

SJTUT_EX: 上海交通大学文档类集

SJTUG

2024/03/23 v2.1.1*

简介

此宏包旨在建立一个简单易用的上海交通大学文档类集, 包括学位论文文档类 `sjtuthesis` 以及普通文档类 `sjtuarticle` 和 `sjtureport`。

免责声明

- 1. 本模板的发布遵守 [L^AT_EX Project Public License \(1.3c\)](#), 使用前请认真阅读协议内容。
- 2. 学位论文模板根据《上海交通大学博士、硕士学位论文撰写指南》, 并参考《上海交通大学本科生毕业设计(论文)撰写规范》编写而成。旨在供上海交通大学准毕业生撰写学位论文使用。
- 3. 学位论文模板仅为撰写指南的参考实现, 不保证审查老师不提意见。任何由于使用本模板而引起的论文格式审查问题均与本模板作者无关。
- 4. 任何个人或组织以本模板为基础进行修改、扩展而生成的新的专用模板, 请严格遵守 [L^AT_EX Project Public License](#) 协议。由于违犯协议而引起的任何纠纷争端均与本模板作者无关。

目录

第 1 节 介绍	1	4.2 前文部分	11
第 2 节 简明教程	2	4.3 正文部分	11
2.1 安装 T _E X 发行版	2	4.4 后文部分	12
2.2 文件组成	2	第 5 节 宏包依赖情况	13
2.3 使用文档类	2	参考文献	13
2.4 编译文档	3	第 6 节 代码实现	15
第 3 节 文档配置	4	版本历史	76
3.1 文档类选项	4	代码索引	77
3.2 论文信息设置	6		
第 4 节 内容编写	10		
4.1 标题页和声明页	10		

第 1 节 介绍

最早的一版 L^AT_EX 学位论文模板由一位热心的物理系同学制作, 中文字符处理采用了当时最为流行的 CJK-L^AT_EX 方案。在此基础上, weijianwen 根据交大研究生院对学位论文的要求, 完成了一份基本可用的交大 L^AT_EX 学位论文模板。由于 CJK-L^AT_EX 方案不易使用, weijianwen 与 William Wang 开始着手把模板向 X_YL^AT_EX 引擎移植。之后 weijianwen 又断断续续做了一些完善模板的工作, 在原有硕士学位论文模板的基础上完成了交大学士和博士学位论文模板。

*sjtut_Ex rev. ab42a74.

2012 年 5 月模板开始在 GitHub¹上管理和更新, 2018 年 1 月项目转移至 SJTUG 名下。2019 年 6 月 Alexara Wu 重构了整个宏包的代码, 并使用 DocTeX 文档和 DocSTRIP 工具进行代码的管理, 升级版本号为 1.0。2022 年 11 月, 论文模板改版后, 使用 L^AT_EX3 重构了代码, 添加 sjturement 和 sjtuarticle 文档类, 升级版本号为 2.0。

现在, SJTUT_EX 代码在 GitHub²上维护。原 SJTUT_EX 仓库则作为学位论文示例文档, 提供开箱即用的模板。学位论文模板用户可以在 Discussions 上提问使用问题, 也可以在 Issues 中进行 Bug 反馈与新功能提案。如果需要对文档类代码进行修改, 欢迎前往 SJTUT_EX 仓库进行 Pull Request。SJTUT_EX 模板的许多实现细节离不开 热心同学们 的贡献, 在此感谢所有为模板贡献过代码的同学们, 以及所有测试和使用模板的各位同学!

说明: 模板的作用在于减少论文写作过程中格式调整的时间, 前提是遵守模板的用法, 否则即使用了 SJTUT_EX 也难以保证输出的论文符合学校规范。

第 2 节 简明教程

2.1 安装 T_EX 发行版

因为 L^AT_EX3 和相关宏包在不断更新, 所以推荐使用最新的 T_EX 发行版。SJTUT_EX 支持主流的 T_EX 发行版, 包括 T_EX Live、MiK_T_EX、MacT_EX, 但不支持 C_T_EX 套装。安装方法具体可以参考 Wiki 页面《T_EX 发行版及其安装》。

SJTUT_EX 最低支持至 2021 年发行的 T_EX 发行版, ctex 宏包版本应当在 v2.5 及以上。版本过低将无法编译。

2.2 文件组成

表 1 列出了 SJTUT_EX 的主要文件及其功能介绍。

表 1 模板的文件组成

类别	文件	说明
文档类	sjtuthesis.cls	学位论文文档类
	sjtureport.cls	报告文档类
	sjtuarticle.cls	文稿文档类
	sjtu-name-*.def	文档类名称配置
	sjtu-lang-*.def	文档类语言配置
	sjtu-scheme-*.def	文档类语言方案
字体配置文件	sjtu-text-font-*.def	西文字体配置
	sjtu-math-font-*.def	数学字体配置
	sjtu-cjk-font-*.def	CJK 字体配置
视觉形象系统 ^a	sjtu-vi-logo-*.pdf	校标图片
	sjtu-vi-badge-*.pdf	校徽图片
	sjtu-vi-name-*.pdf	校名图片

^a 交大视觉形象系统 的相关图像资源版权归上海交通大学所有。

¹<https://github.com/weijianwen/SJTUTesis>, 项目转移后该链接已重定向。

²<https://github.com/sjtug/SJTUTeX>

2.3 使用文档类

共有 3 种文档类, `sjtuthesis` 用于学位论文的排版, `sjturement` 用于课程大报告的排版, `sjtuarticle` 用于课程小论文的排版。

将文档保存在下载好的 SJTU \TeX 模板根目录下, 文件以 `.tex` 后缀结尾。注意在使用文档类时, 需要将涉及到的所有源文件使用 UTF-8 编码保存。对于不同的文档类, 使用方法略有不同, 这里给出这三种文档类的最小使用示例。

下面这份 \TeX 文档展示了 `sjtuthesis` 文档类的基本用法, 一般需要指定中英文名称。该文档将包含中英文封面, 页眉为文档主题及章节名称。

```
\documentclass[type=master]{sjtuthesis}
\sjtusetup{
  info = {
    zh/title = {上海交通大学学位论文模板示例文档},
    en/title = {A Sample Document for SJTU Thesis Template},
    zh/author = {某某},
    en/author = {Mo Mo},
  }
}
\begin{document}
  \maketitle
  \frontmatter
  \tableofcontents*
  \mainmatter
  \chapter{欢迎}
  \section{欢迎使用 SJTUThesis}
  你好, \LaTeX{}!
\end{document}
```

下面这份 \TeX 文档展示了 `sjturement` 文档类的基本用法, 建议使用标准命令定义中文名称。该文档将包含标题页, 页眉为校标图片、文档主题及章节名称。

```
\documentclass{sjturement}
\title{上海交通大学报告模板示例文档}
\author{某某}
\subject{XX期末课程论文}
\keywords{上海交大, 饮水思源, 爱国荣校}
\begin{document}
  \maketitle
  \chapter{欢迎}
  \section{欢迎使用 SJTUMENT}
  你好, \LaTeX{}!
\end{document}
```

下面这份 \TeX 文档展示了 `sjtuarticle` 文档类的基本用法, 建议使用标准命令定义中文名称, 不能够使用 `\chapter` 这一级。该文档包含标题栏, 页眉为校标图片、文档主题及章节名称。

```
\documentclass{sjtuarticle}
\title{示例文档}
\author{某某}
\begin{document}
  \maketitle
  \section{欢迎使用 SJTUArticle}
  你好, \LaTeX{}!
\end{document}
```

2.4 编译文档

文档类推荐使用 X_YLaTeX 或 LuaLaTeX 编译,同时也支持 pdfTeX 引擎。为了生成正确的目录、脚注以及交叉引用,至少需要连续编译两次。

在实际使用中,一般推荐使用自动生成工具 latexmk 编译文档。latexmk 命令可以自动进行多步编译,直到交叉引用都被解决。假设您的 T_EX 源文件名为 main.tex,可在命令行中执行如下命令使用 X_YLaTeX 编译文档

```
| latexmk -xelatex main
```

也可通过修改 latexmkrc 配置文件来控制 latexmk 的行为,具体可以参考 latexmk 文档。

第 3 节 文档配置

本模板中的选项、命令或环境可以分为以下三类:

- 名字后面带有 ☆ 的,表示只能在 sjtuthesis 文档类中使用;
- 名字后面带有 ★ 的,表示只能在 sjturement 和 sjtuarticle 文档类中使用;
- 名字后面不带有特殊符号的,一般表示在 sjtuthesis、sjturement 和 sjtuarticle 文档类中都可以使用,特殊情况另作说明。

3.1 文档类选项

本节所指“文档类选项”是指需要在引入文档类的时候指定的选项:

```
| \documentclass[<文档类选项>]{sjtuthesis}
```

部分选项采用 <key>=<value> 的形式,需要使用逗号分隔各选项。当 <value> 省略时,将采用默认值。在下文的说明中,将用**粗体**表示默认值。

3.1.1 通用选项

type	☆ type = <bachelor|master|doctor>
Updated: 2022-12-03	论文类型。三种选项分别代表学士学位论文、硕士学位论文、博士学位论文。
lang	lang = <zh|en|de|ja>
Updated: 2023-03-23	论文主要语言。可选中文、英文、德文或日文,该选项会改变文档中的一些标题的名字。下文中 <lang> 可以指定为这些选项中的其中之一。
draft	是否开启草稿模式。draft 开启草稿模式,所有的图片将不会被加载,超过边界的区域将会被涂上黑色色块。final 关闭草稿模式。默认为 final。
review	☆ 盲审模式。开启盲审模式将隐去作者姓名、导师姓名、班级、学号等个人信息,删去版权使用授权书、原创性声明和致谢页。默认关闭。

3.1.2 页面设置

oneside	指明论文的单双面模式。oneside 为单面模式,twoside 为双面模式。
twoside	<ul style="list-style-type: none">● 在 sjtuthesis 文档类中,默认为 twoside。● 在 sjturement 和 sjtuarticle 文档类中,默认为 oneside。
openright	指明论文是否奇数页开章。openright 为从奇数页开始新章,openany 为从任意页开始新章。
openany	<ul style="list-style-type: none">● 在 sjtuthesis 文档类中,默认为 openright。● 在 sjturement 文档类中,默认为 openany。● 在 sjtuarticle 文档类中,该选项不可用。

<code>titlepage</code> *	指明论文的标题形式。 <code>titlepage</code> 为使用标题页。 <code>notitlepage</code> 为使用标题块。
<code>notitlepage</code> *	<ul style="list-style-type: none"> 在 <code>sjtuthesis</code> 文档类中, 该选项不可用, 只能使用标题页。 在 <code>sjtureport</code> 文档类中, 默认为 <code>titlepage</code>。 在 <code>sjtuarticle</code> 文档类中, 默认为 <code>notitlepage</code>。
New: 2022-12-23	

3.1.3 字体选项

<code>zihao</code>	<code>zihao</code> = $\langle -4|5 \rangle$
Updated: 2022-12-18	论文默认字号, 可以设定为小四号或五号。

- 在 `sjtuthesis` 和 `sjtureport` 文档类中默认为小四号;
- 在 `sjtuarticle` 文档类中默认为五号。

<code>linespread</code>	<code>linespread</code> = $\langle \text{数值} \rangle$
New: 2023-10-24	设置行距倍数。

- 在 `sjtuthesis` 文档类中默认不调整行距倍数;
- 在 `sjtuarticle` 和 `sjtureport` 文档类中默认为 1.3。

<code>baselineskip</code>	<code>baselineskip</code> = $\langle \text{长度} | \text{false} \rangle$
New: 2023-10-24	正文基线间距。

- 在 `sjtuthesis` 文档类中, 默认为 20 磅。
- 在 `sjtureport` 和 `sjtuarticle` 文档类中, 默认为 `false`; 此时正文基线间距为字号的 1.2 倍。

<code>cjk-font</code>	<code>cjk-font</code> = $\langle \text{auto} | \text{fandol} | \text{windows} | \text{mac} | \text{ubuntu} | \text{adobe} | \text{founder} | \text{none} \rangle$
-----------------------	---

指定 CJK 字体集。SJTUT_EX 预定义了一些 CJK 字体组合, 具体配置见表 2。默认情况下会根据操作系统自动配置: Windows 系统默认使用 `windows`, macOS 系统默认使用 `mac`, Linux 系统默认使用 `fandol`。找不到对应定义的 CJK 字体集时的回退选项为 `fandol`。

仅 `windows` 和 `founder` 字体集支持 pdf_LAT_EX 直接生成 PDF。其他 CJK 字体集使用 pdf_TE_X 引擎需要先通过 _LAT_EX 生成 DVI, 然后再使用 DVIPDFM_x 转换为 PDF。

表 2 CJK 字体配置

	宋体	黑体	仿宋	楷体	明朝体 ^c	哥特体 ^c
<code>fandol</code> ^a	Fandol 宋体	Fandol 黑体	Fandol 仿宋	Fandol 楷体	HaranoAjiMincho	HaranoAjiGothic
<code>windows</code>	(中易)宋体	(中易)黑体	(中易)仿宋	(中易)楷体	MS Mincho	MS Gothic
<code>mac</code>	(华文)宋体-简	(华文)黑体-简	华文仿宋	(华文)楷体-简	Hiragino Mincho ProN	Hiragino Kaku Gothic ProN
<code>ubuntu</code>	Noto Serif CJK SC	Noto Sans CJK SC	—	文鼎 PL 简中楷	Noto Serif CJK JP	Noto Sans CJK JP
<code>adobe</code>	Adobe 宋体	Adobe 黑体	Adobe 仿宋	Adobe 楷体	Kozuka Mincho Pr6N	Kozuka Gothic Pr6N
<code>founder</code> ^b	方正书宋	方正黑体	方正仿宋	方正楷体	IPAMincho	IPAGothic

a 发行版中自带的 Fandol 中文字库容易出现缺字的情况; 我们建议 Linux 用户使用 `ubuntu` 选项或自行配置合适的字体; 参见 Wiki 页面《在线使用说明》。

b 配置 `founder` 选项使用方正简繁扩展版(即 GBK 版)字体。

c 日文模板才需要日文明朝体与哥特体; 日文字体使用 `fontspec` 宏包设置, 故日文模板不支持 pdf_TE_X 引擎, 请使用 _X_LAT_EX 或 Lua_LAT_EX 编译。

<code>text-font</code>	<code>text-font</code> = $\langle \text{newtx} | \text{times} | \text{stixtwo} | \text{xits} | \text{newpx} | \text{cambria} | \text{newcm} | \text{lm} | \text{libertinus} | \text{none} \rangle$
------------------------	--

指定西文字体集。SJTUT_EX 预定义了一些西文字体组合, 具体配置见表 3。找不到定义的西文字体集时的回退选项为 `newtx`。

<code>math-font</code>	<code>math-font</code> = $\langle \text{auto} | \text{newtx} | \text{times} | \text{stixtwo} | \text{xits} | \text{newpx} | \text{cambria} | \text{newcm} | \text{lm} | \text{libertinus} | \text{none} \rangle$
------------------------	--

指定数学字体集。SJTUT_EX 预定义了一些数学字体组合, 具体配置见表 3 数学字体列。默认跟随西文字体 `text-font` 的设置。找不到定义的数学字体集时的回退选项为 `newtx`。

`xits`, `newcm`, `cambria` 选项仅支持 _X_LAT_EX/Lua_LAT_EX 编译。

表 3 西文字体与数学字体配置

	正文字体	无衬线字体	等宽字体	数学字体
newtx	TG Termes X ^a	TG Heros	TG Cursor	newtx
times	Times New Roman ^b	Arial	Courier New	mathptmx
	Times ^c	Helvetica	Courier	
stixtwo	STIX Two Text	TG Heros	TG Cursor	STIX Two Math
xits	XITS	TG Heros	TG Cursor	XITS Math
newpx	TG Pagella X	TG Heros	TG Cursor	newpx
cambria	Cambria	Calibri	Consolas	Cambria Math
newcm	New CM ^d	New CM Sans	New CM Mono	New CM Math
lm	LM Roman ^e	LM Sans	LM Mono	LM Math
libertinus	Libertinus Serif	Libertinus Sans	LM Mono	Libertinus Math

- a “TG”是 TeX Gyre 的缩写。
- b 本行中, Times New Roman、Arial 和 Courier New 是商业字体, 在 Windows 和 macOS 系统上均默认安装。
- c 使用 pdf_{La}T_EX 引擎时, 实际使用对应字体的 Type 1 开源版本。
- d “CM”是 Computer Modern 的缩写。
- e “LM”是 Latin Modern 的缩写。

math-style

New: 2022-12-03
Updated: 2023-01-05

math-style = <ISO|TeX>

数学符号样式。该选项将影响 uppercase-greek、integral、integral-limits 选项。默认遵循 ISO 80000-2 标准设置, 即斜体的大写希腊字母、直立的积分号以及积分号上下限置于上下方。用户也可以逐项修改数学样式。

uppercase-greek

New: 2023-01-05

uppercase-greek = <slanted|upright>

大写希腊字母的正/斜体。

integral

New: 2023-01-05

integral = <slanted|upright>

积分号的正/斜体。

integral-limits

New: 2023-01-05

integral-limits = <true|false>

行间公式中积分号上下限的位置, true 使得上下限在积分号上下方, false 使得上下限在积分号右侧。该选项只影响行间公式, 行内公式统一居右侧, 不受影响。

3.2 论文信息设置

\sjtusetup

\sjtusetup{(键值列表)}

本模板提供了一系列选项, 可由您自行配置。载入文档类之后, 以下所有选项均可通过统一的命令 \sjtusetup 来设置。

\sjtusetup 的参数是一组由 (英文) 逗号隔开的选项列表, 列表中的选项通常是 <key>=<value> 的形式。对于同一项, 后面的设置将会覆盖前面的设置。在下文的说明中, 将用 **粗体**表示默认值。 \sjtusetup 支持不同类型以及多种层次的选项设定。键值列表中, “=”左右的空格不影响设置; 但需注意, 参数列表中不可以出现空行。

```
\sjtusetup{
  info = {
    zh/title      = {上海交通大学学位论文模板示例文档},
    en/title      = {A Sample Document for SJTU Thesis Template},
    zh/author     = {某某},
    en/author     = {Mo Mo},
  },
  style = {
    float-num-sep = {-},
  }
}
```



```

    },
    name = {
      achv          = {攻读学位期间完成的论文},
    },
  },
}

```

3.2.1 信息域

`info` `info` = {<键值列表>}

Updated: 2023-03-14 该选项包含许多子项目, 用于录入论文信息。具体内容见下。

- 在 `sjtuthesis` 文档类中, 推荐使用带语言代码前缀 `<lang>` (比如 `zh` 或 `en`) 的键来设定对应语言的论文信息, 见第 3.2.1.1 节; 省略语言前缀不带“*”的项目表示对应的中文字段、带“*”的项目表示对应的英文字段属于老用法, 仍然兼容但请及时更新至新用法。
- 在 `sjtureport` 和 `sjtuarticle` 文档类中, 不需要使用语言代码前缀。此时推荐直接使用标准接口来设定这些信息, 这些标准接口不属于键值列表, 应当直接写在导言区内, 见第 3.2.1.2 节。

