发表或撰写过的研究成
589 果，包含本人或其他已申请学位或其他用途使用过的成果。对本文的研究做出重要贡
590 献的个人和集体，均已在文中以明确方式表明。
591 \par 本人学位论文与资料若有不实，愿意承担一切相关的法律责任。}
592 </class>

```

## 版本历史

<b>v0.6.1</b>	(2019/12/28)	Remark: “AutoFakeBold” option can be used when load this document class to make the font in the cover page as bold font
General: Add ‘nputabu’ environment	1	
Add theorem style ‘npuplain’, and set it to default	1	
Delete option workbib	1	
Modify font size in tabular environment to ‘zihao5’	1	
Replace nputhesis.bst by gbt7714-2005.bst	1	
<b>v0.6.2</b>	(2020/01/10)	<b>v1.0.0</b> (2020/02/18 – 2020/03/28)
General: Adjust the skip of the chapter title	1	General: Add comments on the option “AutoFakeBold” in the documents
Make the line under the title longer	1	Add option ‘dbr’ for double-blind review
		Fix bug of command “Appendix”
		Initial version use dtx

## 代码索引

意大利体的数字表示描述对应索引项的页码; 带下划线的数字表示定义对应索引项的代码行号; 罗马字体的数字表示使用对应索引项的代码行号。

Symbols			
\\	267, 268, 269, 270, 276, 288, 289, 347, 348, 382, 385, 386, 388, 389, 392, 393, 395, 396, 397, 399	\chapter	66, 70, 421, 427, 451, 453, 456, 458, 460, 461
		\chaptermark	147
		\cite	68
		\classno	34, 241
\	37, 51, 89, 397	\cleardoublepage	161, 408
		\clearpage	161, 408
		\clearpagestyle	161, 315, 372, 403
		\colorbox	138
		\columnsep	526, 527, 544
		\contentspage	217, 220, 223
		\copy	293, 352
		\csname	106, 107, 110, 529
		\ctexset	162, 170, 174, 182, 189, 195, 201, 207
		\CTEXsetup	163, 165, 166, 167, 168
		\CurrentOption	111
A		D	
\addbibresource	32	\dbr	38, 40, 88, 139
\addcontentsline	421, 427, 530	\DeclareCaptionFont	430
\addtocounter	457	\DeclareOptionX	106, 107, 108, 109, 110, 111
\advance	537	\def	103, 104, 214, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 246, 248, 252, 317, 374, 405, 407, 408, 452, 453, 456, 457, 459, 460, 464, 521, 522, 524, 541, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 585
\Alph	458	\divide	323, 328
\Appendix	78, 80, 459	\documentclass	2
\applydate	41, 228		
\arabic	149, 150, 163, 176, 434, 435, 436		
\arraybackslash	442, 443, 444		
\arraystretch	265		
\AtEndPreamble	514		
\author	38, 225		
\authorno	36, 243		
B		E	
\backmatter	74	\else	139, 169, 247, 386, 389, 408, 546
\baselineskip	295, 299, 305, 308, 312, 360, 363, 366, 368, 383, 387, 391, 394, 398, 423, 429	\end	31, 52, 53, 58, 59, 90, 95, 97, 271, 272, 277, 283, 284, 290, 291, 298, 311, 313, 314, 337, 342, 343, 349, 350, 367, 370, 371, 401, 402, 415, 489, 543
\begin	11, 43, 47, 50, 54, 56, 87, 93, 253, 256, 263, 266, 275, 280, 281, 286, 287, 296, 301, 318, 321, 335, 339, 340, 345, 346, 356, 375, 379, 411, 465, 528	\endcsname	106, 107, 110, 529
\begingroup	449	\endenumerate	450
\bf	88, 165, 257, 380, 470, 471, 482, 483		
\bfseries	254, 496, 506		
\box	293, 352		
C			
\captionsetup	431, 432, 433		
\centering	179, 444		
\centerline	332, 470, 471, 482, 483		



<code>\endgroup</code> .....	450	<code>\leaders</code> .....	478
<code>\endlist</code> .....	542	<code>\leftmargin</code> .....	536, 537
<code>\endtabular</code> .....	438	<code>\leftmark</code> .....	155