3.2.1.1 适用于 `sjtuthesis` 文档类的键

`info/<lang>/title` ☆ `<lang>/title` = {<标题>}

Updated: 2023-03-14 标题。

`info/<lang>/display-title` ☆ `<lang>/display-title` = {<标题页标题>}

Updated: 2023-03-14

标题页中的题目。默认为跟随对应语言的标题。如果标题过长, 可以尝试使用“\\”手动断行。

`info/<lang>/subject` ☆ `<lang>/subject` = {<主题>}

New: 2022-12-17

Updated: 2023-03-14

文档主题。一般显示在中文标题页校徽下方。默认值类似于“上海交通大学学士学位论文”或“A Dissertation Submitted to Shanghai Jiao Tong University for the Degree of Bachelor”。

`info/<lang>/keywords` ☆ `<lang>/keywords` = {<中文关键字>}

Updated: 2023-03-14

关键字列表。各关键字之间需使用英文逗号隔开。为防止歧义, 可以用分组括号“{...}”把各字段括起来。

`info/<lang>/author` ☆ `<lang>/author` = {<姓名>}

Updated: 2023-03-14

作者姓名。

`info/id` ☆ `id` = {<学号>}

学号。该键不需要语言前缀。

`info/<lang>/supervisor` ☆ `<lang>/supervisor` = {<导师姓名>}

`info/<lang>/assoc-supervisor` ☆ `<lang>/assoc-supervisor` = {<副导师姓名>}

`info/<lang>/co-supervisor` ☆ `<lang>/co-supervisor` = {<联合导师姓名>}

Updated: 2023-03-14

导师、副导师、联合导师姓名。

`info/<lang>/degree` ☆ `<lang>/degree` = {<学位名称>}

Updated: 2023-03-14

申请学位中英文名称。包括申请的学位类别和级别, 如“工学硕士”、“理学博士”等。学士论文无需标注。

`info/<lang>/department` ☆ `<lang>/department = {<院系名称>}`

Updated: 2023-03-14 院系名称。

`info/<lang>/major` ☆ `<lang>/major = {<专业名称>}`

Updated: 2023-03-14 专业名称。

`info/<lang>/fund` ☆ `<lang>/fund = {<资助基金名称>}`

Updated: 2023-03-14 资助基金列表。各资助基金名称之间需使用英文逗号隔开。为防止歧义，可以用分组括号“{...}”把各字段括起来。

`info/date` ☆ `date = {<ISO 日期>}`

Updated: 2023-02-25 日期。默认值为文档编译日期。也可以自己指定,要求使用 ISO 格式,即 yyyy-mm-dd 或 yyyy-mm, 否则设定无效。该键语言前缀不是必须的。

`info/<lang>/display-date` ☆ `<lang>/display-date = {<日期文字>}`

Updated: 2023-03-14

显示日期,可以显示不同于标准日期格式的日期,日期文字将会被原样输出。设定该键时,将会覆盖 `info/date` 键在对应语言下的设定。

3.2.1.2 适用于 `sjtreport` 和 `sjtuarticle` 文档类的命令

`\title` ☆ `\title{<标题>}`

New: 2022-12-17 设置标题,覆盖 `info/title` 键的值。
Updated: 2023-03-14

`\author` ☆ `\author{<姓名>}`

New: 2022-12-17 设置作者姓名,覆盖 `info/author` 键的值。
Updated: 2023-03-14

`\date` ☆ `\date{<日期>}`

New: 2022-12-17 设置日期,覆盖 `info/display-date` 键的值。日期会被原样显示。
Updated: 2023-03-14

`\subject` ☆ `\subject{<主题>}`

New: 2023-03-14 文档主题。覆盖 `info/subject` 键的值。

`\keywords` ☆ `\keywords{<关键词>}`

New: 2023-03-14 文档关键词,使用英文逗号隔开不同的关键词。覆盖 `info/keywords` 键的值。

3.2.2 样式域

`style` `style = {<键值列表>}`

该选项包含许多子项目,用于设置论文样式。具体内容见下。

`style/indent-first` `indent-first = <true|false>`

New: 2024-01-10 章节标题后首段是否缩进。

`style/equation-font` `equation-font = {<字体设置>}`

New: 2023-11-30 行间数学公式的字体设置,该选项主要用于调整行间公式的行距,不建议修改字号字形。`sjtuthesis` 中默认数学公式的行距为字号的 1.2 倍。

`style/float-font` `float-font` = {<字体设置>}

New: 2022-12-03
Updated: 2022-12-27

图、表等浮动体的额外字体设置。默认为 `\zihao{5}`, 五号字。

`style/caption-font` `caption-font` = {<字体设置>}

New: 2022-12-20

题注字体。默认为 `\zihao{5}\bfseries`, 粗体五号字。

`style/subcaption-font` `subcaption-font` = {<字体设置>}

New: 2022-12-20

子图题注字体。默认为 `\zihao{5}\normalfont`, 正常字重五号字。

`style/theorem-header-font` `theorem-header-font` = {<字体设置>}

New: 2024-03-21

定理头(即标题)字体。默认为 `\bfseries\CJKsffamily`, 黑体加粗。

`style/theorem-body-font` `theorem-body-font` = {<字体设置>}

New: 2024-03-21

定理内容字体。默认为 `\normalfont`, 和正文字体相同。

`style/fnmark-style` `fnmark-style` = {`plain`|`circled`}

New: 2023-03-28

脚注数字编号样式。`plain` 表示使用普通数字编号;`circled` 表示使用带圈数字编号。在 `zh` 和 `ja` 语言设置中, 默认为 `circled`; 在 `en` 和 `de` 语言设置中, 默认为 `plain`。

使用带圈数字编号时, 由于超过 50 的带圈数字没有对应的 Unicode 码位, 所以每页脚注最好不要超过 50 个。带圈数字默认使用 CJK 字体。通常情况下默认字体不一定包含所有带圈数字的字符, 此时可以设置 `fnmark-font` 选项给带圈数字设置合适的字体。

`style/fnmark-font` `fnmark-font` = {`haranoaji`|<字体设置>}

New: 2022-12-03
Updated: 2023-03-28

脚注编号的额外字体设置。默认为空。可以使用预设 `haranoaji`, 支持在 Unicode 引擎中使用 `HaranoAjiMincho` 字体中的带圈数字。

`style/num-sep` `num-sep` = {<分隔符>}

New: 2023-12-02

图、表、公式以及定理编号中的分隔符。该选项将统一设定 `float-num-sep`、`equation-num-sep`、`theorem-num-sep` 选项。用户也可以逐项修改编号分隔符。默认为 `.` 句点。

`style/float-num-sep` `float-num-sep` = {<分隔符>}

Updated: 2023-11-29

图、表等浮动体编号中的分隔符。

`style/equation-num-sep` `equation-num-sep` = {<分隔符>}

Updated: 2023-11-29

公式编号中的分隔符。

`style/theorem-num-sep` `theorem-num-sep` = {<分隔符>}

New: 2023-12-02

定理编号中的分隔符。

`style/header-uppercase` `header-uppercase` = {`true`|`false`}

New: 2022-12-20
Updated: 2023-03-14

页眉英文字母是否大写。默认为 `false`。

`style/header-font` `header-font` = {<页眉字体>}

New: 2022-12-20

页眉字体。

- 在 `sjtuthesis` 文档类中, 默认为 `\zihao{-5}`, 小五号字。
- 在 `sjturement` 和 `sjtuarticle` 文档类中, 默认为 `\zihao{-5}\sffamily`, 小五号字黑体。

style/footer-font `footer-font` = {<页脚字体>}

New: 2022-12-20 页脚字体。默认为 `\zihao{-5}`, 小五号字。

style/page-number `page-number` = {<页码设置>}

New: 2022-12-03 设置页码的显示样式, 其中 #1 代表当前页码。默认为 {#1}, 即仅显示页码本身。

style/keywords-format `keywords-format` = {<plain|hang>}

New: 2023-11-30 设置关键词格式。默认为 plain 无缩进的普通段落, 另可选 hang 悬挂格式。

3.2.3 名称域

name `name` = {<键值列表>}

选项包含许多子项目, 用于设置论文中一些标题的名称。部分选项只能在 `sjtuthesis` 中使用。具体内容见表 4。

name/contents
name/listfigure
name/listtable
name/figure
name/table
name/abstract
name/index
name/appendix
name/proof
name/bib
name/figure*
name/table*
name/algorithm
name/listalgorithm
name/abbr
name/nom
name/ack
name/resume
name/digest
name/achv

Updated: 2023-03-18

表 4 name 选项的默认设置

选项	lang = zh	lang = en	lang = de	lang = ja
contents	目录	Contents	Inhaltsverzeichnis	目次
listfigure	插图	List of Figures	Abbildungsverzeichnis	図目次
listtable	表格	List of Tables	Tabellenverzeichnis	表目次
figure	图	Figure	Abbildung	図
table	表	Table	Tabelle	表
abstract ☆	摘要	Abstract	Zusammenfassung	概要
index	索引	Index	Index	索引
appendix	附录	Appendix	Anhang	付録
proof	证明	Proof	Beweis	証明
bib	参考文献	Bibliography	Literaturverzeichnis	参考文献
figure*	Figure	图	Figure	Figure
table*	Table	表	Table	Table
algorithm	算法	Algorithm	Algorithmus	アルゴリズム
listalgorithm	算法	List of Algorithms	Algorithmenverzeichnis	アルゴリズム目次
abbr ☆	缩略语对照表	Abbreviation	Abkürzungsverzeichnis	略語表
nom ☆	主要符号对照表	Nomenclature	Symbolverzeichnis	記号表
ack ☆	致谢	Acknowledgements	Danksagungen	謝辞
resume ☆	个人简历	Resume	Lebenslauf	履歴書
digest ☆	大摘要	Digest	Kurzfassung	要約
achv ☆	学术论文和科研成果目录	List of Research Achievements	Forschungsleistungen	研究業績書

第4节 内容编写

document `\begin{document}`
<文档内容>
`\end{document}`

在文档开始后内容进行编写, 文档内容由 document 环境包裹。

4.1 标题页和声明页

`\maketitle` `\maketitle`

Updated: 2022-12-03

生成标题。

- 在 `sjtuthesis` 文档类中, 生成标题页。
- 在 `sjturement` 和 `sjtuarticle` 文档类中,
 - 若处于 `titlepage` 文档类选项中, 生成标题页。 `sjturement` 文档类默认。
 - 若处于 `notitlepage` 文档类选项中, 生成标题块。 `sjtuarticle` 文档类默认。

`\copyrightpage` ☆ `\copyrightpage`

Updated: 2022-12-20

`\copyrightpage`[(授权书扫描件)]

生成空白版权使用授权书。接受一个可选参数用于插入版权使用授权书扫描件, 使用可选参数时需要手动加载 `pdfpages` 宏包。

4.2 前文部分

`\frontmatter` ☆ `\frontmatter`

声明前文部分开始。

`abstract` `\begin{abstract}[(lang)]`

Updated: 2023-11-29

⟨摘要⟩

`\end{abstract}`

`\begin{abstract}`

⟨摘要⟩

`\end{abstract}`

摘要环境。会在结尾添加关键词。

- `sjtuthesis` 文档类中, 可以设置可选参数指定摘要的语言, 默认为 `zh`。
- `sjtuarticle` 和 `sjturement` 文档类中, 不需要可选参数。

`abstract*` ☆ `sjtuthesis` 文档类中使用带星号的 `abstract*` 环境不会出现在目录中。

Updated: 2023-11-29

`\tableofcontents`
`\tableofcontents*`
`\listoffigures`
`\listoffigures*`
`\listoftables`
`\listoftables*`
`\listofalgorithms`
`\listofalgorithms*`

目录、插图、表格和算法等索引命令如表 5 所示, 将其插入到期望的位置即可。带 * 的命令表示对应的索引表不会出现在目录中。

表 5 目录和索引表

用途	命令	用途	命令
目录	<code>\tableofcontents</code> <code>\tableofcontents*</code>	插图索引	<code>\listoffigures</code> <code>\listoffigures*</code>
表格索引	<code>\listoftables</code> <code>\listoftables*</code>	算法索引 ^a	<code>\listofalgorithms</code> <code>\listofalgorithms*</code>

a 启用 `algorithm2e` 或 `algorithm` 后有效。

4.3 正文部分

`\mainmatter` ☆ `\mainmatter`

声明正文部分开始。正文部分是论文的核心, 您可以分章节撰写。如有需求, 也可以采用多文件编译的方式。

`\footnote` `\footnote[(脚注编号)]{(脚注文字)}`

Updated: 2022-12-03

插入脚注。其中脚注编号参数是可选的, 一般不需要输入。

assumption SJTUT_EX 预定义了一系列数学环境, 如表 6 所示, 在启用 `amsthm` 或 `ntheorem` 宏包后有效。

axiom
conjecture
corollary
definition
example
exercise
lemma
problem
proposition
theorem

表 6 预定义的数学环境

assumption	axiom	conjecture	corollary	definition	example	exercise
假设	公理	猜想	推论	定义	例	练习
lemma	problem	proof	proposition	remark	solution	theorem
引理	问题	证明	命题	注	解	定理

`\setbaselineskip` `\setbaselineskip{<长度>}`

New: 2023-10-24 设置当前的基线间距, 一般在字号命令之后使用。

`\appendix` `\appendix`

附录由 `\appendix` 命令开启, 然后像正文一样书写。

`nomenclature` ☆ `\begin{nomenclature}[<标题>]`

`nomenclature*` ☆ `<符号对照表>`

`\end{nomenclature}`

Updated: 2022-03-02

符号对照表环境。带星号的版本不会出现在目录中。可以使用可选参数手动设置标题。符号对照表环境仅设置标题, 内部实现可由用户自行决定。可以使用 `longtable`, 也可以使用 `nomenc` 宏包。

`abbreviation` ☆ `\begin{abbreviation}[<标题>]`

`abbreviation*` ☆ `<缩略语对照表>`

`\end{abbreviation}`

Updated: 2022-03-02

缩略语对照表环境。带星号的版本不会出现在目录中。可以使用可选参数手动设置标题。缩略语对照表环境仅设置标题, 内部实现可由用户自行决定。

4.4 后文部分

`\backmatter` ☆ `\backmatter`

声明后文部分开始。后文部分包含致谢等。

`acknowledgements` ☆ `\begin{acknowledgements}[<标题>]`

`<致谢内容>`

Updated: 2022-02-24

`\end{acknowledgements}`

致谢环境。盲审模式下致谢将被隐去。可以使用可选参数手动设置标题。

`achievements` ☆ `\begin{achievements}[<标题>]`

`<获得的科研成果>`

Updated: 2022-02-24

`\end{achievements}`

科研成果环境, 可以使用可选参数手动设置标题。内部请配合使用下面的附录用文献列表环境 `bibliolist` 和 `bibliolist*`。你可以在该环境中使用带星号的节次命令以分隔不同的类型的成果(比如学术论文、专利等); 你也可以使用多个 `achievements` 环境, 配合不同的可选参数作为标题, 展示不同类型的成果。

```

bibliolist ☆ \begin{bibliolist}{<最长条目编号>}
bibliolist* ☆ \item <文献条目>
Updated: 2022-03-23 \end{bibliolist}
\begin{bibliolist*}{<最长条目编号>}
\item <文献条目 (隐去姓名)>
\end{bibliolist*}

```

附录用文献环境,只允许在 `achievements` 环境中使用。需要指定最长条目的编号作为参数,比如 99;如果将该强制参数被指定为空,将不显示编号,每条以悬挂缩进做区分。环境内部使用 `\item` 来分隔各条目,在同一个 `achievements` 环境内、不同的 `bibliolist` 或 `bibliolist*` 环境中编号连续递增、不会间断。普通模式下显示 `bibliolist` 中的内容,盲审模式下显示 `bibliolist*` 中的内容。

```

resume ☆ \begin{resume}[<标题>]
<简历内容>
Updated: 2022-02-24 \end{resume}

```

简历环境。盲审模式下简历将被隐去。可以使用可选参数手动设置标题。

```

digest ☆ \begin{digest}[<lang>]
<大摘要>
\end{digest}

```

学士论文大摘要,使用可选参数设定语言,默认为 `en`。

第 5 节 宏包依赖情况

使用不同编译方式、指定不同选项,会导致宏包依赖情况有所不同。具体如下:

- 在任何情况下,文档类都会显式调用以下宏包(或文档类):
 - `ctexbook`、`ctexrep` 和 `ctexart`, 提供中文排版的通用框架。属于 $\text{CT}_{\text{E}}\text{X}$ 宏集 [8]。
 - `mathtools`, 对 $\text{L}^{\text{A}}\text{T}_{\text{E}}\text{X}$ 的数学排版功能进行了全面扩展。是 `amsmath` 的扩充。
 - `geometry`, 用于调整页面尺寸。
 - `fancyhdr`, 处理页眉页脚。
 - `tocloft`, 设置目录格式。
 - `caption`、`bicaption` 和 `subcaption`, 用于设置题注。
 - `xcolor`, 提供彩色支持。
 - `graphicx`, 提供图形插入的接口。
 - `enumitem`, 设置列表环境格式。
- `sjtuthesis` 会调用 `xtemplate` 和 `array`, 用于辅助标题页等特殊页面的排版。
- 部分西文与数学字体预设会调用相关的字体宏包,具体调用情况请参见对应的字体预设文件。
- 部分数字字体预设会调用 `unicode-math` 处理 Unicode 编码的 OpenType 数学字体。在未启用 `unicode-math` 的情况下,会调用 `bm` 来选择粗体数学符号。

这里只列出了本模板直接调用的宏包。这些宏包自身的调用情况,此处不再具体展开。如有需要,请参阅相关文档。

参考文献

图书

- [1] KNUTH D E. *The $\text{T}_{\text{E}}\text{X}$ book: Computers & Typesetting, volume A*[M]. Boston: Addison–Wesley Publishing Company, 1986.

源代码³: [CTAN://systems/knuth/dist/tex/texbook.tex](https://ctan.org/systems/knuth/dist/tex/texbook.tex)

³此代码只可作为学习之用。未经 Knuth 本人同意,您不应当编译此文档。

- [2] 刘海洋. \LaTeX 入门 [M]. 北京: 电子工业出版社, 2013.

标准、规范

- [3] 国务院学位委员会办公室, 全国信息与文献标准化技术委员会. 学位论文编写规则: *GB/T 7713.1-2006*[S]. 北京: 中国标准出版社, 2007.
- [4] 全国信息与文献标准化技术委员会第七分委员会, 中华人民共和国新闻出版总署. 科技文献的章节编号方法: *CY/T 35-2001*[S]. [S.l.: s.n.], 2001.
- [5] 上海交通大学研究生院. 上海交通大学博士、硕士学位论文撰写指南[EB/OL]. (2023-11-03)[2023-12-04].

<https://www.gs.sjtu.edu.cn/post/detail/Z3MxNDc=>

宏包、模版

- [6] BRAAMS J, CARLISLE D, JEFFREY A, et al. *The $\text{\LaTeX} 2_{\epsilon}$ Sources*[CP/OL]. (2023-11-01).
<https://ctan.org/pkg/latex>
源代码: [CTAN://macros/latex/base/source2e.pdf](https://ctan.org/pkg/latex)
- [7] THE \LaTeX PROJECT. *The $\text{\LaTeX} 3$ Interfaces*[EB/OL]. (2023-11-09).
<https://ctan.org/pkg/l3kernel>
文档: [CTAN://macros/latex/l3kernel/interface3.pdf](https://ctan.org/pkg/l3kernel)
- [8] CTEX.ORG. *CTEX 宏集手册*[EB/OL]. version 2.5.10, (2022-07-14).
<https://ctan.org/pkg/ctex>
文档及源代码: [CTAN://language/chinese/ctex/ctex.pdf](https://ctan.org/pkg/ctex)
- [9] 曾祥东. *fduthesis*: 复旦大学论文模板[EB/OL]. version 0.9a, (2023-05-27).
<https://ctan.org/pkg/fduthesis>
文档及源代码: [CTAN://macros/latex/contrib/fduthesis/fduthesis-code.pdf](https://ctan.org/pkg/fduthesis)
- [10] 清华大学 TUNA 协会. *ThuThesis*: 清华大学学位论文模板[EB/OL]. version 7.4.0, (2023-05-15).
<https://ctan.org/pkg/thuthesis>
文档及源代码: [CTAN://macros/latex/contrib/thuthesis/thuthesis.pdf](https://ctan.org/pkg/thuthesis)

第 6 节 代码实现

本模板使用 L^AT_EX3 语法编写, 依赖 expl3 环境, 并需调用 l3packages 中的相关宏包。

1 <@@=sjtu>

6.1 内部变量

临时变量。

```
\l__sjtu_tmp_bool
\l__sjtu_tmp_clist
\l__sjtu_tmp_dim
\l__sjtu_tmp_skip
\l__sjtu_tmp_box
```

2 <*class>
3 \bool_new:N \l__sjtu_tmp_bool
4 \clist_new:N \l__sjtu_tmp_clist
5 \dim_new:N \l__sjtu_tmp_dim
6 \skip_new:N \l__sjtu_tmp_skip
7 \box_new:N \l__sjtu_tmp_box

\g__sjtu_thesis_type_int 论文类型。

<thesis> 8 \int_new:N \g__sjtu_thesis_type_int

论文语言。

```
\g__sjtu_lang_tl
\g__sjtu_lang_clist
\c__sjtu_lang_de_tl
\c__sjtu_lang_ja_tl
```

9 \tl_new:N \g__sjtu_lang_tl
10 \clist_set:Nn \g__sjtu_lang_clist { zh, en }
11 \tl_const:Nn \c__sjtu_lang_de_tl { de }
12 \tl_const:Nn \c__sjtu_lang_ja_tl { ja }

字号大小与行距。

```
\g__sjtu_zihao_tl
\g__sjtu_font_size_int
\g__sjtu_font_size_dim
\g__sjtu_baseline_skip_dim
\g__sjtu_fixed_baselineskip_bool
\g__sjtu_line_spread_fp
```

13 \tl_new:N \g__sjtu_zihao_tl
14 \int_new:N \g__sjtu_font_size_int
15 \dim_new:N \g__sjtu_font_size_dim
16 \dim_new:N \g__sjtu_baseline_skip_dim
17 \bool_new:N \g__sjtu_fixed_baselineskip_bool
18 \fp_new:N \g__sjtu_line_spread_fp

字体配置。

```
\g__sjtu_text_font_tl
\g__sjtu_math_font_tl
\g__sjtu_cjk_font_tl
```

19 \tl_new:N \g__sjtu_text_font_tl
20 \tl_new:N \g__sjtu_math_font_tl
21 \tl_new:N \g__sjtu_cjk_font_tl

\g__sjtu_slanted_uppercase_greek_bool 大写希腊字母的正/斜体。

22 \bool_new:N \g__sjtu_slanted_uppercase_greek_bool

\g__sjtu_upright_integral_bool 积分号的正/斜体。

23 \bool_new:N \g__sjtu_upright_integral_bool

\g__sjtu_integral_limits_bool 积分号上下限的位置。

24 \bool_new:N \g__sjtu_integral_limits_bool

\g__sjtu_math_font_options_clist 传入数学字体宏包的选项列表。

25 \clist_new:N \g__sjtu_math_font_options_clist

\g__sjtu_review_bool 盲审模式。

<thesis> 26 \bool_new:N \g__sjtu_review_bool

\g__sjtu_options_to_ctex_class_clist 保存由 sjtutex 传入 ctex 文档类的选项列表。默认 ctex 文档类的选项: 使用 UTF8 编码, 不调整基础类的版式以及不载入 ctex 字体预配置。

27 \clist_set:Nn \g__sjtu_options_to_ctex_class_clist
28 { a4paper, UTF8, scheme = plain, fontset = none }

`\g__sjtu_options_to_packages_clist` 保存由传入其他宏包的选项列表。

```
29 \clist_new:N \g__sjtu_options_to_packages_clist
```

`\g__sjtu_twoside_bool` 是否开启双页模式。

```
30 \bool_new:N \g__sjtu_twoside_bool
<thesis> 31 \bool_set_true:N \g__sjtu_twoside_bool
<!thesis> 32 \bool_set_false:N \g__sjtu_twoside_bool
```

`\g__sjtu_openright_bool` 是否在奇数页开始新章。

```
<!article> 33 \bool_new:N \g__sjtu_openright_bool
<thesis> 34 \bool_set_true:N \g__sjtu_openright_bool
<report> 35 \bool_set_false:N \g__sjtu_openright_bool
```

`\g__sjtu_titlepage_bool` 是否生成标题页。

```
<!thesis> 36 \bool_new:N \g__sjtu_titlepage_bool
<report> 37 \bool_set_true:N \g__sjtu_titlepage_bool
<article> 38 \bool_set_false:N \g__sjtu_titlepage_bool
```

`\g__sjtu_draft_bool` 是否开启草稿模式。

```
39 \bool_new:N \g__sjtu_draft_bool
```

`__sjtu_deprecated_option:n` 对过时选项给出警告。

`__sjtu_set_deprecated_option:n`

```
40 \cs_new_protected:Npn \__sjtu_deprecated_option:n
41 { \msg_warning:nnn { sjtutex } { deprecated-option } }
42 \cs_new_protected:Npn \__sjtu_set_deprecated_option:n #1
43 {
44   \__sjtu_deprecated_option:n { Option~`#1'~ is~ set. }
45   \keys_set:nn { sjtu / option } {#1}
46 }
47 \msg_new:nnn { sjtutex } { deprecated-option }
48 { Option~` \l_keys_key_tl'~ is~ deprecated. \\ #1 }
```

6.2 选项处理

定义 `sjtu/option` 键值类。

```
49 \keys_define:nn { sjtu / option }
50 {
```

type 论文类型。

```
51 <*thesis>
52   type .choice: ,
53   type .value_required:n = true ,
54   type .choices:nn =
55     { bachelor, master, doctor }
56     { \int_gset_eq:NN \g__sjtu_thesis_type_int \l_keys_choice_int } ,
57   type .initial:n = { master } ,
58 </thesis>
```

lang 论文主要语言。

```
59   lang .choice: ,
60   lang .value_required:n = true ,
61   lang .choices:nn =
62     { zh, en, de, ja }
63     {
64       \tl_gset_eq:NN \g__sjtu_lang_tl \l_keys_choice_tl
65 <*thesis>
66       \clist_if_in:NnF \g__sjtu_lang_clist {#1}
67       { \clist_gput_right:Nn \g__sjtu_lang_clist {#1} }
68 </thesis>
69     } ,
70   lang .initial:n = { zh } ,
```

zihao 字号大小。

```

71   zihao .choice: ,
72   zihao .value_required:n = true ,
73   zihao / 5 .code:n =
74   {
75     \tl_gset:Nn \g__sjtu_zihao_tl {#1}
76     \int_gset:Nn \g__sjtu_font_size_int { 1 }
77     \dim_gset:Nn \g__sjtu_font_size_dim { 10.5 bp }
78   } ,
79   zihao / -4 .code:n =
80   {
81     \tl_gset:Nn \g__sjtu_zihao_tl {#1}
82     \int_gset:Nn \g__sjtu_font_size_int { 2 }
83     \dim_gset:Nn \g__sjtu_font_size_dim { 12 bp }
84   } ,
<article> 85   zihao .initial:n = { -4 } ,
<article> 86   zihao .initial:n = { 5 } ,

```

linespread 行距倍数。

```

87   linespread .fp_gset:N = \g__sjtu_line_spread_fp ,
88   linespread .initial:n = { \c_nan_fp } ,
89   linespread .value_required:n = true ,

```

baselineskip 正文基线间距。

```

90   baselineskip .choice: ,
91   baselineskip .value_required:n = true ,
92   baselineskip / false .code:n =
93   { \bool_gset_false:N \g__sjtu_fixed_baselineskip_bool } ,
94   baselineskip / unknown .code:n =
95   {
96     \bool_gset_true:N \g__sjtu_fixed_baselineskip_bool
97     \dim_gset:Nn \g__sjtu_baseline_skip_dim {#1}
98   } ,
<thesis> 99   baselineskip .initial:n = { 20 bp } ,
<!thesis> 100  baselineskip .initial:n = { false } ,

```

text-font 字体配置。

```

math-font
cjk-font
101  text-font .tl_gset:N = \g__sjtu_text_font_tl ,
102  text-font .initial:n = { newtx } ,
103  math-font .tl_gset:N = \g__sjtu_math_font_tl ,
104  cjk-font .tl_gset:N = \g__sjtu_cjk_font_tl ,

```

fontset 是过时选项。

```

105  fontset .code:n = { \__sjtu_set_deprecated_option:n { cjk-font = #1 } } ,

```

math-style 数学符号样式。

```

106  math-style .choice: ,
107  math-style .value_required:n = true,
108  math-style / TeX .code:n =
109  {
110    \bool_gset_false:N \g__sjtu_slanted_uppercase_greek_bool
111    \bool_gset_false:N \g__sjtu_upright_integral_bool
112    \bool_gset_false:N \g__sjtu_integral_limits_bool
113  } ,
114  math-style / ISO .code:n =
115  {
116    \bool_gset_true:N \g__sjtu_slanted_uppercase_greek_bool
117    \bool_gset_true:N \g__sjtu_upright_integral_bool
118    \bool_gset_true:N \g__sjtu_integral_limits_bool
119  } ,
120  math-style .initial:n = { ISO } ,

```

uppercase-greek 大写希腊字母的正/斜体。

```

121 uppercase-greek .choice: ,
122 uppercase-greek .value_required:n = true ,
123 uppercase-greek / slanted .code:n =
124   { \bool_gset_true:N \g__sjtu_slanted_uppercase_greek_bool } ,
125 uppercase-greek / upright .code:n =
126   { \bool_gset_false:N \g__sjtu_slanted_uppercase_greek_bool } ,

```

integral 积分号的正/斜体。

```

127 integral .choice: ,
128 integral .value_required:n = true ,
129 integral / slanted .code:n =
130   { \bool_gset_false:N \g__sjtu_upright_integral_bool } ,
131 integral / upright .code:n =
132   { \bool_gset_true:N \g__sjtu_upright_integral_bool } ,

```

integral-limits 积分号上下限的位置。

```

133 integral-limits .choice: ,
134 integral-limits .value_required:n = true ,
135 integral-limits / false .code:n =
136   { \bool_gset_false:N \g__sjtu_integral_limits_bool } ,
137 integral-limits / true .code:n =
138   { \bool_gset_true:N \g__sjtu_integral_limits_bool } ,

```

oneside 单面或双面模式。

twoside

```

139 oneside .value_forbidden:n = true,
140 twoside .value_forbidden:n = true,
141 oneside .code:n =
142   { \bool_gset_false:N \g__sjtu_twoside_bool } ,
143 twoside .code:n =
144   { \bool_gset_true:N \g__sjtu_twoside_bool } ,

```

openany 是否奇数页开章。

openright

```

145 <!*article>
146 openany .value_forbidden:n = true,
147 openright .value_forbidden:n = true,
148 openany .code:n =
149   { \bool_gset_false:N \g__sjtu_openright_bool } ,
150 openright .code:n =
151   { \bool_gset_true:N \g__sjtu_openright_bool } ,
152 </!article>

```

titlepage 是否生成标题页。

notitlepage

```

153 <!*thesis>
154 titlepage .value_forbidden:n = true,
155 notitlepage .value_forbidden:n = true,
156 titlepage .code:n =
157   { \bool_gset_true:N \g__sjtu_titlepage_bool } ,
158 notitlepage .code:n =
159   { \bool_gset_false:N \g__sjtu_titlepage_bool } ,
160 </!thesis>

```

draft 是否开启草稿模式。

final

```

161 draft .value_forbidden:n = true,
162 final .value_forbidden:n = true,
163 draft .code:n =
164   { \bool_gset_true:N \g__sjtu_draft_bool } ,
165 final .code:n =
166   { \bool_gset_false:N \g__sjtu_draft_bool } ,

```

review 盲审模式。

```

<thesis> 167 review .bool_gset:N = \g__sjtu_review_bool ,
<thesis> 168 review .initial:n = false ,

```

处理未知选项。

```

169   unknown .code:n = { \msg_error:nn { sjtutex } { unknown-option } }
170 }
171 \msg_new:nnn { sjtutex } { unknown-option }
172 { Class~ option~ "\l_keys_key_tl"~ is~ unknown. }

```

将文档类选项传给 sjtu/option。

```

173 \cs_if_exist:NTF \ProcessKeyOptions
174 { \ProcessKeyOptions [ sjtu / option ] }
175 {
176   \RequirePackage { l3keys2e }
177   \ProcessKeysOptions { sjtu / option }
178 }

```

sjturement 和 sjtuarticle 文档类默认使用 1.3 行距倍数。

```

179 <!*thesis>
180 \bool_if:NF \g__sjtu_fixed_baselineskip_bool
181 {
182   \fp_if_nan:nT { \g__sjtu_line_spread_fp }
183   { \fp_set:Nn \g__sjtu_line_spread_fp { 1.3 } }
184 }
185 </!*thesis>

```

数字字体宏包选项。

```

186 \clist_set:Nx \g__sjtu_math_font_options_clist
187 {
188   \bool_if:NT \g__sjtu_slanted_uppercase_greek_bool
189   { slantedGreek } ,
190   \bool_if:NT \g__sjtu_upright_integral_bool
191   { upint }
192 }

```

追加全局选项。

```

193 \clist_put_right:Nx \@classoptionslist
194 {
195   a4paper ,
196   \tl_if_eq:NNT \g__sjtu_lang_tl \c__sjtu_lang_de_tl
197   { german, ngerman } ,
198   \bool_if:NT \g__sjtu_integral_limits_bool
199   { intlimits } ,
200   \g__sjtu_math_font_options_clist
201 }

```

设置传入 ctex 文档类的选项。

```

202 \clist_put_right:Nx \g__sjtu_options_to_ctex_class_clist
203 {
204   zihao      = \g__sjtu_zihao_tl ,
205   \fp_if_nan:nF { \g__sjtu_line_spread_fp }
206   { linespread = \fp_use:N \g__sjtu_line_spread_fp } ,
207   \bool_if:NTF \g__sjtu_twoside_bool
208   { twoside } { oneside } ,
<!article> 209   \bool_if:NTF \g__sjtu_openright_bool
<!article> 210   { openright } { openany } ,
<!thesis> 211   \bool_if:NTF \g__sjtu_titlepage_bool
<!thesis> 212   { titlepage } { notitlepage } ,
213   \bool_if:NTF \g__sjtu_draft_bool
214   { draft } { final }
215 }

```

6.3 载入宏包、文档类

将选项传入 `ctex` 文档类。

```

216 \exp_args:No \PassOptionsToClass
217 { \g__sjtu_options_to_ctex_class_clist }
<thesis> 218 { ctexbook }
<report> 219 { ctexrep }
<article> 220 { ctexart }

```

传入各宏包选项。

```

221 \clist_set:Nx \g__sjtu_options_to_packages_clist
222 {
223   { no-math          } { fontspec      } ,
224   { titles           } { tocloft       } ,
225   { list = off       } { bcaption      } ,
226   { warnings-off =
227     {
228       mathtools-overbracket,
229       mathtools-colon
230     }
231   } { unicode-math } ,
232   { amsmath, thmmarks } { ntheorem   } ,
<article> 233   { chapter          } { algorithm   } ,
<article> 234   { algochapter      } { algorithm2e } ,
235   {
236     \bool_if:NTF \g__sjtu_integral_limits_bool
237       { displaylimits } { nolimits }
238   } { cmupint        }
239 }
240 \clist_map_inline:Nn \g__sjtu_options_to_packages_clist
241 { \PassOptionsToPackage #1 }

```

载入 `ctex` 文档类。在使用 \LaTeX 编译时, `ctex` 的底层将调用 `xeCJK` 宏包; 而在使用 \LuaTeX 编译时, 则将调用 `LuaTeX-j` 宏包。两种情况下 `ctex` 均会调用 `fontspec` 宏包。

```

<thesis> 242 \LoadClass { ctexbook }
<report> 243 \LoadClass { ctexrep }
<article> 244 \LoadClass { ctexart }

```

载入各宏包。

```

245 \RequirePackage
246 {
<thesis> 247   xtemplate,
<thesis> 248   array,
249   mathtools,
250   geometry,
251   fancyhdr,
252   tocloft,
253   caption,
254   bcaption,
255   subcaption,
256   xcolor,
257   graphicx,
258   enumitem
259 }

```

6.4 内部定义

6.4.1 内部函数

\LaTeX 3 函数变体。

```

\cs_gset:cpo
\tl_const:Nv
\clist_use:NV 260 \cs_generate_variant:Nn \cs_gset:Npn { cpo }
\clist_use:cv 261 \cs_generate_variant:Nn \tl_const:Nn { Nv }
\exp_args:NNnv 262 \cs_generate_variant:Nn \clist_use:Nn { NV, cv }
\exp_last_unbraced:ce
\regex_match:neTF

```



```

263 \exp_args_generate:n { Nnv }
264 \cs_generate_variant:Nn \exp_last_unbraced:Ne { ce }
265 \prg_generate_conditional_variant:Nnn \regex_match:nn { ne } { T, TF }

```

__sjtu_engine_case:nn 2 个参数依次为 pdfTeX 和 XeTeX/LuaTeX。

```

266 \cs_new:Npx __sjtu_engine_case:nn #1#2
267 {
268   \bool_lazy_or:nnTF
269     { \sys_if_engine_xetex_p: }
270     { \sys_if_engine luatex_p: }
271     {#2}
272     { \sys_if_engine_pdftex:T {#1} }
273 }

```

__sjtu_engine_case:nnn 3 个参数依次为 pdfTeX、XeTeX 和 LuaTeX。

```

274 \cs_new:Npx __sjtu_engine_case:nnn #1#2#3
275 {
276   \sys_if_engine_xetex:TF
277     {#2}
278     {
279       \sys_if_engine luatex:TF
280         {#3}
281         { \sys_if_engine_pdftex:T {#1} }
282     }
283 }

```

__sjtu_unicode_engine_case:nn 2 个参数依次为 XeTeX 和 LuaTeX。

```

284 \cs_new:Npx __sjtu_unicode_engine_case:nn #1#2
285 {
286   \sys_if_engine_xetex:TF
287     {#1}
288     { \sys_if_engine luatex:T {#2} }
289 }

```

__sjtu_unicode_char:n 290 __sjtu_engine_case:nn

```

291 {
292   \cs_new:Npn __sjtu_unicode_char:n #1
293   {
294     \exp_not:N \Unicode
295     { \int_div_truncate:nn {#1} { 256 } }
296     { \int_mod:nn {#1} { 256 } }
297   }
298 }
299 { \cs_new:Npn __sjtu_unicode_char:n #1 { \tex_Uchar:D #1 \scan_stop: } }

```

__sjtu_preto_cmd:Nn 补丁工具, 来自 ctexpatch 宏包, 在宏的原本定义前后增加钩子。

```

__sjtu_appto_cmd:Nn
300 <!*thesis>
301 \cs_new_protected:Npn __sjtu_preto_cmd:Nn #1#2
302 {
303   \ctex_preto_cmd:NnnTF #1 { } {#2}
304   { } { \ctex_patch_failure:N #1 }
305 }
306 \cs_new_protected:Npn __sjtu_appto_cmd:Nn #1#2
307 {
308   \ctex_appto_cmd:NnnTF #1 { } {#2}
309   { } { \ctex_patch_failure:N #1 }
310 }
311 </!thesis>