<code>\endtabularx</code> .....	446	<code>\let</code> .....	406, 437, 438, 451, 539
<code>\endthenomenclature</code> .....	541	<code>\linespread</code> .....	251, 255, 319, 376, 466
<code>\enumerate</code> .....	449	<code>\list</code> .....	533
<code>\ExecuteOptionsX</code> .....	112, 113	<code>\LoadClass</code> .....	115
<b>F</b>		<code>\long</code> .....	577, 585
<code>\fancyfoot</code> .....	156	<b>M</b>	
<code>\fancyhead</code> .....	154, 155	<code>\mainmatter</code> .....	64
<code>\fancyhf</code> .....	153	<code>\major</code> .....	39, 226
<code>\fancypagestyle</code> .....	160	<code>\makebox</code> .....	267,
<code>\fboxsep</code> .....	137		268, 269, 270, 303, 306, 309, 325, 330, 358, 361, 364, 369
<code>\fi</code> ..	135, 139, 151, 152, 213, 249, 386, 389, 414, 419, 530, 546	<code>\makecover</code> .....	44, 405
<code>\fill</code> .....	410, 416	<code>\makelabel</code> .....	539
<code>\footskip</code> .....	144	<code>\makenomenclature</code> .....	514, 515
<code>\frontmatter</code> .....	45, 406, 407	<code>\makeoutercover</code> .....	252, 405
<b>G</b>		<code>\markboth</code> .....	147
<code>\geometry</code> .....	140	<code>\multiply</code> .....	324, 329
<b>H</b>		<b>N</b>	
<code>\hbox</code> .....	278, 279, 285, 338, 344, 409, 419, 478	<code>\newcolumntype</code> .....	442, 443, 444
<code>\headheight</code> .....	143	<code>\newcommand</code> .....	136, 139, 161, 461, 462, 463
<code>\headrule</code> .....	157	<code>\newcounter</code> .....	454
<code>\headsep</code> .....	145	<code>\newif</code> .....	100, 101, 102
<code>\headwidth</code> .....	158, 159	<code>\newlength</code> .....	259, 261, 525
<code>\heiti</code> ..	165, 166, 167, 168, 179, 186, 193, 199, 205, 211, 258, 282	<code>\newpage</code> .....	418, 419
<code>\hfil</code> .....	336	<code>\newtheoremstyle</code> .....	491, 501
<code>\hfill</code> .....	257, 276, 278, 288, 289, 297, 304, 307,	<code>\noindent</code> .....	302, 357
	310, 347, 348, 359, 362, 365, 369, 474, 476, 478, 487, 488	<code>\nomitemsep</code> .....	538
<code>\hline</code> .....	266, 267, 268, 269, 270	<code>\nomlabel</code> .....	539
<code>\hrule</code> .....	158, 159	<code>\nomname</code> .....	516, 529, 530
<code>\hsize</code> .....	478	<code>\nompostamble</code> .....	545
<code>\hskip</code> .....	292, 351, 476, 486, 488	<code>\nompreamble</code> .....	531
<code>\hspace</code> .....	216, 217, 220, 223	<code>\normalsize</code> .....	250
<code>\hss</code> .....	478	<b>P</b>	
<b>I</b>		<code>\pagenumbering</code> .....	407
<code>\ifnum</code> .....	149	<code>\pagestyle</code> .....	146, 161
<code>\ifodd</code> .....	408	<code>\papersection</code> .....	85, 462
<code>\ifx</code> .....	162, 386, 389	<code>\par</code> .....	273, 295, 299, 304, 307, 310, 353,
<code>\ifxetex</code> .....	133		359, 362, 365, 369, 423, 429, 473, 475, 485, 487, 584, 591
<code>\item</code> .....	88, 94	<code>\parencite</code> .....	68
<code>\itemsep</code> .....	538	<code>\parskip</code> .....	467
<code>\itshape</code> .....	494	<code>\PassOptionsToClass</code> .....	111
<b>K</b>		<code>\phantom</code> .....	138
<code>\kaishu</code> .....	297	<code>\printbibliography</code> .....	76
<code>\kern</code> .....	293, 352	<code>\printnomenclature</code> .....	62
<b>L</b>		<code>\ProcessOptionsX</code> .....	114
<code>\labelenumi</code> .....	449	<b>Q</b>	
<code>\labelsep</code> .....	534, 537	<code>\qqquad</code> .....	474, 475, 487, 574
<code>\labelwidth</code> .....	535, 536	<code>\quad</code> .....	150,
<code>\Large</code> .....	381, 390, 411		219, 222, 288, 289, 347, 348, 386, 389, 562, 565, 567, 568
<code>\LaTeX</code> .....	26, 37, 51, 57, 67, 68, 89, 94	<b>R</b>	
		<code>\raggedcolumns</code> .....	531

`\raggedleft` ..... 443  
`\raggedright` ..... 442  
`\relax` ..... 114, 139  
`\renewcommand` .... 147, 157, 250, 265, 434, 435, 436, 449, 516  
`\renewenvironment` ..... 439  
`\RequirePackage` .. 105, 116, 117, 118, 119, 120, 121, 122,  
 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 512, 513  
`\researchsection` ..... 92, 463

## S

`\schoolno` ..... 33, 240  
`\secdef` ..... 453  
`\secretlevel` ..... 35, 242  
`\section` ..... 67, 69, 71, 72, 462, 463  
`\setbox` ..... 279, 285, 338, 344  
`\setcounter` ..... 455  
`\setlength` ..... 137, 526, 527, 544  
`\setmainfont` ..... 134  
`\settowidth` ..... 260, 262, 300, 322, 327, 355  
`\songti` ..... 154, 155, 156, 214, 274, 430, 469, 472, 481, 484  
`\statement` ..... 96, 464  
`\supervisor` ..... 40, 227  
`\support` ..... 42, 244

## T

`\tableofcontents` ..... 61  
`\tabular` ..... 437  
`\tabularx` ..... 446  
`\TeX` ..... 13, 67, 68

$\TeX$  and  $\LaTeX$  commands:

`\@applydate` ..... 228, 233  
`\@author` ..... 225, 230  
`\@major` ..... 226, 231  
`\@supervisor` ..... 227, 232  
`\@title` ..... 224, 229  
`\@applydate` ..... 233, 238, 310, 369  
`\@applydate@en` ..... 233, 238, 400  
`\@author` ..... 230, 235, 297, 359  
`\@author@en` ..... 230, 235, 386  
`\@authorno` ..... 243, 270  
`\@classno` ..... 241, 268  
`\@contentfont` ..... 214, 215, 218, 221  
`\@ifnextchar` ..... 224, 225, 226, 227, 228  
`\@ifstar` ..... 459  
`\@ifundefined` ..... 520  
`\@ldtabular` ..... 437, 439  
`\@major` ..... 231, 236, 304, 362  
`\@major@en` ..... 231, 236, 397  
`\@npu@phdfalse` ..... 104, 109  
`\@npu@phdtrue` ..... 103, 108  
`\@npu@replace` ..... 136, 139  
`\@schoolno` ..... 240, 267  
`\@secretlevel` ..... 242, 269  
`\@supervisor` ..... 232, 237, 307, 365  
`\@supervisor@en` ..... 232, 237, 389  
`\@support` ..... 244, 424  
`\@title` ..... 229, 234, 282, 341

`\@title@en` ..... 229, 234, 382  
`\c@page` ..... 408  
`\end@ldtabular` ..... 438, 439  
`\if@intoc` ..... 530  
`\if@mainmatter` ..... 148  
`\if@npu@blankinfo` ..... 101, 412  
`\if@npu@dbr` ..... 102, 139  
`\if@npu@phd` ..... 100, 245, 546  
`\if@twocolumn` ..... 419  
`\if@twoside` ..... 408  
`\makeinnercover@en` ..... 374, 405  
`\makeinnercover@zh` ..... 317, 405  
`\max@length` ..... 259, 260, 263  
`\name@length` .....  