```

__sjtu_dim_set_to_wd:Nn 操作长度变量的辅助函数。

```

__sjtu_skip_add_to_wd:Nn
312 <!*thesis>
313 \cs_new:Npn __sjtu_dim_set_to_wd:Nn #1#2
314 {
315   \hbox_set:Nn \l__sjtu_tmp_box {#2}

```

```

316 \dim_set:Nn #1 { \box_wd:N \l__sjtu_tmp_box }
317 }
318 </thesis>
319 \cs_new:Npn \__sjtu_skip_add_to_wd:Nn #1#2
320 {
321 \hbox_set:Nn \l__sjtu_tmp_box {#2}
322 \skip_add:Nn #1 { \box_wd:N \l__sjtu_tmp_box }
323 }
<thesis> 324 \cs_generate_variant:Nn \__sjtu_dim_set_to_wd:Nn { Nv }
325 \cs_generate_variant:Nn \__sjtu_skip_add_to_wd:Nn { cv }
\__sjtu_cs_provide_eq:NN 326 \cs_new:Npn \__sjtu_cs_provide_eq:NN #1#2
327 { \cs_if_exist:NF #1 { \cs_set_eq:NN #1 #2 } }
328 \cs_generate_variant:Nn \__sjtu_cs_provide_eq:NN { cc }

```

__sjtu_vspace:N 类似 L^AT_EX 2_ε 中的 \vspace 和 \vspace*。

```

\__sjtu_vspace:n
\__sjtu_vspace_r:N 329 <*thesis>
\__sjtu_vspace_r:n 330 \cs_new_protected:Npn \__sjtu_vspace:N #1
\__sjtu_vspace_r:n 331 {
332 \skip_vertical:N #1
333 \skip_vertical:N \c_zero_skip
334 }
335 \cs_new_protected:Npn \__sjtu_vspace:n #1
336 {
337 \skip_set:Nn \l__sjtu_tmp_skip {#1}
338 \__sjtu_vspace:N \l__sjtu_tmp_skip
339 }
340 \cs_new_protected:Npn \__sjtu_vspace_r:N #1
341 {
342 \dim_set_eq:NN \l__sjtu_tmp_dim \prevdepth
343 \hrule height \c_zero_dim
344 \nobreak
345 \skip_vertical:N #1
346 \skip_vertical:N \c_zero_skip
347 \dim_set_eq:NN \prevdepth \l__sjtu_tmp_dim
348 }
349 \cs_new_protected:Npn \__sjtu_vspace_r:n #1
350 {
351 \skip_set:Nn \l__sjtu_tmp_skip {#1}
352 \__sjtu_vspace_r:N \l__sjtu_tmp_skip
353 }
354 </thesis>

```

__sjtu_define_name:nn 定义默认名称的辅助函数。

```

\__sjtu_define_name:nv
\__sjtu_define_name:nnn 355 \cs_new_protected:Npn \__sjtu_define_name:nn #1#2
\__sjtu_define_name:nnn 356 { \tl_const:cn { c__sjtu_name_ #1 _tl } {#2} }
\__sjtu_define_name:nnnn 357 \cs_new_protected:Npn \__sjtu_define_name:nnn #1#2#3
\__sjtu_define_name:nnnn 358 { \tl_const:cn { c__sjtu_name_ #2 _ #1 _tl } {#3} }
359 <*thesis>
360 \cs_new_protected:Npn \__sjtu_define_name_from_clist:nnnn #1#2#3#4
361 { \tl_const:cx { c__sjtu_name_ #2 _ #1 _tl } { \clist_item:nn {#4} {#3} } }
362 \cs_generate_variant:Nn \__sjtu_define_name:nn { nv }
363 </thesis>

```

__sjtu_define_symbol:nn 定义符号的辅助函数。

```

364 \cs_new_protected:Npn \__sjtu_define_symbol:nn #1#2
365 { \tl_const:cx { c__sjtu_symbol_ #1 _tl } { \__sjtu_unicode_char:n {#2} } }

```

__sjtu_if_lang_valid:nTF 验证语言选项的函数。

```

366 <*thesis>
367 \cs_new_protected:Npn \__sjtu_if_lang_valid:nTF #1
368 { \clist_if_in:NnTF \g__sjtu_lang_clist {#1} }
369 \msg_new:nnn { sjtutex } { lang-validation }
370 { Invalid~ language~ argument~ `#1'! }

```

6.4.2 页面模板

使用 `xtemplate` 构建页面模板,用于绘制标题页与版权页。
页面部件模板。

```

371 \DeclareObjectType { sjtu } { 0 }
372 \DeclareTemplateInterface { sjtu } { component } { 0 }
373 {
374   format      : tokenlist = \c_empty_tl ,
375   content     : tokenlist = \c_empty_tl ,
376   bottom-skip : skip      = \c_zero_skip ,
377   align       : choice { left, right, center, normal } = center
378 }
379 \DeclareTemplateCode { sjtu } { component } { 0 }
380 {
381   format      = \l__sjtu_component_format_tl ,
382   content     = \l__sjtu_component_content_tl ,
383   bottom-skip = \l__sjtu_component_bottom_skip ,
384   align       =
385   {
386     left      =
387       \cs_set_eq:NN \l__sjtu_component_align: \raggedright ,
388     right     =
389       \cs_set_eq:NN \l__sjtu_component_align: \raggedleft ,
390     center    =
391       \cs_set_eq:NN \l__sjtu_component_align: \centering ,
392     normal    =
393       \cs_set_eq:NN \l__sjtu_component_align: \prg_do_nothing:
394   }
395 }
396 {
397   \AssignTemplateKeys
398   \group_begin:
399     \l__sjtu_component_align:
400     \l__sjtu_component_format_tl
401     \l__sjtu_component_content_tl
402   \par
403   \group_end:
404   \l__sjtu_vspace:N \l__sjtu_component_bottom_skip
405 }

```

页面模板。

```

406 \DeclareTemplateInterface { sjtu } { page } { 0 }
407 {
408   bookmark      : boolean    = false ,
409   bookmark-text : tokenlist = \c_empty_tl ,
410   style         : tokenlist = empty ,
411   format        : tokenlist = \c_empty_tl ,
412   prefix        : tokenlist ,
413   components    : commalist ,
414   top-skip      : skip      = \c_zero_skip ,
415   bottom-skip   : skip      = \c_zero_skip
416 }
417 \DeclareTemplateCode { sjtu } { page } { 0 }
418 {
419   bookmark      = \l__sjtu_page_bookmark_bool ,
420   bookmark-text = \l__sjtu_page_bookmark_text_tl ,
421   style         = \l__sjtu_page_style_tl ,
422   format        = \l__sjtu_page_format_tl ,
423   prefix        = \l__sjtu_page_prefix_tl ,
424   components    = \l__sjtu_page_components_clist ,
425   top-skip      = \l__sjtu_page_top_skip ,
426   bottom-skip   = \l__sjtu_page_bottom_skip
427 }
428 {
429   \AssignTemplateKeys
430   \bool_if:NTF \g__sjtu_openright_bool

```

```

431     { \cleardoublepage } { \clearpage }
432     \bool_if:NT \l__sjtu_page_bookmark_bool
433     { \__sjtu_pdf_bookmark:nn { 0 } { \l__sjtu_page_bookmark_text_tl } }
434     \exp_args:No \thispagestyle { \l__sjtu_page_style_tl }

```

移除页面顶部 `\vspace*` 的多余空白。见 <https://tex.stackexchange.com/questions/247513>。

```

435     \__sjtu_vspace_r:N \l__sjtu_page_top_skip
436     \__sjtu_vspace:n { - \tex_parskip:D }
437     \__sjtu_vspace:n { - \tex_baselineskip:D }
438     \group_begin:
439     \l__sjtu_page_format_tl
440     \clist_map_inline:Nn \l__sjtu_page_components_clist
441     { \UseInstance { sjtu } { \l__sjtu_page_prefix_tl / ##1 } }
442     \group_end:
443     \__sjtu_vspace:N \l__sjtu_page_bottom_skip
444     \clearpage
445 }

```

辅助函数。

```

446 \cs_new:Npn \__sjtu_declare_component:nnn #1#2#3
447 { \DeclareInstance { sjtu } {#1/#2} { component } {#3} }
448 \cs_new:Npn \__sjtu_declare_page:nn #1#2
449 { \DeclareInstance { sjtu } {#1} { page } {#2} }
450 </thesis>

```

6.5 字号行距

重定义 `\normalsize`, 设置正文的基线间距。

```

\__sjtu_set_font_size:nnNn \normalsize
451 \cs_new_protected:Npn \__sjtu_set_font_size:nnNn #1#2#3#4
452 { \cs_set_protected:Npn #3 { \@setfontsize #3 {#1} {#2} #4 } }
453 \tl_set:Nx \l__sjtu_font_size_tl
454 {
455   { \dim_to_decimal:n { \g__sjtu_font_size_dim } }
456   { \dim_to_decimal:n { \g__sjtu_baseline_skip_dim } }
457 }
458 \bool_if:NT \g__sjtu_fixed_baselineskip_bool
459 {
460   \int_case:nn { \g__sjtu_font_size_int }
461   {
462     { 1 } {
463       \exp_after:wN \__sjtu_set_font_size:nnNn \l__sjtu_font_size_tl
464       \normalsize
465       {
466         \abovedisplayskip 10\p@ \@plus2\p@ \@minus5\p@
467         \abovedisplayshortskip \z@ \@plus3\p@
468         \belowdisplayshortskip 6\p@ \@plus3\p@ \@minus3\p@
469         \belowdisplayskip \abovedisplayskip
470         \let\@listi\@listI
471       }
472     }
473     { 2 } {
474       \exp_after:wN \__sjtu_set_font_size:nnNn \l__sjtu_font_size_tl
475       \normalsize
476       {
477         \abovedisplayskip 12\p@ \@plus3\p@ \@minus7\p@
478         \abovedisplayshortskip \z@ \@plus3\p@
479         \belowdisplayshortskip 6.5\p@ \@plus3.5\p@ \@minus3\p@
480         \belowdisplayskip \abovedisplayskip
481         \let\@listi\@listI
482       }
483     }
484   }
485   \normalsize
486 }

```

`\setbaselineskip` 设置基线间距, 在字号命令之后使用。

```
487 \NewDocumentCommand \setbaselineskip { m }
488 { \fontsize { \f@size } {#1} \selectfont }
```

6.6 字体配置

`__sjtu_fontset_error:nn` 字库不可用时给出紧急错误信息, 停止读取定义文件。

```
489 \cs_new_protected:Npn \__sjtu_fontset_error:nn #1#2
490 { \msg_error:nnnn { sjtutex } { font-unavailable } {#1} {#2} }
491 \msg_new:nnn { sjtutex } { font-unavailable }
492 { `#1-font~ =~ #2'~ is~ unavailable~ in~ current~ mode. }
```

`__sjtu_fontset_case:nn` 2 个参数依次为 pdfTeX 和 XeTeX/LuaTeX。

```
493 \cs_new_eq:NN \__sjtu_fontset_case:nn \__sjtu_engine_case:nn
```

`__sjtu_fontset_case:nnn` 3 个参数依次为 pdfTeX(生成 PDF)、pdfTeX(生成 DVI)和 XeTeX/LuaTeX。

```
494 \cs_new:Npx \__sjtu_fontset_case:nnn #1#2#3
495 {
496   \__sjtu_engine_case:nn
497   { \sys_if_output_pdf:TF {#1} {#2} }
498   {#3}
499 }
```

`__sjtu_declare_math_symbol:nnNn`

```
500 \cs_new_protected:Nn \__sjtu_declare_math_symbol:nnNn
501 {
502   \cs_undefine:N #3
503   \DeclareMathSymbol {#3} {#1} {#2} {#4}
504 }
```

`__sjtu_set_slanted_greek:`

```
505 \cs_new_protected:Nn \__sjtu_set_slanted_greek:
506 {
507   \clist_const:Nn \c__sjtu_uppercase_greek_clist
508   { Gamma, Delta, Theta, Lambda, Xi, Pi, Sigma, Upsilon, Phi, Psi, Omega }
509   \clist_map_inline:Nn \c__sjtu_uppercase_greek_clist
510   {
511     \cs_set_eq:cc { up ##1 } {      ##1 }
512     \cs_set_eq:cc { it ##1 } { var ##1 }
513   }
514   \bool_if:NT \g__sjtu_slanted_uppercase_greek_bool
515   {
516     \clist_map_inline:Nn \c__sjtu_uppercase_greek_clist
517     { \cs_set_eq:cc { ##1 } { it ##1 } }
518   }
519 }
```

`__sjtu_set_unimath_symbol:`

```
520 \cs_new_protected:Nn \__sjtu_set_unimath_symbol:
521 {
522   \clist_map_inline:nn
523   {
524     { increment } { upDelta      } ,
525     { QED        } { blacksquare }
526   }
527   { \__sjtu_cs_provide_eq:cc ##1 }
528 }
```

如果没有指定数学字体, 则根据西文字体设置匹配的数字字体。

```
529 \tl_if_empty:NT \g__sjtu_math_font_tl
530 { \tl_gset_eq:NN \g__sjtu_math_font_tl \g__sjtu_text_font_tl }
```

根据操作系统判断默认 CJK 字体配置。

```
531 \tl_if_empty:NT \g__sjtu_cjk_font_tl
532 {
533   \sys_if_platform_windows:TF
```

```

534     { \tl_gset:Nn \g__sjtu_cjk_font_tl { windows } }
535     {
536       \ctex_if_platform_macos:TF
537       { \tl_gset:Nn \g__sjtu_cjk_font_tl { mac } }
538       { \tl_gset:Nn \g__sjtu_cjk_font_tl { fandol } }
539     }
540   }

```

`__sjtu_load_font:nn` 如果字体配置文件不存在,则载入默认值,并给出警告。

```

\__sjtu_load_fontset:
541 \cs_new_protected:Npn \__sjtu_load_font:nn #1#2
542 {
543   \str_if_eq:eeF { \tl_use:c { g__sjtu_ #1 _font_tl } } { none }
544   {
545     \file_if_exist:nF
546     { sjtu- #1 -font- \tl_use:c { g__sjtu_ #1 _font_tl } .def }
547     {
548       \msg_warning:nnnn { sjtutex } { invalid-font } {#1} {#2}
549       \tl_gset:cn { g__sjtu_ #1 _font_tl } {#2}
550     }
551     \ctex_file_input:n
552     { sjtu- #1 -font- \tl_use:c { g__sjtu_ #1 _font_tl } .def }
553   }
554 }
555 \msg_new:nnn { sjtutex } { invalid-font }
556 {
557   Invalid~ value~ `#1-font~ =~ \tl_use:c { g__sjtu_ #1 _font_tl }~ '!\ \\\
558   Using~ `#2'~ instead.
559 }
560 \cs_new_protected:Nn \__sjtu_load_fontset:
561 {
562   \clist_map_inline:nn
563   {
564     { math } { newtx },
565     { text } { newtx },
566     { cjk } { fandol }
567   }
568   { \__sjtu_load_font:nn ##1 }
569 }
570 \@onlypreamble \__sjtu_load_font:nn
571 \@onlypreamble \__sjtu_load_fontset:
572 </class>

```

6.6.1 西文与数学字体

```

573 <*font&(math|text)>
574 <*stixtwo>
575 \__sjtu_fontset_case:nn
576 {
577 <*math>
578   \DeclareSizeFunction { sub } { \sub@sfcnt \@font@info }
579   \PassOptionsToPackage { notext } { stix2 }
580   \RequirePackage { stix2 }
581   \clist_map_inline:nn
582   {
583     \upalpha      { "0B } ,
584     \upbeta       { "0C } ,
585     \upgamma      { "0D } ,
586     \updelta      { "0E } ,
587     \upepsilon    { "0F } ,
588     \upzeta       { "10 } ,
589     \upeta        { "11 } ,
590     \uptheta      { "12 } ,
591     \upiota       { "13 } ,
592     \upkappa      { "14 } ,
593     \uplambda     { "15 } ,
594     \upmu         { "16 } ,

```



```

595     \upnu      { "17 } ,
596     \upxi      { "18 } ,
597     \uppi      { "19 } ,
598     \uprho     { "1A } ,
599     \upsigma   { "1B } ,
600     \uptau     { "1C } ,
601     \upupsilon { "1D } ,
602     \upphi     { "1E } ,
603     \upchi     { "1F } ,
604     \uppsi     { "20 } ,
605     \upomega   { "21 } ,
606     \upvarepsilon { "22 } ,
607     \upvartheta { "23 } ,
608     \upvarpi   { "24 } ,
609     \upvarrho   { "25 } ,
610     \upvarsigma { "26 } ,
611     \upvarphi   { "27 }
612   }
613   { \__sjtu_declare_math_symbol:nnNn { \stix@lccg } { operators } #1 }
614   \__sjtu_set_slanted_greek:
615 </math>
616 <*text>
617   \tl_set:Nn \encodingdefault { T1 }
618   \DeclareEncodingSubset { TS1 } { ? } { 0 }
619   \UndeclareTextCommand { \textpertenthousand } { T1 }
620   \DeclareTextSymbolDefault { \textpertenthousand } { TS1 }
621   \tl_set:Nn \rmdefault { stix2 }
622   \tl_set:Nn \qhv@scale { 0.94 }
623   \tl_set:Nn \sfdefault { qhv }
624   \tl_set:Nn \ttdefault { qcr }
625 </text>
626 }
627 {
628 <*math>
629   \RequirePackage { unicode-math }
630   \bool_if:NTF \g__sjtu_upright_integral_bool
631   {
632     \setmathfont { STIXTwoMath-Regular.otf }
633     [ StylisticSet = 8 ]
634   }
635   { \setmathfont { STIXTwoMath-Regular.otf } }
636   \setmathfont { STIXTwoMath-Regular.otf }
637   [
638     range = { scr, bfscr },
639     StylisticSet = 1
640   ]
641 </math>
642 <math> \setmathrm
643 <text> \setmainfont
644   { STIXTwoText }
645   [
646     Extension = .otf,
647     UprightFont = *-Regular,
648     BoldFont = *-Bold,
649     ItalicFont = *-Italic,
650     BoldItalicFont = *-BoldItalic
651   ]
652 </stixtwo>
653 <*xits>
654 \__sjtu_fontset_case:nn
655 <math> { \__sjtu_fontset_error:nn { math } { xits } }
656 <text> { \__sjtu_fontset_error:nn { text } { xits } }
657 {
658 <*math>
659   \RequirePackage { unicode-math }
660   \bool_if:NTF \g__sjtu_upright_integral_bool
661   {