 .... 261, 262, 267, 268, 269, 270, 300, 303, 306, 309,  
 322, 323, 324, 325, 327, 328, 329, 330, 355, 358, 361, 364  
`\nom@tempdim` ..... 535  
`\npu@a@signature` ..... 474, 487, 575  
`\npu@Abstract` ..... 427, 561  
`\npu@abstract` ..... 421, 562  
`\npu@Appendix` ..... 457, 459  
`\npu@appendix` ..... 456, 458, 567  
`\npu@applydate` ..... 300, 309, 556  
`\npu@author` ..... 297, 358, 553  
`\npu@authorno` ..... 270, 551  
`\npu@c@statement` ..... 483, 573  
`\npu@chapter` ..... 451, 452, 453  
`\npu@classno` ..... 268, 549  
`\npu@columnsep@save` ..... 525, 526, 544  
`\npu@comma` .....  
 .... 260, 336, 358, 361, 364, 423, 429, 474, 475, 487, 547  
`\npu@contents` ..... 171, 565  
`\npu@degree` ..... 327, 330, 558  
`\npu@degreeclass` ..... 332, 559  
`\npu@degreename@en` ..... 246, 248, 397  
`\npu@degreename@zh` ..... 546, 558, 560, 569  
`\npu@empty` ..... 239, 386, 389  
`\npu@frontmatter` ..... 406, 407  
`\npu@Keywords` ..... 429, 563  
`\npu@keywords` ..... 423, 564  
`\npu@longc@statement` ..... 485, 585  
`\npu@longp@statement` ..... 473, 577  
`\npu@major` ..... 303, 355, 361, 554  
`\npu@nomname` ..... 516, 566  
`\npu@p@statement` ..... 471, 572  
`\npu@rightmark` ..... 154, 560  
`\npu@s@signature` ..... 475, 576  
`\npu@schoolname` ..... 322, 325, 470, 482, 557  
`\npu@schoolno` ..... 260, 262, 267, 548  
`\npu@secretlevel` ..... 269, 550  
`\npu@star@Appendix` ..... 456, 459  
`\npu@star@chapter` ..... 452, 453  
`\npu@supervisor` ..... 306, 364, 555  
`\npu@thanks` ..... 460, 568  
`\npu@title` ..... 276, 278, 336, 552  
`\npu@work` ..... 461, 569

\npu@work@paper .....	462, 570		
\npu@work@research .....	463, 571		
\npu@ymd .....	476, 488, 574		
\set@npu@ma .....	104		
\set@npu@phd .....	103		
\wilh@nomsection .....	521, 522, 529, 530		
\textbf .....	423, 429		
\textcolor .....	413		
\textwidth .....	446		
\Thanks .....	82, 460		
\thecontentslabel .....	216, 219, 222		
\theenumi .....	449		
\theequation .....	436		
\thefigure .....	435		
\thenomenclature .....	524		
\theoremstyle .....	511		
\thepage .....	156		
\thetable .....	434		
\thispagestyle .....	160, 417		
\title .....	37, 224		
\titlecontents .....	215, 218, 221		
\titlerule .....	217, 220, 223		
\topmargin .....	142		
		<b>U</b>	
		\uline ....	288, 289, 297, 304, 307, 310, 347, 348, 359, 362, 365
		\undefined .....	162
		\underline .....	474, 475, 487
		\usepackage .....	3, 4, 5
		<b>V</b>	
		\vfill .....	424
		\vskip .....	264, 326, 331, 333
		\vspace .....	158, 273, 295, 299, 305, 308, 312, 320, 353, 360, 363, 366, 368, 377, 383, 387, 391, 394, 398, 410, 416, 423, 429, 468, 477, 480
		<b>W</b>	
		\wd .....	293, 352
		\Work .....	84, 461
		<b>Z</b>	
		\zihao .....	154, 155, 156, 165, 166, 167, 168, 179, 186, 193, 199, 205, 211, 214, 250, 258, 274, 294, 322, 325, 327, 330, 332, 334, 354, 378, 384, 424, 430, 439, 445, 469, 472, 481, 484