```

```

662     \setmathfont { XITSMath-Regular }
663     [
664         Extension      = .otf,
665         BoldFont        = XITSMath-Bold,
666         StylisticSet    = 8
667     ]
668 }
669 {
670     \setmathfont { XITSMath-Regular }
671     [
672         Extension      = .otf,
673         BoldFont        = XITSMath-Bold,
674     ]
675 }
676 \setmathfont { XITSMath-Regular.otf }
677 [
678     range              = { cal, bfcalf },
679     StylisticSet       = 1
680 ]
681 </math>
<math> 682     \setmathrm
<text> 683     \setmainfont
684     { XITS }
685     [
686         Extension      = .otf,
687         UprightFont     = *-Regular,
688         BoldFont        = *-Bold,
689         ItalicFont      = *-Italic,
690         BoldItalicFont  = *-BoldItalic
691     ]
692 </xits>
693 <*newtx|newpx>
694 <*math>
695 \tl_set_eq:NN \l__sjtu_save_encodingdefault_tl \encodingdefault
696 \tl_set_eq:NN \l__sjtu_save_rmdefault_tl \rmdefault
697 \tl_set_eq:NN \l__sjtu_save_sfdefault_tl \sfdefault
698 \tl_set_eq:NN \l__sjtu_save_ttdefault_tl \ttdefault
699 \tl_set:Nn \encodingdefault { OT1 }
<newtx> 700 \tl_set:Nn \rmdefault { ntxtlf }
<newpx> 701 \tl_set:Nn \rmdefault { zplTLF }
702 \tl_set:Nn \qhv@scale { 0.94 }
703 \tl_set:Nn \sfdefault { qhv }
704 \tl_set:Nn \ttdefault { qcr }
<newtx> 705 \RequirePackage { newtxmath }
<newpx> 706 \RequirePackage { newpxmath }
707 \tl_set_eq:NN \encodingdefault \l__sjtu_save_encodingdefault_tl
708 \tl_set_eq:NN \rmdefault \l__sjtu_save_rmdefault_tl
709 \tl_set_eq:NN \sfdefault \l__sjtu_save_sfdefault_tl
710 \tl_set_eq:NN \ttdefault \l__sjtu_save_ttdefault_tl
711 \__sjtu_set_unimath_symbol:
712 </math>
713 <*text>
714 \__sjtu_fontset_case:nn
715 {
716     \tl_set:Nn \encodingdefault { T1 }
<newtx> 717 \RequirePackage { newtxtext }
<newpx> 718 \RequirePackage { newpxtext }
719 \tl_set:Nn \ttdefault { qcr }
720 }
721 {
722     \setmainfont
<newtx> 723     { TeXGyreTermesX }
<newpx> 724     { TeXGyrePagellaX }
725     [
726         Extension      = .otf,
727         UprightFont     = *-Regular,
728         BoldFont        = *-Bold,

```

```

729         ItalicFont      = *-Italic,
730         BoldItalicFont  = *-BoldItalic
731     ]
732 </text>
733 </newtx|newpx>
734 <*text&(newtx|newpx)|stixtwo|xits>
<math>
735     \setmathsf
<text>
736     \setsansfont
737     { texgyreheros }
738     [
739         Extension      = .otf,
740         UprightFont    = *-regular,
741         BoldFont       = *-bold,
742         ItalicFont     = *-italic,
743         BoldItalicFont = *-bolditalic,
744         Scale          = 0.94,
745     ]
<math>
746     \setmathhtt
<text>
747     \setmonofont
748     { texgyrecursor }
749     [
750         Extension      = .otf,
751         UprightFont    = *-regular,
752         BoldFont       = *-bold,
753         ItalicFont     = *-italic,
754         BoldItalicFont = *-bolditalic,
755         Ligatures      = CommonOff
756     ]
757 }
758 </text&(newtx|newpx)|stixtwo|xits>
759 <*lm>
760 <*text>
761 \_sjtu_fontset_case:nn
762 {
763     \tl_set:Nn \encodingdefault { T1 }
764     \tl_set:Nn \rmdefault { lmr }
765     \tl_set:Nn \sfdefault { lmss }
766     \tl_set:Nn \ttdefault { lmtt }
767 } { }
768 </text>
769 <*math>
770 \RequirePackage { amssymb, upgreek }
771 \SetSymbolFont { operators } { normal } { OT1 } { lmr } { m } { n }
772 \SetSymbolFont { letters } { normal } { OML } { lmm } { m } { it }
773 \SetSymbolFont { symbols } { normal } { OMS } { lmsy } { m } { n }
774 \SetSymbolFont { largesymbols } { normal } { OMX } { lmex } { m } { n }
775 \SetSymbolFont { operators } { bold } { OT1 } { lmr } { bx } { n }
776 \SetSymbolFont { letters } { bold } { OML } { lmm } { b } { it }
777 \SetSymbolFont { symbols } { bold } { OMS } { lmsy } { b } { n }
778 \SetSymbolFont { largesymbols } { bold } { OMX } { lmex } { m } { n }
779 \SetMathAlphabet { \mathbf } { normal } { OT1 } { lmr } { bx } { n }
780 \SetMathAlphabet { \mathsf } { normal } { OT1 } { lmss } { m } { n }
781 \SetMathAlphabet { \mathit } { normal } { OT1 } { lmr } { m } { it }
782 \SetMathAlphabet { \mathtt } { normal } { OT1 } { lmtt } { m } { n }
783 \SetMathAlphabet { \mathbf } { bold } { OT1 } { lmr } { bx } { n }
784 \SetMathAlphabet { \mathsf } { bold } { OT1 } { lmss } { bx } { n }
785 \SetMathAlphabet { \mathit } { bold } { OT1 } { lmr } { bx } { it }
786 \SetMathAlphabet { \mathtt } { bold } { OT1 } { lmtt } { m } { n }
787 \bool_if:NT \g__sjtu_upright_integral_bool
788 { \RequirePackage { cmupint } }
789 \_sjtu_set_slanted_greek:
790 \_sjtu_set_unimath_symbol:
791 </math>
792 </lm>
793 <*libertinus>
794 \_sjtu_fontset_case:nn
795 {

```

```

796 <*text>
797   \tl_set:Nn \encodingdefault { T1 }
798   \tl_set:Nn \rmdefault { LibertinusSerif-TLF }
799   \tl_set:Nn \sfdefault { LibertinusSans-TLF }
800   \tl_set:Nn \ttdefault { lmtt }
801 </text>
802 <*math>
803   \exp_args:No \PassOptionsToPackage
804     { \g__sjtu_math_font_options_clist } { libertinust1math }
805   \RequirePackage { libertinust1math }
806 </math>
807 }
808 {
809 <*math>
810   \RequirePackage { unicode-math }
811   \bool_if:NTF \g__sjtu_upright_integral_bool
812     { \setmathfont { LibertinusMath-Regular.otf } }
813     {
814       \setmathfont { LibertinusMath-Regular.otf }
815       [ StylisticSet = 8 ]
816     }
817   \setmathfont { latinmodern-math.otf } [ range = \checkmark ]
818 </math>
<math>
819   \setmathrm
<text>
820   \setmainfont
821     { LibertinusSerif }
822     [
823       Extension           = .otf,
824       UprightFont         = *-Regular,
825       BoldFont            = *-Bold,
826       ItalicFont          = *-Italic,
827       BoldItalicFont      = *-BoldItalic,
828       SlantedFont         = *-Regular,
829       BoldSlantedFont     = *-Bold,
830       SlantedFeatures     = { FakeSlant = 0.2 },
831       BoldSlantedFeatures = { FakeSlant = 0.2 }
832     ]
<math>
833   \setmathsf
<text>
834   \setsansfont
835     { LibertinusSans }
836     [
837       Extension           = .otf,
838       UprightFont         = *-Regular,
839       BoldFont            = *-Bold,
840       ItalicFont          = *-Italic,
841       BoldItalicFont      = *-Italic,
842       BoldItalicFeatures  = { FakeBold = 3 },
843       SlantedFont         = *-Regular,
844       BoldSlantedFont     = *-Bold,
845       SlantedFeatures     = { FakeSlant = 0.2 },
846       BoldSlantedFeatures = { FakeSlant = 0.2 }
847     ]
848   }
849 </libertinus>
850 <*times>
851 <*math>
852   \PassOptionsToPackage { Symbol } { upgreek }
853   \RequirePackage { amssymb, upgreek }
854   \tl_set_eq:NN \l__sjtu_save_rmdefault_tl \rmdefault
855   \RequirePackage { mathptmx }
856   \tl_set_eq:NN \rmdefault \l__sjtu_save_rmdefault_tl
857   \tl_set:Nn \Hv@scale { 0.94 }
858   \DeclareMathAlphabet { \mathsf } { OT1 } { phv } { m } { n }
859   \DeclareMathAlphabet { \mathtt } { OT1 } { pcr } { m } { n }
860   \SetMathAlphabet { \mathsf } { bold } { OT1 } { phv } { b } { n }
861   \SetMathAlphabet { \mathtt } { bold } { OT1 } { pcr } { b } { n }
862   \DeclareSymbolFont { SJTU@ptm } { OML } { ptmcm } { m } { it }

```

```

863 \_sjtu_declare_math_symbol:nnNn { \mathord } { SJTU@ptm } \upvarsigma { "26 }
864 \bool_if:NT \g__sjtu_upright_integral_bool
865   { \RequirePackage { cmupint } }
866 \_sjtu_set_unimath_symbol:
867 </math>
868 <*text>
869 \_sjtu_fontset_case:nn
870   {
871     \tl_set:Nn \encodingdefault { T1 }
872     \tl_set:Nn \rmdefault { ptm }
873     \tl_set:Nn \Hv@scale { 0.94 }
874     \tl_set:Nn \sfdefault { phv }
875     \tl_set:Nn \ttdefault { pcr }
876   }
877   {
878     \setmainfont { Times~New~Roman } [ Ligatures = Rare ]
879     \setsansfont { Arial } [ Scale = 0.94 ]
880     \setmonofont { Courier~New }
881   }
882 </text>
883 </times>
884 <*newcm>
885 \_sjtu_fontset_case:nn
<math>886   { \_sjtu_fontset_error:nn { math } { newcm } }
<text>887   { \_sjtu_fontset_error:nn { text } { newcm } }
888   {
889 <*math>
890     \RequirePackage { unicode-math }
891     \bool_if:NTF \g__sjtu_upright_integral_bool
892       {
893         \setmathfont { NewCMMath-Book.otf }
894         [ StylisticSet = 2 ]
895       }
896       { \setmathfont { NewCMMath-Book.otf } }
897     \setmathfont { NewCMMath-Book.otf }
898     [
899       range          = { scr, bfscr },
900       StylisticSet = 1
901     ]
902 </math>
<math>903   \setmathrm
<text>904   \setmainfont
905     { NewCM10 }
906     [
907       Extension      = .otf,
908       SizeFeatures =
909       {
910         {
911           Size          = -9,
912           Font          = NewCM08-Book,
913           ItalicFont    = NewCM08-BookItalic,
914           SlantedFont   = NewCM08-Book,
915         },
916         { Size          = 9- }
917       },
918       UprightFont      = *-Book,
919       BoldFont         = *-Bold,
920       ItalicFont       = *-BookItalic,
921       BoldItalicFont   = *-BoldItalic,
922       SlantedFont      = *-Book,
923       BoldSlantedFont  = *-Bold,
924       SlantedFeatures  = { FakeSlant = 0.25 },
925       BoldSlantedFeatures = { FakeSlant = 0.25 }
926     ]
<math>927   \setmathsf
<text>928   \setsansfont
929     { NewCMSans10 }

```

```

930     [
931         Extension      = .otf,
932         SizeFeatures =
933         {
934             {
935                 Size      = -9,
936                 Font      = NewCMSans08-Book,
937                 ItalicFont = NewCMSans08-BookOblique,
938             },
939             { Size      = 9- }
940         },
941         UprightFont     = *-Book,
942         BoldFont        = *-Bold,
943         ItalicFont      = *-BookOblique,
944         BoldItalicFont = *-BoldOblique
945     ]
<math>\setmathtt</math>
<text>\setmonofont
948     { NewCMMono10 }
949     [
950         Extension      = .otf,
951         UprightFont     = *-Book,
952         BoldFont        = *-Bold,
953         ItalicFont      = *-BookItalic,
954         BoldItalicFont = *-BoldOblique,
955         SlantedFont     = *-Book,
956         SlantedFeatures = { FakeSlant = 0.25 },
957         BoldSlantedFont = *-Bold,
958         BoldSlantedFeatures = { FakeSlant = 0.25 }
959     ]
960 }
961 </newcm>
962 <*cambria>
963 \_sjtu_fontset_case:nn
<math>\{ \_sjtu\_fontset\_error:nn \{ math \} \{ cambria \} \}</math>
<text>\{ \_sjtu\_fontset\_error:nn \{ text \} \{ cambria \} \}</text>
966 {
967 <*math>
968     \RequirePackage { unicode-math }
969     \setmathfont { Cambria~Math }
970     \setmathrm { Cambria }
971     \setmathsf { Calibri }
972     \setmathtt { Consolas } [ Scale = 0.95 ]
973 </math>
974 <*text>
975     \setmainfont { Cambria }
976     \setsansfont { Calibri }
977     \setmonofont { Consolas } [ Scale = 0.95 ]
978 </text>
979 }
980 </cambria>
981 </font&(math|text)>

```

unicode-math 宏包设置。

```

982 <*class>
983 \ctex_at_end_package:nn { unicode-math }
984 {
985     \DeclareDocumentCommand \bm { m }
986     { { \sympbf {#1} } }
987     \DeclareDocumentCommand \boldsymbol { m }
988     { { \sympbf {#1} } }
989     \bool_if:NTF \g__sjtu_slanted_uppercase_greek_bool
990     { \keys_set:nn { unicode-math } { math-style = ISO } }
991     { \keys_set:nn { unicode-math } { math-style = TeX } }
992     \bool_if:NTF \g__sjtu_integral_limits_bool
993     { \removenolimits } { \addnolimits }
994     {

```



```

995      \int\iint\iiint\iiiiint\oint\oiint\oiint
996      \intclockwise\varointclockwise\ointctrclockwise\sumint
997      \intbar\intBar\int\cirfnint\awint\rppoint
998      \scpolint\ncpolint\pointint\sqint\intlarhk\intx
999      \intcap\intcup\upint\lowint
1000    }
1001  }

```

若未使用 `unicode-math` 配置数学字体, 则自动调用 `bm`。

```

1002 \ctex_at_end_preamble:n
1003 {
1004   \@ifpackageloaded { unicode-math }
1005   { } { \RequirePackage { bm } }
1006 }
1007 </class>

```

6.6.2 CJK 字体

在字体未提供对应粗体的情况下, 允许使用伪粗。

```

1008 <*font&cjk>
1009 <*windows>
1010 <*und>
1011 \tl_if_eq:NNTF \g__sjtu_lang_tl \c__sjtu_lang_ja_tl
1012 { \ctex_file_input:n { sjtu-cjk-font-windows-ja.def } }
1013 { \ctex_file_input:n { sjtu-cjk-font-windows-zh.def } }
1014 </und>
1015 <*zhja>
1016 \__sjtu_fontset_case:nn
1017 <*zh>
1018 {
1019   \ctex_load_zhmap:nnnn { zhsong } { zhhei } { zhfs } { windows }
1020   \ctex_punct_set:n { windows }
1021   \ctex_punct_map_family:nn { \CJKrmdefault } { zhsong }
1022   \ctex_punct_map_bfseries:nn { \CJKrmdefault } { zhhei }
1023   \ctex_punct_map_itshape:nn { \CJKrmdefault } { zhkai }
1024 }
1025 </zh>
<ja> 1026 { \__sjtu_fontset_error:nn { cjk } { windows } }
1027 {
1028 <*zh>
1029   \setCJKmainfont { SimSun }
1030   [ AutoFakeBold = 3 , ItalicFont = KaiTi ]
1031   \setCJKsansfont { SimHei } [ AutoFakeBold = 3 ]
1032   \setCJKmonofont { FangSong }
1033 </zh>
1034 <*ja>
1035   \setCJKmainfont { MS~Mincho } [ AutoFakeBold = 3 ]
1036   \setCJKsansfont { MS~Gothic } [ AutoFakeBold = 3 ]
1037   \setCJKmonofont { MS~Mincho }
1038   \setCJKfamilyfont { jamin } { MS~Mincho } [ AutoFakeBold = 3 ]
1039   \setCJKfamilyfont { jagoth } { MS~Gothic } [ AutoFakeBold = 3 ]
1040 </ja>
1041   \setCJKfamilyfont { zhsong } { SimSun }
1042   [ AutoFakeBold = 3 , ItalicFont = KaiTi ]
1043   \setCJKfamilyfont { zhhei } { SimHei } [ AutoFakeBold = 3 ]
1044   \setCJKfamilyfont { zhkai } { KaiTi }
1045   \setCJKfamilyfont { zhfs } { FangSong }
1046 }
1047 </zhja>
1048 </windows>
1049 <*mac>
1050 <*und>
1051 \tl_if_eq:NNTF \g__sjtu_lang_tl \c__sjtu_lang_ja_tl
1052 { \ctex_file_input:n { sjtu-cjk-font-mac-ja.def } }
1053 { \ctex_file_input:n { sjtu-cjk-font-mac-zh.def } }
1054 </und>
1055 <*zhja>

```

```

<zh> 1056 \_sjtu_fontset_case:nnn
<ja> 1057 \_sjtu_fontset_case:nn
      1058 { \_sjtu_fontset_error:nn { cjk } { mac } }
      1059 <*zh>
      1060 {
      1061   \ctex_load_zhmap:nnnn { zhsong } { zhhei } { zhfs } { mac }
      1062   \ctex_punct_set:n { mac }
      1063   \ctex_punct_map_family:nn { \CJKrmdefault } { zhsong }
      1064   \ctex_punct_map_family:nn { \CJKsfdefault } { zhpfs }
      1065   \ctex_punct_map_bfseries:nn { \CJKrmdefault } { zhpfs }
      1066   \ctex_punct_map_itshape:nn { \CJKrmdefault } { zhkai }
      1067 }
      1068 </zh>
      1069 {
      1070 <*zh>
      1071   \setCJKmainfont { Songti~SC }
      1072   [
      1073     UprightFont = *~Light ,
      1074     BoldFont    = *~Bold ,
      1075     ItalicFont  = Kaiti~SC~Regular ,
      1076     BoldItalicFont = Kaiti~SC~Bold
      1077   ]
      1078   \setCJKsansfont { Heiti~SC }
      1079   [
      1080     UprightFont = *~Medium ,
      1081     AutoFakeBold = 3
      1082   ]
      1083   \setCJKmonofont { STFangsong }
      1084 </zh>
      1085 <*ja>
      1086   \setCJKmainfont { HiraMinProN }
      1087   [
      1088     UprightFont = *-W3 ,
      1089     BoldFont    = *-W6
      1090   ]
      1091   \setCJKsansfont { HiraKakuProN }
      1092   [
      1093     UprightFont = *-W3 ,
      1094     BoldFont    = *-W6
      1095   ]
      1096   \setCJKmonofont { HiraMinProN-W3 }
      1097   \setCJKfamilyfont { jamin } { HiraMinProN }
      1098   [
      1099     UprightFont = *-W3 ,
      1100     BoldFont    = *-W6
      1101   ]
      1102   \setCJKfamilyfont { jagoth } { HiraKakuProN }
      1103   [
      1104     UprightFont = *-W3 ,
      1105     BoldFont    = *-W6
      1106   ]
      1107 </ja>
      1108   \setCJKfamilyfont { zhsong } { Songti~SC }
      1109   [
      1110     UprightFont = *~Light ,
      1111     BoldFont    = *~Bold ,
      1112     ItalicFont  = Kaiti~SC~Regular ,
      1113     BoldItalicFont = Kaiti~SC~Bold
      1114   ]
      1115   \setCJKfamilyfont { zhhei } { Heiti~SC }
      1116   [
      1117     UprightFont = *~Medium ,
      1118     AutoFakeBold = 3
      1119   ]
      1120   \setCJKfamilyfont { zhfs } { STFangsong }
      1121   \setCJKfamilyfont { zhkai } { Kaiti~SC }
      1122   [

```

```

1123     UprightFont    = *~Regular ,
1124     BoldFont       = *~Bold
1125 ]
1126 }
1127 </zh|ja>
1128 </mac>
1129 <*ubuntu>
1130 <*und>
1131 \tl_if_eq:NNTF \g__sjtu_lang_tl \c__sjtu_lang_ja_tl
1132 { \ctex_file_input:n { sjtu-cjk-font-ubuntu-ja.def } }
1133 { \ctex_file_input:n { sjtu-cjk-font-ubuntu-zh.def } }
1134 </und>
1135 <*zh|ja>
<zh> 1136 \__sjtu_fontset_case:nnn
<ja> 1137 \__sjtu_fontset_case:nn
1138 { \__sjtu_fontset_error:nn { cjk } { ubuntu } }
1139 <*zh>
1140 {
1141   \ctex_load_zhmap:nnnn { zhsong } { zhhei } { zhsong } { ubuntu }
1142   \ctex_punct_set:n { ubuntu }
1143   \ctex_punct_map_family:nn { \CJKrmdefault } { zhsong }
1144   \ctex_punct_map_bfseries:nn { \CJKrmdefault } { zhhei }
1145   \ctex_punct_map_itshape:nn { \CJKrmdefault } { zhkai }
1146 }
1147 </zh>
1148 {
1149 <*zh>
1150   \setCJKmainfont { Noto~Serif~CJK~SC }
1151   [
1152     UprightFont = *~Light ,
1153     BoldFont    = *~Bold ,
1154     ItalicFont  = AR~PL~KaitiM~GB
1155   ]
1156   \setCJKsansfont { Noto~Sans~CJK~SC }
1157   [
1158     UprightFont = *~Medium ,
1159     BoldFont    = *~Bold
1160   ]
1161   \setCJKmonofont { Noto~Serif~CJK~SC }
1162   [
1163     UprightFont = *~Light ,
1164     BoldFont    = *~Bold
1165   ]
1166 </zh>
1167 <*ja>
1168   \setCJKmainfont { Noto~Serif~CJK~JP }
1169   [
1170     UprightFont = *~Light ,
1171     BoldFont    = *~Bold
1172   ]
1173   \setCJKsansfont { Noto~Sans~CJK~JP }
1174   [
1175     UprightFont = *~Medium ,
1176     BoldFont    = *~Bold
1177   ]
1178   \setCJKmonofont { Noto~Serif~CJK~JP }
1179   [
1180     UprightFont = *~Light ,
1181     BoldFont    = *~Bold
1182   ]
1183   \setCJKfamilyfont { jamin } { Noto~Serif~CJK~JP }
1184   [
1185     UprightFont = *~Light ,
1186     BoldFont    = *~Bold
1187   ]
1188   \setCJKfamilyfont { jagoth } { Noto~Sans~CJK~JP }
1189   [

```

```

1190     UprightFont = *~Medium ,
1191     BoldFont    = *~Bold
1192 ]
1193 <ja>
1194 \setCJKfamilyfont { zhsong } { Noto~Serif~CJK~SC }
1195 [
1196     UprightFont = *~Light ,
1197     BoldFont    = *~Bold ,
1198     ItalicFont  = AR~PL~KaitiM~GB
1199 ]
1200 \setCJKfamilyfont { zhhei } { Noto~Sans~CJK~SC }
1201 [
1202     UprightFont = *~Medium ,
1203     BoldFont    = *~Bold
1204 ]
1205 \setCJKfamilyfont { zhfs } { Noto~Sans~Mono~CJK~JP }
1206 \setCJKfamilyfont { zhkai } { AR~PL~KaitiM~GB }
1207 }
1208 </zhja>
1209 </ubuntu>
1210 <*adobe>
1211 <*und>
1212 \tl_if_eq:NNTF \g__sjtu_lang_tl \c__sjtu_lang_ja_tl
1213 { \ctex_file_input:n { sjtu-cjk-font-adobe-ja.def } }
1214 { \ctex_file_input:n { sjtu-cjk-font-adobe-zh.def } }
1215 </und>
1216 <*zhja>
<zh> 1217 \__sjtu_fontset_case:nnn
<ja> 1218 \__sjtu_fontset_case:nn
1219 { \__sjtu_fontset_error:nn { cjk } { adobe } }
1220 <*zh>
1221 {
1222     \ctex_load_zhmap:nnnn { zhsong } { zhhei } { zhfs } { adobe }
1223     \ctex_punct_set:n { adobe }
1224     \ctex_punct_map_family:nn { \CJKrmdefault } { zhsong }
1225     \ctex_punct_map_bfseries:nn { \CJKrmdefault } { zhhei }
1226     \ctex_punct_map_itshape:nn { \CJKrmdefault } { zhkai }
1227 }
1228 </zh>
1229 {
1230 <*zh>
1231     \setCJKmainfont { AdobeSongStd-Light }
1232     [ AutoFakeBold = 3 , ItalicFont = AdobeKaitiStd-Regular ]
1233     \setCJKsansfont { AdobeHeitiStd-Regular } [ AutoFakeBold = 3 ]
1234     \setCJKmonofont { AdobeFangsongStd-Regular }
1235 </zh>
1236 <*ja>
1237     \setCJKmainfont { KozMinPr6N }
1238     [
1239         UprightFont = *-Light ,
1240         BoldFont    = *-Bold
1241     ]
1242     \setCJKsansfont { KozGoPr6N }
1243     [
1244         UprightFont = *-Medium ,
1245         BoldFont    = *-Bold
1246     ]
1247     \setCJKmonofont { KozMinPr6N-Light }
1248     \setCJKfamilyfont { jamin } { KozMinPr6N }
1249     [
1250         UprightFont = *-Light ,
1251         BoldFont    = *-Bold
1252     ]
1253     \setCJKfamilyfont { jagoth } { KozGoPr6N }
1254     [
1255         UprightFont = *-Medium ,
1256         BoldFont    = *-Bold

```

```

1257     ]
1258 </ja>
1259     \setCJKfamilyfont { zhsong } { AdobeSongStd-Light      }
1260     [ AutoFakeBold = 3 , ItalicFont = AdobeKaitiStd-Regular ]
1261     \setCJKfamilyfont { zhhei } { AdobeHeitiStd-Regular    } [ AutoFakeBold = 3 ]
1262     \setCJKfamilyfont { zhfs  } { AdobeFangsongStd-Regular }
1263     \setCJKfamilyfont { zhkai } { AdobeKaitiStd-Regular    }
1264   }
1265 </zhja>
1266 </adobe>
1267 <*fandol>
1268 <*und>
1269 \tl_if_eq:NNTF \g__sjtu_lang_tl \c__sjtu_lang_ja_tl
1270 { \ctex_file_input:n { sjtu-cjk-font-fandol-ja.def } }
1271 { \ctex_file_input:n { sjtu-cjk-font-fandol-zh.def } }
1272 </und>
1273 <*zhja>
<zh> 1274 \__sjtu_fontset_case:nnn
<ja> 1275 \__sjtu_fontset_case:nn
1276 { \__sjtu_fontset_error:nn { cjk } { fandol } }
1277 <*zh>
1278 {
1279     \ctex_load_zhmap:nnnn { zhsong } { zhhei } { zhfs } { fandol }
1280     \ctex_punct_set:n { fandol }
1281     \ctex_punct_map_family:nn { \CJKrmdefault } { zhsong }
1282     \ctex_punct_map_bfseries:nn { \CJKrmdefault } { zhhei }
1283     \ctex_punct_map_itshape:nn { \CJKrmdefault } { zhkai }
1284 }
1285 </zh>
1286 {
1287 <*zh>
1288     \setCJKmainfont { FandolSong }
1289     [
1290         Extension      = .otf ,
1291         UprightFont     = *-Regular ,
1292         BoldFont        = *-Bold ,
1293         ItalicFont      = FandolKai-Regular
1294     ]
1295     \setCJKsansfont { FandolHei }
1296     [
1297         Extension      = .otf ,
1298         UprightFont     = *-Regular ,
1299         BoldFont        = *-Bold
1300     ]
1301     \setCJKmonofont { FandolFang }
1302     [
1303         Extension      = .otf ,
1304         UprightFont     = *-Regular
1305     ]
1306 </zh>
1307 <*ja>
1308     \setCJKmainfont { HaranoAjiMincho }
1309     [
1310         Extension      = .otf ,
1311         UprightFont     = *-Regular ,
1312         BoldFont        = *-Bold
1313     ]
1314     \setCJKsansfont { HaranoAjiGothic }
1315     [
1316         Extension      = .otf ,
1317         UprightFont     = *-Medium ,
1318         BoldFont        = *-Bold
1319     ]
1320     \setCJKmonofont { HaranoAjiGothic }
1321     [
1322         Extension      = .otf ,
1323         UprightFont     = *-Regular

```

```

1324     ]
1325     \setCJKfamilyfont { jamin } { HaranoAjiMincho }
1326     [
1327         Extension    = .otf ,
1328         UprightFont  = *-Regular ,
1329         BoldFont     = *-Bold
1330     ]
1331     \setCJKfamilyfont { jagoth } { HaranoAjiGothic }
1332     [
1333         Extension    = .otf ,
1334         UprightFont  = *-Medium ,
1335         BoldFont     = *-Bold
1336     ]
1337 <ja>
1338     \setCJKfamilyfont { zhsong } { FandolSong }
1339     [
1340         Extension    = .otf ,
1341         UprightFont  = *-Regular ,
1342         BoldFont     = *-Bold ,
1343         ItalicFont   = FandolKai-Regular
1344     ]
1345     \setCJKfamilyfont { zhhei } { FandolHei }
1346     [
1347         Extension    = .otf ,
1348         UprightFont  = *-Regular,
1349         BoldFont     = *-Bold
1350     ]
1351     \setCJKfamilyfont { zhfs } { FandolFang }
1352     [
1353         Extension    = .otf ,
1354         UprightFont  = *-Regular
1355     ]
1356     \setCJKfamilyfont { zhkai } { FandolKai }
1357     [
1358         Extension    = .otf ,
1359         UprightFont  = *-Regular
1360     ]
1361 }
1362 </zh|ja>
1363 </fandol>
1364 <*>founder>
1365 <*>und>
1366 \tl_if_eq:NNTF \g__sjtu_lang_tl \c__sjtu_lang_ja_tl
1367 { \ctex_file_input:n { sjtu-cjk-font-founder-ja.def } }
1368 { \ctex_file_input:n { sjtu-cjk-font-founder-zh.def } }
1369 </und>
1370 <*>zh|ja>
1371 \__sjtu_fontset_case:nn
1372 <*>zh>
1373 {
1374     \ctex_load_zhmap:nnnn { zhsong } { zhhei } { zhfs } { founder }
1375     \ctex_punct_set:n { founder }
1376     \ctex_punct_map_family:nn { \CJKrmdefault } { zhsong }
1377     \ctex_punct_map_bfseries:nn { \CJKrmdefault } { zhhei }
1378     \ctex_punct_map_itshape:nn { \CJKrmdefault } { zhkai }
1379 }
1380 </zh>
<ja> 1381 { \__sjtu_fontset_error:nn { cjk } { founder } }
1382 {
1383 <*>zh>
1384     \setCJKmainfont { FZShuSong-Z01 }
1385     [ AutoFakeBold = 3 , ItalicFont = FZKai-Z03 ]
1386     \setCJKsansfont { FZHei-B01 } [ AutoFakeBold = 3 ]
1387     \setCJKmonofont { FZFangSong-Z02 }
1388 </zh>
1389 <*>ja>
1390     \setCJKmainfont { ipam.ttf } [ AutoFakeBold = 3 ]

```

```

1391 \setCJKsansfont { ipag.ttf } [ AutoFakeBold = 3 ]
1392 \setCJKmonofont { ipag.ttf }
1393 \setCJKfamilyfont { jamin } { ipam.ttf } [ AutoFakeBold = 3 ]
1394 \setCJKfamilyfont { jagoth } { ipag.ttf } [ AutoFakeBold = 3 ]
1395 </ja>
1396 \setCJKfamilyfont { zhsong } { FZShuSong-Z01 }
1397 [ AutoFakeBold = 3 , ItalicFont = FZKai-Z03 ]
1398 \setCJKfamilyfont { zhhei } { FZHei-B01 } [ AutoFakeBold = 3 ]
1399 \setCJKfamilyfont { zhkai } { FZKai-Z03 }
1400 \setCJKfamilyfont { zhfs } { FZFangSong-Z02 }
1401 }
1402 </zhja>
1403 </founder>
1404 <!*und>
1405 \NewDocumentCommand \songti { } { \CJKfamily { zhsong } }
1406 \NewDocumentCommand \heiti { } { \CJKfamily { zhhei } }
<lubuntu> 1407 \NewDocumentCommand \fangsong { } { \CJKfamily { zhfs } }
1408 \NewDocumentCommand \kaishu { } { \CJKfamily { zhkai } }
<ja> 1409 \NewDocumentCommand \mincho { } { \CJKfamily { jamin } }
<ja> 1410 \NewDocumentCommand \gothic { } { \CJKfamily { jagoth } }
1411 </!und>
1412 </font&cjk>

```

\CJKrmfamily 只改变 CJK 字体族的命令。

\CJKsffamily

\CJKttfamily

```

1413 <*class>
1414 \NewDocumentCommand \CJKrmfamily { } { \CJKfamily { \CJKrmdefault } }
1415 \NewDocumentCommand \CJKsffamily { } { \CJKfamily { \CJKsfdefault } }
1416 \NewDocumentCommand \CJKttfamily { } { \CJKfamily { \CJKttdefault } }

```

带圈数字使用 CJK 字体。

```

1417 \__sjtu_unicode_engine_case:nn
1418 {
1419 \xeCJK_declare_char_class:nn { CJK }
1420 { "24EA, "2460->"2473, "3251->"32BF, "25A1 }
1421 }
1422 {
1423 \ltjdefcharrange { 99 }
1424 { "24EA, "2460->"2473, "3251->"32BF, "25A1 }
1425 \ltjsetparameter { jacharrange = { +99 } }
1426 }

```

载入字体配置。

```

1427 \__sjtu_load_fontset:

```

6.7 名称设置

定义 sjtu/name 键值类。

设置标准文档类中已定义的名称。

```

1428 \keys_define:nn { sjtu / name }
1429 {
1430 contents .meta:nn = { ctex } { contentsname = {#1} } ,
1431 listfigure .meta:nn = { ctex } { listfigurename = {#1} } ,
1432 listtable .meta:nn = { ctex } { listtablename = {#1} } ,
1433 figure .meta:nn = { ctex } { figurename = {#1} } ,
1434 table .meta:nn = { ctex } { tablename = {#1} } ,
<!thesis> 1435 abstract .meta:nn = { ctex } { abstractname = {#1} } ,
1436 index .meta:nn = { ctex } { indexname = {#1} } ,
1437 appendix .meta:nn = { ctex } { appendixname = {#1} } ,
1438 proof .meta:nn = { ctex } { proofname = {#1} } ,
1439 bib .meta:nn = { ctex } { bibname = {#1} } ,
1440 part .tl_set:N = \partname ,
<!article> 1441 chapter .tl_set:N = \chaptername ,

```

标准文档类中未定义的名称。

```

1442 figure*      .tl_set:N = \SJ TU@figurename@bi@second ,
1443 figure*      .initial:n = { 图 } ,
1444 table*       .tl_set:N = \SJ TU@tablename@bi@second ,
1445 table*       .initial:n = { 表 } ,
1446 algorithm    .tl_set:N = \SJ TU@algorithmname ,
1447 algorithm    .initial:n = { Algorithm } ,
1448 listalgorithm .tl_set:N = \SJ TU@listalgorithmname ,
1449 listalgorithm .initial:n = { List~of~Algorithms } ,
1450 <*thesis>
1451 abbr         .tl_set:N = \SJ TU@abbrname ,
1452 abbr         .initial:n = { Abbreviations } ,
1453 nom          .tl_set:N = \SJ TU@nomname ,
1454 nom          .initial:n = { Nomenclature } ,
1455 ack         .tl_set:N = \SJ TU@ackname ,
1456 ack         .initial:n = { Acknowledgements } ,
1457 resume      .tl_set:N = \SJ TU@resumename ,
1458 resume      .initial:n = { Resume } ,
1459 digest      .tl_set:N = \SJ TU@digestname ,
1460 digest      .initial:n = { Digest } ,
1461 achv        .tl_set:N = \SJ TU@achvname ,
1462 achv        .initial:n = { List~of~Research~Achievements } ,
1463 </thesis>
1464 }
1465 </class>
1466 <*scheme>
1467 <*zh>
1468 \keys_set_known:nn { sjtu / name }
1469 {
1470   contents    = { 目 \protect \quad 录 } ,
1471   listfigure   = { 插 \protect \quad 图 } ,
1472   listtable    = { 表 \protect \quad 格 } ,
1473   figure       = { 图 } ,
1474   table        = { 表 } ,
1475   abstract     = { 摘 \protect \quad 要 } ,
1476   index        = { 索 \protect \quad 引 } ,
1477   appendix     = { 附录 } ,
1478   proof        = { 证明 } ,
1479   bib          = { 参考文献 } ,
1480   figure*      = { Figure } ,
1481   table*       = { Table } ,
1482   algorithm    = { 算法 } ,
1483   listalgorithm = { 算 \protect \quad 法 } ,
1484   abbr         = { 缩略语对照表 } ,
1485   nom          = { 符号对照表 } ,
1486   ack         = { 致 \protect \quad 谢 } ,
1487   resume      = { 个人简历 } ,
1488   digest       = { 大摘要 } ,
1489   achv        = { 学术论文和科研成果目录 }
1490 }
1491 </zh>
1492 <*de>
1493 \keys_set_known:nn { sjtu / name }
1494 {
1495   contents    = { Inhaltsverzeichnis } ,
1496   listfigure   = { Abbildungsverzeichnis } ,
1497   listtable    = { Tabellenverzeichnis } ,
1498   figure       = { Abbildung } ,
1499   table        = { Tabelle } ,
1500   abstract     = { Zusammenfassung } ,
1501   index        = { Index } ,
1502   appendix     = { Anhang } ,
1503   proof        = { Beweis } ,
1504   bib          = { Literaturverzeichnis } ,
1505   part         = { Teil } ,
1506   chapter      = { Kapitel } ,

```



```

1507 figure*      = { Figure                } ,
1508 table*       = { Table                  } ,
1509 algorithm    = { Algorithmus            } ,
1510 listalgorithm = { Algorithmenverzeichnis } ,
1511 abbr         = { Abkürzungsverzeichnis } ,
1512 nom          = { Symbolverzeichnis      } ,
1513 ack          = { Danksagungen           } ,
1514 resume       = { Lebenslauf             } ,
1515 digest       = { Kurzfassung            } ,
1516 achv         = { Forschungsleistungen   }
1517 }
1518 </de>

1519 <*ja>
1520 \keys_set_known:nn { sjtu / name }
1521 {
1522 contents      = { 目 \protect \quad 次 } ,
1523 listfigure    = { 図目次                } ,
1524 listtable     = { 表目次                } ,
1525 figure        = { 図                    } ,
1526 table         = { 表                    } ,
1527 abstract      = { 概 \protect \quad 要 } ,
1528 index         = { 索 \protect \quad 引 } ,
1529 appendix      = { 付録                  } ,
1530 proof         = { 証明                    } ,
1531 bib           = { 参考文献                } ,
1532 figure*       = { Figure                } ,
1533 table*        = { Table                  } ,
1534 algorithm     = { アルゴリズム          } ,
1535 listalgorithm = { アルゴリズム目次      } ,
1536 abbr          = { 略語表                } ,
1537 nom           = { 記号表                } ,
1538 ack           = { 謝 \protect \quad 辞 } ,
1539 resume        = { 履歴書                } ,
1540 digest        = { 要 \protect \quad 約 } ,
1541 achv          = { 研究業績書            }
1542 }
1543 </ja>
1544 </scheme>

```

载入名称配置。

```

1545 <*class>
1546 <*thesis>
1547 \clist_map_inline:Nn \g__sjtu_lang_clist
1548 { \file_input:n { sjtu-name-thesis- #1 .def } }
1549 \clist_map_inline:nn
1550 { title_page, declaration, abstract }
1551 { \__sjtu_define_name:nv {#1} { c__sjtu_name_ #1 _ \g__sjtu_lang_tl _tl } }
1552 </thesis>
<!thesis> 1553 \file_input:n { sjtu-name-generic- \g__sjtu_lang_tl .def }

```

6.8 页面设置

利用 geometry 宏包设置页面边距以及页眉高度。

```

1554 \geometry
1555 {
1556 top          = 3.5 cm,
1557 bottom       = 4.0 cm,
1558 left         = 2.5 cm,
1559 right        = 2.5 cm,
<thesis> 1560 bindingoffset = 0.5 cm,
1561 headheight   = 1.5 cm,
1562 headsep      = 0.5 cm,
1563 footskip     = 1.0 cm
1564 }

```

学位论文页面纵向顶部对齐。

```
1565 <thesis>
1566 \AtEndOfClass { \raggedbottom }
1567 </thesis>
```

6.9 页眉页脚

ctex 宏包使用 heading 选项后, 会把页面格式设置为 headings。因此必须在 ctex 调用之后重新设置 \pagestyle 为 fancy。

```
1568 \pagestyle { fancy }
```

清除所有页眉页脚。

```
1569 \fancyhf { }
```

style/header-font 设置页眉页脚字体。
style/footer-font

```
1570 \keys_define:nn { sjtu / style }
1571 {
1572   header-font .tl_set:N = \l__sjtu_style_header_font_tl ,
1573   header-font .initial:n = \zihao { -5 } \setbaselineskip { 12 bp } ,
1574   header-font .initial:n = \zihao { -5 } \sffamily ,
1575   footer-font .tl_set:N = \l__sjtu_style_footer_font_tl ,
1576   footer-font .initial:n = \zihao { -5 } \setbaselineskip { 12 bp }
1577   footer-font .initial:n = \zihao { -5 }
1578 }
1579 \fancyheadinit { \l__sjtu_style_header_font_tl }
1580 \fancyfootinit { \l__sjtu_style_footer_font_tl }
```

style/header-uppercase 页眉西文是否大写。

```
\__sjtu_nouppercase:n
1581 \keys_define:nn { sjtu / style }
1582 {
1583   header-uppercase .choice: ,
1584   header-uppercase / true .code:n =
1585     { \cs_set_eq:NN \__sjtu_nouppercase:n \use:n } ,
1586   header-uppercase / false .code:n =
1587     { \cs_set:Nn \__sjtu_nouppercase:n { \nouppercase {##1} } } ,
1588   header-uppercase .default:n = { true } ,
1589   header-uppercase .initial:n = { false }
1590 }
1591 \cs_generate_variant:Nn \__sjtu_nouppercase:n { V }
```

style/page-number 页脚页码格式。

```
\__sjtu_page:n
1592 \cs_new:Nn \__sjtu_thepage: { \thepage }
1593 \keys_define:nn { sjtu / style }
1594 {
1595   page-number .cs_set:Np = \__sjtu_page:n #1 ,
1596   page-number .initial:n = { {#1} }
1597 }
```

设置页眉内容。

```
1598 \tl_set:Nn \l__sjtu_header_tl
1599 {
1600 <thesis>
1601 {
1602   \__sjtu_set_cjk_default_zh: \normalfont
1603   \l__sjtu_info_subject_zh_tl
1604 }
1605 </thesis>
1606 <thesis>
1607   \includegraphics [ height = 1.2 cm ]
1608     { sjtu-vi-logo-small-red.pdf }
1609 </thesis>
1610 }
```

```

<thesis> 1611 \tl_set:Nn \l__sjtu_leftmark_tl { \leftmark }
<!thesis> 1612 \tl_set:Nn \l__sjtu_leftmark_tl { \l__sjtu_info_subject_tl }
1613 \tl_set:Nn \l__sjtu_rightmark_tl { \leftmark }

```

设置页眉页脚。

```

1614 \bool_if:NTF \g__sjtu_twoside_bool
1615 {
1616   \fancyhead [ LO, RE ] { \l__sjtu_header_tl }
1617   \fancyhead [ LE ]      { \__sjtu_nouppercase:V \l__sjtu_leftmark_tl }
1618   \fancyhead [ RO ]      { \__sjtu_nouppercase:V \l__sjtu_rightmark_tl }
1619 }
1620 {
1621   \fancyhead [ L ] { \l__sjtu_header_tl }
1622   \fancyhead [ R ] { \__sjtu_nouppercase:V \l__sjtu_rightmark_tl }
1623 }
1624 \fancyfoot [ C ] { \__sjtu_page:n { \__sjtu_thepage: } }

```

\headrule sjtuthesis 的页眉线。

```

1625 <*thesis>
1626 \cs_set:Npn \headrule
1627 {
1628   \hrule height 2.25 pt width \headwidth
1629   \skip_vertical:n { 0.75 pt }
1630   \hrule height 0.75 pt width \headwidth
1631   \skip_vertical:n { -3.75 pt }
1632 }
1633 </thesis>

```

重定义 plain 样式。

```

1634 <!*thesis>
1635 \bool_if:NTF \g__sjtu_twoside_bool
1636 {
1637   \fancypagestyle { plain }
1638   {
1639     \fancyhead [ LE, RO ] { }
1640     \tl_set:Nn \headrulewidth { 0 pt }
1641   }
1642 }
1643 {
1644   \fancypagestyle { plain }
1645   {
1646     \fancyhead [ R ] { }
1647     \tl_set:Nn \headrulewidth { 0 pt }
1648   }
1649 }
1650 </!*thesis>

```

SJTU@null 样式, 不对当前页面样式做任何修改。

```

1651 \cs_new_eq:NN \ps@SJTU@null \prg_do_nothing:

```

\cleardoublepage 空白页清空页眉页脚。

```

1652 \RenewDocumentCommand \cleardoublepage { }
1653 {
1654   \clearpage
1655   \bool_if:NT \g__sjtu_twoside_bool
1656   {
1657     \int_if_odd:nF \c@page
1658     { \hbox:n { } \thispagestyle { empty } \newpage }
1659   }
1660 }

```

6.10 页码设置

文档初始页码编码设置。

```
<thesis> 1661 \pagenumbering { Alph }
```

`\frontmatter` 前置部分使用大写罗马数字编码。

```
1662 <*thesis>
1663 \RenewDocumentCommand \frontmatter { }
1664 {
1665     \cleardoublepage
1666     \@mainmatterfalse
1667     \pagenumbering { Roman }
1668 }
1669 </thesis>
```

6.11 章节标题结构

设置章节标题样式。

```
1670 <!*article>
1671 \ctex_set:nn { chapter }
1672 {
1673     pagestyle = SJTU@null ,
1674     fixskip   = true ,
1675 <*thesis>
1676     beforekip = 27 bp ,
1677     afterkip  = 27 bp ,
1678     format    = \zihao { 3 } \setbaselineskip { 20 bp } \bfseries
1679               \CJKsffamily \centering ,
1680 </thesis>
1681 <*report>
1682     beforekip = 30 pt ,
1683     afterkip  = 24 pt ,
1684     format    = \Large \bfseries \CJKsffamily \centering ,
1685 </report>
1686     nameformat = ,
1687     titleformat = ,
1688     lofskip    = \c_zero_skip ,
1689     lotskip    = \c_zero_skip ,
1690     aftername  = \quad
1691 }
1692 </!article>
1693 </class>
1694 <*scheme&(zh|ja)>
1695 \keys_set:known:nn { ctex / chapter }
1696 { name = { 第 \space , \space 章 } }
1697 </scheme&(zh|ja)>
1698 <*class>
1699 \ctex_set:nn { section }
1700 <*thesis>
1701 {
1702     beforekip = 24 bp ,
1703     afterkip  = 6 bp ,
1704     format    = \zihao { 4 } \setbaselineskip { 18 bp } \bfseries
1705               \CJKsffamily
1706 }
1707 </thesis>
<!thesis> 1708 { format = \large \bfseries \CJKsffamily }
1709 \ctex_set:nn { subsection }
1710 <*thesis>
1711 {
1712     beforekip = 12 bp ,
1713     afterkip  = 6 bp ,
1714     format    = \zihao { -4 } \setbaselineskip { 16 bp } \bfseries
1715               \CJKsffamily
```

```

1716 }
1717 </thesis>
<!thesis> 1718 { format = \normalsize \bfseries \CJKsfamily }
1719 \ctex_set:nn { subsubsection }
1720 <*thesis>
1721 {
1722     beforeskip = 6 bp ,
1723     afterskip = 6 bp ,
1724     format = \zihao { -4 } \setbaselineskip { 16 bp } \normalfont
1725 }
1726 </thesis>
<!thesis> 1727 { format = \normalsize \normalfont }
1728 \ctex_set:n { secnumdepth = 3 }

```

style/indent-first 章节标题后首段是否缩进。

```

1729 \keys_define:nn { sjtu / style }
1730 {
1731     indent-first .choice: ,
1732     indent-first .choices:nn =
1733     { true, false }
1734     {
1735         \clist_map_inline:nn
1736         {
<article> 1737             part,
<!article> 1738             chapter,
1739             section, subsection, subsubsection,
1740             paragraph, subparagraph
1741         }
1742         { \ctex_set:nn {####1} { afterindent = #1 } }
1743     } ,
1744     indent-first .default:n = { true } ,
1745     indent-first .initial:n = { true }
1746 }

```

\SJTU@head 定义一个灵活的章节标题命令专门处理不同的需求。

```

\__sjtu_head_aux_s:nn 1747 \NewDocumentCommand \SJTU@head { s O{#3} m O{#2} }
\__sjtu_head_aux_s:nx 1748 {
\__sjtu_pdf_bookmark:nn <!article> 1749 \CTEX@chapter@break
\__sjtu_phantom_section: 1750 \IfBooleanTF {#1}
1751 { \tl_if_empty:nF {#4} { \__sjtu_pdf_bookmark:nn { 0 } {#4} } }
1752 {
1753     \__sjtu_phantom_section:
<!article> 1754     \addcontentsline { toc } { chapter } {#4}
<article> 1755     \addcontentsline { toc } { section } {#4}
1756 }
1757 \cs_set_eq:NN \__sjtu_orig_ctex_gettitle:n \CTEX@gettitle
1758 \cs_set:Npn \CTEX@gettitle ##1 { \__sjtu_orig_ctex_gettitle:n {#2} }
<!article> 1759 \chapter* {#3}
<article> 1760 \section* {#3}
1761 \cs_set_eq:NN \CTEX@gettitle \__sjtu_orig_ctex_gettitle:n
1762 \@mkboth { \MakeUppercase {#2} } { \MakeUppercase {#2} }
1763 }
1764 <*thesis>
1765 \cs_new:Npn \__sjtu_head_aux_s:nn #1#2
1766 { \SJTU@head* [#1] {#2} }
1767 \cs_generate_variant:Nn \__sjtu_head_aux_s:nn { nx }
1768 </thesis>
1769 \cs_new_eq:NN \__sjtu_pdf_bookmark:nn \use_none:nn
1770 \cs_new_eq:NN \__sjtu_phantom_section: \prg_do_nothing:
1771 </class>

```

6.12 段落

设置全文首行缩进。

```
1772 <*scheme>
```

```

1773 \ctex_if_autoindent_touched:F
<zh> 1774 { \ctex_set:n { autoindent = true } }
<en|de> 1775 { \ctex_set:n { autoindent = 1.5 em } }
<ja> 1776 { \ctex_set:n { autoindent = 1 } }

```

\verse 修改诗歌和引用环境的缩进。

```

\quotation
<zh|ja> 1777 \ctex_patch_cmd:Nnn \verse { -1.5em } { -2 \ccwd }
<zh|ja> 1778 \ctex_patch_cmd:Nnn \verse { 1.5em } { 2 \ccwd }
1779 \ctex_patch_cmd:Nnn \quotation { 1.5em } { \parindent }
1780 </scheme>

```

使用 enumitem 调整默认列表环境的间距。

```

1781 <*class>
1782 \setlist { nosep }

```

6.13 数学公式

style/equation-font 设置行间数学公式的字体。

```

1783 \keys_define:nn { sjtu / style }
1784 {
1785   equation-font .tl_set:N = \SJTU@style@equation@font ,
<thesis> 1786   equation-font .initial:x = \exp_not:N \linespread { }
<thesis> 1787   \exp_not:N \zihao { \g__sjtu_zihao_tl }
<!thesis> 1788   equation-font .initial:V = \c_empty_tl
1789 }
1790 \clist_map_inline:nn
1791 {
1792   array, matrix, pmatrix, bmatrix, Bmatrix, vmatrix, Vmatrix,
1793   matrix*, pmatrix*, bmatrix*, Bmatrix*, vmatrix*, Vmatrix*,
1794   cases, cases*, dcases, dcases*, rcases, rcases*, drcases, drcases*,
1795   aligned, alignedat, gathered, multlined, lgathered, rgathered
1796 }
1797 { \AtBeginEnvironment {#1} { \SJTU@style@equation@font } }
1798 \clist_map_inline:nn
1799 { \start@gather, \start@align, \start@multline }
1800 {
1801   \ctex_patch_cmd:Nnn #1
1802   { \collect@body }
1803   {
1804     \SJTU@style@equation@font
1805     \collect@body
1806   }
1807 }
1808 \ctex_patch_cmd:Nnn \gather@split
1809 { \spread@equation }
1810 {
1811   \SJTU@style@equation@font
1812   \spread@equation
1813 }

```

6.14 数学环境

可以选用 amsthm 或 ntheorem 宏包控制数学环境样式，并提供对证明环境 proof 的支持。

style/theorem-header-font 预定义的数学环境的定理头(即标题)以及定理内容的字体。

style/theorem-body-font

```

1814 \keys_define:nn { sjtu / style }
1815 {
1816   theorem-header-font .tl_set:N = \SJTU@style@thm@header@font ,
1817   theorem-header-font .initial:n = \bfseries \CJKsffamily ,
1818   theorem-body-font .tl_set:N = \SJTU@style@thm@body@font ,
1819   theorem-body-font .initial:n = \normalfont ,
1820 }

```

6.15 浮动体

下面这组命令使浮动对象的缺省值稍微宽松一点,从而防止幅度对象占据过多的文本页面,也可以防止在很大空白的浮动页上放置很小的图形。

```
1821 \tl_set:Nn \textfraction { 0.15 }
1822 \tl_set:Nn \topfraction { 0.85 }
1823 \tl_set:Nn \bottomfraction { 0.65 }
1824 \tl_set:Nn \floatpagefraction { 0.60 }
```

style/float-font 设置浮动体内的字体。

```
1825 \keys_define:nn { sjtu / style }
1826 {
1827   float-font .tl_set:N = \SJTU@style@float@font ,
1828   float-font .initial:n = \zihao { 5 } \setbaselineskip { 14 bp }
1829   float-font .initial:n = \zihao { 5 }
1830 }
1831 \ctex_patch_cmd:Nnn \@floatboxreset
1832 { \normalsize } { \SJTU@style@float@font }
```

style/caption-font 题注格式。

style/subcaption-font

```
1833 \keys_define:nn { sjtu / style }
1834 {
```

bicaption 中双语标题之间的间距受 **caption** 字体定义 **normalsize** 的影响,这里我们直接重定义 **normalsize**。

```
1835   caption-font .code:n =
1836   { \DeclareCaptionFont { normalsize } {#1} } ,
1837   caption-font .initial:n = \zihao { 5 } \setbaselineskip { 14 bp }
1838   caption-font .initial:n = \zihao { 5 } \bfseries ,
1839   caption-font .initial:n = \zihao { 5 } \bfseries ,
1840   subcaption-font .code:n =
1841   { \DeclareCaptionFont { SJTU@sub@font } {#1} } ,
1842   subcaption-font .initial:n = \zihao { 5 } \setbaselineskip { 14 bp }
1843   subcaption-font .initial:n = \zihao { 5 } \normalfont
1844   subcaption-font .initial:n = \zihao { 5 } \normalfont
1845 }
1846 \captionsetup
1847 {
1848   bi-slc = off ,
1849   labelsep = quad ,
1850   skip = 6 bp
1851 }
1852 \captionsetup [ sub ]
1853 {
1854   bi-slc = on ,
1855   font = SJTU@sub@font ,
1856   format = hang
1857 }
```

双语题注。

```
1858 \DeclareCaptionOption { bi-second-names } [ ]
1859 {
1860   \tl_set:Nn \figurename { \SJTU@figurename@bi@second }
1861   \tl_set:Nn \tablename { \SJTU@tablename@bi@second }
1862 }
1863 \captionsetup [ bi-second ] { bi-second-names }
```

style/num-sep 图、表、公式以及定理编号中的分隔符。

style/float-num-sep

style/equation-num-sep

style/theorem-num-sep

```
1864 \keys_define:nn { sjtu / style }
1865 {
1866   num-sep .code:n =
```

```

1867 {
1868   \tl_set:Nn \SJTU@style@fl@num@sep {#1}
1869   \tl_set:Nn \SJTU@style@eq@num@sep {#1}
1870   \tl_set:Nn \@thmcountersep {#1}
1871 } ,
1872 num-sep .initial:n = { . } ,
1873 float-num-sep .tl_set:N = \SJTU@style@fl@num@sep ,
1874 equation-num-sep .tl_set:N = \SJTU@style@eq@num@sep ,
1875 theorem-num-sep .tl_set:N = \@thmcountersep
1876 }

\SJTU@counterwithin 1877 \NewDocumentCommand \SJTU@counterwithin
1878 { s O{ \SJTU@style@fl@num@sep } O{ \arabic } m m }
1879 {
1880   \@ifbothcounters {#4} {#5}
1881   {
1882     \addtoreset {#4} {#5}
1883     \IfBooleanF {#1}
1884     {
1885       \cs_gset:cpo { the #4 }
1886       { \cs:w the #5 \cs_end: #2 #3 {#4} }
1887     }
1888   }
1889 }

```

定义图、表、公式的编号格式。

```

1890 <|article>
1891 \SJTU@counterwithin { figure } { chapter }
1892 \SJTU@counterwithin { table } { chapter }
1893 \SJTU@counterwithin [ \SJTU@style@eq@num@sep ] { equation } { chapter }
1894 </|article>

```

`\l_sjtu_counter_without_chapter_clist` 大摘要中不需要随章编号的各计数器。

```

1895 <|thesis>
1896 \clist_set:Nn \l_sjtu_counter_without_chapter_clist
1897 { section, figure, table, equation }
1898 </|thesis>

```

6.16 脚注

`__sjtu_makefnmark_plain:` 储存原始脚注相关命令。

```

\__sjtu_thefootnote_plain:
\__sjtu_thempfootnote_plain:
1899 \cs_set_eq:NN \__sjtu_makefnmark_plain: \@makefnmark
1900 \cs_set_eq:NN \__sjtu_thefootnote_plain: \thefootnote
1901 \cs_set_eq:NN \__sjtu_thempfootnote_plain: \thempfootnote

```

`__sjtu_footnote_number:N` 通过 Unicode 码位调用带圈数字。

```

1902 \cs_new:Npn \__sjtu_footnote_number:N #1
1903 {
1904   \int_compare:nNnTF {#1} < { 21 }
1905   { \__sjtu_unicode_char:n { \int_eval:n { "2460 - 1 + #1 } } }
1906   {
1907     \int_compare:nNnTF {#1} < { 36 }
1908     { \__sjtu_unicode_char:n { \int_eval:n { "3251 - 21 + #1 } } }
1909     {
1910       \int_compare:nNnTF {#1} < { 51 }
1911       { \__sjtu_unicode_char:n { \int_eval:n { "32B1 - 36 + #1 } } }
1912       { \msg_warning:nn { sjtutex } { too-many-footnotes } }
1913     }
1914   }
1915 }
1916 \msg_new:nnn { sjtutex } { too-many-footnotes }
1917 { Too~ many~ footnotes. }

```


`_sjtu_makefnmark_circled`: 重定义内部脚注文字命令, 使用带圈数字编号时, 脚注不使用上标。见 <https://www.zhuhu.com/question/53030087>。

```
1918 \cs_new:Nn \_sjtu\_makefnmark\_circled: { \hbox:n { \@thefnmark } }
```

`style/fnmark-font` 脚注编号字体。

```
1919 \keys_define:nn { sjtu / style }
1920 {
1921   fnmark-font .choice: ,
1922   fnmark-font / haranoaji .code:n =
1923   {
1924     \_sjtu\_engine\_case:nn
1925     { \tl_set_eq:NN \l\_sjtu\_style\_fnmark\_font\_tl \c\_empty\_tl }
1926     {
1927       \tl_set:Nn \l\_sjtu\_style\_fnmark\_font\_tl
1928       {
1929         \CJKfontspec { HaranoAjiMincho }
1930         [
1931           Extension = .otf ,
1932           UprightFont = *-Regular ,
1933           BoldFont = *-Bold
1934         ]
1935       }
1936     }
1937   } ,
1938   fnmark-font / unknown .tl_set:N = \l\_sjtu\_style\_fnmark\_font\_tl ,
1939   fnmark-font .initial:V = \c\_empty\_tl
1940 }
```

`_sjtu_thefootnote_circled`: 使用带圈数字编号脚注。

```
\_sjtu\_thempfootnote\_circled:
1941 \cs_new:Nn \_sjtu\_thefootnote\_circled:
1942 { { \l\_sjtu\_style\_fnmark\_font\_tl \_sjtu\_footnote\_number:N \c@footnote } }
1943 \cs_new:Nn \_sjtu\_thempfootnote\_circled:
1944 { { \l\_sjtu\_style\_fnmark\_font\_tl \_sjtu\_footnote\_number:N \c@mpfootnote } }
```

`style/fnmark-style` 脚注编号样式。

```
1945 \keys_define:nn { sjtu / style }
1946 {
1947   fnmark-style .choice: ,
1948   fnmark-style / plain .code:n =
1949   {
1950     \cs_set_eq:NN \_sjtu\_makefnmark: \_sjtu\_makefnmark\_plain:
1951     \cs_set_eq:NN \thefootnote \_sjtu\_thefootnote\_plain:
1952     \cs_set_eq:NN \thempfootnote \_sjtu\_thempfootnote\_plain:
1953   } ,
1954   fnmark-style / circled .code:n =
1955   {
1956     \cs_set_eq:NN \_sjtu\_makefnmark: \_sjtu\_makefnmark\_circled:
1957     \cs_set_eq:NN \thefootnote \_sjtu\_thefootnote\_circled:
1958     \cs_set_eq:NN \thempfootnote \_sjtu\_thempfootnote\_circled:
1959   }
1960 }
1961 </class>

1962 <*scheme>
1963 \keys_set:nn { sjtu / style }
1964 { fnmark-style = circled }
1965 { fnmark-style = plain }
1966 </scheme>
```

在导言末尾修改 `\@makefnmark`, 支持使用 `footmisc` 修改脚注格式。

```
1967 <*class>
1968 \ctex_at_end_preamble:n {
1969   \cs_set_eq:NN \_sjtu\_orig\_make\_fnmark: \_sjtu\_make\_fnmark:
1970   \cs_set:Npn \@makefnmark #1
```

```

1971 {
1972   \group_begin:
1973   \cs_set_eq:NN \@makefnmark \__sjtu_makefnmark:
1974   \__sjtu_orig_make_fntext:n {#1}
1975   \group_end:
1976 }
1977 }

```

6.17 信息录入

__sjtu_info_keys_define:n 定义 sjtuthesis 不同语种 sjtu/info 键值类的辅助函数。

```

1978 <*thesis>
1979 \cs_new:Npn \__sjtu_info_keys_define:n #1
1980 {
1981   \clist_map_inline:nn
1982   {
1983     title, display_title, subject, author, date,
1984     supervisor, assoc_supervisor, department,
1985     co_supervisor, major, degree
1986   }
1987   { \tl_new:c { l__sjtu_info_ ##1 _ #1 _tl } }
1988   \clist_map_inline:nn
1989   { keywords, fund }
1990   { \clist_new:c { l__sjtu_info_ ##1 _ #1 _clist } }
1991   \keys_define:nn { sjtu }
1992   { info / #1 .meta:nn = { sjtu / info / #1 } {##1} }
1993   \keys_define:nn { sjtu / info }
1994   { #1 .meta:nn = { sjtu / info / #1 } {##1} }
1995   \keys_define:nn { sjtu / info / #1 }
1996   {
1997     title .code:n =
1998     {
1999       \tl_set:cn { l__sjtu_info_title_ #1 _tl } {##1}
2000       \tl_if_empty:cT { l__sjtu_info_display_title_ #1 _tl }
2001       { \tl_set:cn { l__sjtu_info_display_title_ #1 _tl } {##1} }
2002     } ,
2003     display-title .tl_set:c = l__sjtu_info_display_title_ #1 _tl ,
2004     subject .tl_set:c = l__sjtu_info_subject_ #1 _tl ,
2005     keywords .clist_set:c = l__sjtu_info_keywords_ #1 _clist ,
2006     author .tl_set:c = l__sjtu_info_author_ #1 _tl ,
2007     id .meta:nn = { sjtu / info } { id = {##1} } ,
2008     supervisor .tl_set:c = l__sjtu_info_supervisor_ #1 _tl ,
2009     assoc-supervisor .tl_set:c = l__sjtu_info_assoc_supervisor_ #1 _tl ,
2010     co-supervisor .tl_set:c = l__sjtu_info_co_supervisor_ #1 _tl ,
2011     degree .tl_set:c = l__sjtu_info_degree_ #1 _tl ,
2012     department .tl_set:c = l__sjtu_info_department_ #1 _tl ,
2013     major .tl_set:c = l__sjtu_info_major_ #1 _tl ,
2014     fund .clist_set:c = l__sjtu_info_fund_ #1 _clist ,
2015     date .meta:nn = { sjtu / info } { date = {##1} } ,
2016     display-date .tl_set:c = l__sjtu_info_date_ #1 _tl ,
2017   }
2018 }

```

\l__sjtu_info_id_zh_tl 单独处理学号。

```

2019 \tl_new:N \l__sjtu_info_id_zh_tl
2020 \keys_define:nn { sjtu / info }
2021 { id .tl_set:N = \l__sjtu_info_id_zh_tl }

```

\l__sjtu_info_supervisors_clist 标题中需要显示的导师列表。

```

2022 \clist_set:Nn \l__sjtu_info_supervisors_clist { supervisor }

```

盲审模式下隐藏作者、导师姓名等信息。

```

2023 \ctex_at_end_preamble:n
2024 {

```

```

2025 \bool_if:NT \g__sjtu_review_bool
2026 {
2027   \clist_map_inline:Nn \g__sjtu_lang_clist
2028   {
2029     \clist_map_inline:nn
2030     { author, supervisor, assoc_supervisor, co_supervisor }
2031     { \tl_clear:c { l__sjtu_info_ ##1 _ #1 _tl } }
2032     \clist_clear:c { l__sjtu_info_fund_ #1 _clist }
2033   }
2034   \tl_clear:N \l__sjtu_info_id_zh_tl
2035 }
2036 }
2037 </thesis>
2038 </class>

<lang&thesis&zh> 2039 \__sjtu_info_keys_define:n { zh }
<lang&thesis&en> 2040 \__sjtu_info_keys_define:n { en }
<lang&thesis&de> 2041 \__sjtu_info_keys_define:n { de }
<lang&thesis&ja> 2042 \__sjtu_info_keys_define:n { ja }

\l__sjtu_info_subject_tl 2043 <*class&!thesis>
\l__sjtu_info_keywords_clist 2044 \tl_new:N \l__sjtu_info_subject_tl
2045 \clist_new:N \l__sjtu_info_keywords_clist
2046 \keys_define:nn { sjtu / info }
2047 {
2048   title .tl_set:N = \@title ,
2049   author .tl_set:N = \@author ,
2050   display-date .tl_set:N = \@date ,
2051   subject .tl_set:N = \l__sjtu_info_subject_tl ,
2052   keywords .clist_set:N = \l__sjtu_info_keywords_clist ,
2053 }
2054 </class&!thesis>

```

6.18 多语言支持

初始化主题。

```

2055 <*lang>
2056 <*thesis>
<zh> 2057 \keys_define:nn { sjtu / info / zh }
<en> 2058 \keys_define:nn { sjtu / info / en }
<de> 2059 \keys_define:nn { sjtu / info / de }
<ja> 2060 \keys_define:nn { sjtu / info / ja }
2061 {
2062   subject .initial:x =
2063   {
2064     <*zh>
2065       \exp_not:V \c__sjtu_name_univ_zh_tl
2066       \exp_not:V \c__sjtu_name_degree_level_zh_tl
2067       \exp_not:V \c__sjtu_name_thesis_zh_tl
2068     </zh>
2069     <*en>
2070       A~ Dissertation~ Submitted~ to \exp_not:N \
2071       { \exp_not:V \c__sjtu_name_univ_en_tl }~ for~
2072       the~ Degree~ of~ { \exp_not:V \c__sjtu_name_degree_level_en_tl }
2073     </en>
2074     <*de>
2075       Eine~ Dissertation~ Eingereicht~ an \exp_not:N \
2076       der~ { \exp_not:V \c__sjtu_name_univ_de_tl }~ für~
2077       { \exp_not:V \c__sjtu_name_degree_level_de_tl } titel
2078     </de>
2079     <*ja>
2080       \exp_not:V \c__sjtu_name_univ_ja_tl
2081       \exp_not:V \c__sjtu_name_degree_level_ja_tl
2082       \exp_not:V \c__sjtu_name_thesis_ja_tl
2083     </ja>
2084   }

```

```
2085 }
2086 </thesis>
```

将形如 yyyy-mm-dd 或 yyyy-mm 的 ISO 日期格式字符串转化为日期表示。

```

__sjtu_date_aux_zh:nnn 中文日期。
__sjtu_date_aux_zh:w
__sjtu_date_aux_short_zh:nn 2087 <*zh>
__sjtu_date_aux_short_zh:w 2088 \cs_new:Npn __sjtu_date_aux_zh:nnn #1#2#3
2089 {
2090   \int_to_arabic:n {#1} ~ { \exp_not:V \c__sjtu_name_year_zh_tl } ~
2091   \int_to_arabic:n {#2} ~ { \exp_not:V \c__sjtu_name_month_zh_tl } ~
2092   \int_to_arabic:n {#3} ~ { \exp_not:V \c__sjtu_name_day_zh_tl }
2093 }
2094 \cs_new:Npn __sjtu_date_aux_zh:w #1-#2-#3 \q_stop
2095 { __sjtu_date_aux_zh:nnn {#1} {#2} {#3} }
2096 \cs_new:Npn __sjtu_date_aux_short_zh:nn #1#2
2097 {
2098   \int_to_arabic:n {#1} ~ { \exp_not:V \c__sjtu_name_year_zh_tl } ~
2099   \int_to_arabic:n {#2} ~ { \exp_not:V \c__sjtu_name_month_zh_tl }
2100 }
2101 \cs_new:Npn __sjtu_date_aux_short_zh:w #1-#2 \q_stop
2102 { __sjtu_date_aux_short_zh:nn {#1} {#2} }
2103 </zh>

```

__sjtu_ordinal_en:n 上标形式的序数词。

```

2104 <*en>
2105 \cs_new:Npn __sjtu_ordinal_en:n #1
2106 {
2107   \int_to_arabic:n {#1}
2108   \exp_not:N \textsuperscript
2109   {
2110     \int_case:nnF { \int_mod:nn {#1} { 100 } }
2111     {
2112       { 11 } { th }
2113       { 12 } { th }
2114       { 13 } { th }
2115     }
2116     {
2117       \int_case:nnF { \int_mod:nn {#1} { 10 } }
2118       {
2119         { 1 } { st }
2120         { 2 } { nd }
2121         { 3 } { rd }
2122       }
2123       { th }
2124     }
2125   }
2126 }

```

__sjtu_date_aux_en:nnn 英文日期。

```

__sjtu_date_aux_en:w
__sjtu_date_aux_short_en:nn 2127 \cs_new:Npn __sjtu_date_aux_en:nnn #1#2#3
__sjtu_date_aux_short_en:w 2128 {
2129   \clist_item:Nn \c__sjtu_name_month_en_clist {#2} ~
2130   __sjtu_ordinal_en:n {#3} ,~
2131   \int_to_arabic:n {#1}
2132 }
2133 \cs_new:Npn __sjtu_date_aux_en:w #1-#2-#3 \q_stop
2134 { __sjtu_date_aux_en:nnn {#1} {#2} {#3} }
2135 \cs_new:Npn __sjtu_date_aux_short_en:nn #1#2
2136 {
2137   \clist_item:Nn \c__sjtu_name_month_en_clist {#2} ,~
2138   \int_to_arabic:n {#1}
2139 }
2140 \cs_new:Npn __sjtu_date_aux_short_en:w #1-#2 \q_stop
2141 { __sjtu_date_aux_short_en:nn {#1} {#2} }
2142 </en>

```

德文日期。

```

2143 <*de>
2144 \cs_new:Npn \__sjtu_date_aux_de:nnn #1#2#3
2145 {
2146   \clist_item:Nn \c__sjtu_name_month_de_clist {#2} ~
2147   {#3} ,~ \int_to_arabic:n {#1}
2148 }
2149 \cs_new:Npn \__sjtu_date_aux_de:w #1-#2-#3 \q_stop
2150 { \__sjtu_date_aux_de:nnn {#1} {#2} {#3} }
2151 \cs_new:Npn \__sjtu_date_aux_short_de:nn #1#2
2152 {
2153   \clist_item:Nn \c__sjtu_name_month_de_clist {#2} ,~
2154   \int_to_arabic:n {#1}
2155 }
2156 \cs_new:Npn \__sjtu_date_aux_short_de:w #1-#2 \q_stop
2157 { \__sjtu_date_aux_short_de:nn {#1} {#2} }
2158 </de>

```

日文日期。

```

2159 <*ja>
2160 \cs_new:Npn \__sjtu_date_aux_ja:nnn #1#2#3
2161 {
2162   \int_to_arabic:n {#1} ~ { \exp_not:V \c__sjtu_name_year_ja_tl } ~
2163   \int_to_arabic:n {#2} ~ { \exp_not:V \c__sjtu_name_month_ja_tl } ~
2164   \int_to_arabic:n {#3} ~ { \exp_not:V \c__sjtu_name_day_ja_tl }
2165 }
2166 \cs_new:Npn \__sjtu_date_aux_ja:w #1-#2-#3 \q_stop
2167 { \__sjtu_date_aux_ja:nnn {#1} {#2} {#3} }
2168 \cs_new:Npn \__sjtu_date_aux_short_ja:nn #1#2
2169 {
2170   \int_to_arabic:n {#1} ~ { \exp_not:V \c__sjtu_name_year_ja_tl } ~
2171   \int_to_arabic:n {#2} ~ { \exp_not:V \c__sjtu_name_month_ja_tl }
2172 }
2173 \cs_new:Npn \__sjtu_date_aux_short_ja:w #1-#2 \q_stop
2174 { \__sjtu_date_aux_short_ja:nn {#1} {#2} }
2175 </ja>

```

设置语言格式辅助命令

```

2176 <*zh>
2177 \cs_new:Nn \__sjtu_set_cjk_default_zh:
2178 {
2179   \tl_set:Nn \CJKrmdefault { zhsong }
2180   \tl_set:Nn \CJKsfdefault { zhhei }
2181   \tl_set:Nn \CJKttdefault { zhfs }
2182 }
2183 \cs_new_protected:Nn \__sjtu_set_language_zh:
2184 {
2185   \tl_set:Nn \language { chinese }
2186   \ctex_set:n { autoindent = true }
2187   \__sjtu_set_cjk_default_zh:
2188   \normalfont
2189 }
2190 </zh>
2191 <*en|de>
2192 \cs_new_protected:Nn \__sjtu_set_language_en:
2193 \cs_new_protected:Nn \__sjtu_set_language_de:
2194 {
2195   \tl_set:Nn \language { english }
2196   \tl_set:Nn \language { ngerman }
2197   \ctex_set:n { autoindent = 1.5 em }
2198   \normalfont
2199 }
2200 </en|de>
2201 <*ja>
2202 \cs_new:Nn \__sjtu_set_cjk_default_ja:

```

```

2203 {
2204   \tl_set:Nn \CJKrmdefault { jamin }
2205   \tl_set:Nn \CJKsfdefault { jagoth }
2206   \tl_set:Nn \CJKttdefault { jagoth }
2207 }
2208 \cs_new_protected:Nn \__sjtu_set_language_ja:
2209 {
2210   \tl_set:Nn \languagename { japanese }
2211   \ctex_set:n { autoindent = 1 }
2212   \__sjtu_set_cjk_default_ja:
2213   \normalfont
2214 }
2215 </ja>

```

标题页页面样式, 页脚添加资助基金信息。

```

2216 <*thesis>
<zh> 2217 \cs_new:Npn \ps@SJTU@fund@zh
<en> 2218 \cs_new:Npn \ps@SJTU@fund@en
<de> 2219 \cs_new:Npn \ps@SJTU@fund@de
<ja> 2220 \cs_new:Npn \ps@SJTU@fund@ja
2221 {
2222   \ps@empty
2223   \cs_set:Npn \@oddfoot
2224   {
2225     \minipage [ t ] { \textwidth }
2226     \centering \zihao { - 5 }
<zh> 2227     \clist_use:Nn \l__sjtu_info_fund_zh_clist { \par }
<en> 2228     \clist_use:Nn \l__sjtu_info_fund_en_clist { \par }
<de> 2229     \clist_use:Nn \l__sjtu_info_fund_de_clist { \par }
<ja> 2230     \clist_use:Nn \l__sjtu_info_fund_ja_clist { \par }
2231     \endminipage
2232   }
2233   \cs_set_eq:NN \@evenfoot \@oddfoot
2234 }
2235 </thesis>
2236 </lang>

```

初始化语言名称。

```

2237 <*scheme>
<zh> 2238 \tl_set:Nn \languagename { chinese }
<en> 2239 \tl_set:Nn \languagename { english }
<de> 2240 \tl_set:Nn \languagename { ngerman }
<ja> 2241 \tl_set:Nn \languagename { japanese }
2242 </scheme>

```

载入语言配置。

```

2243 <*class>
<thesis> 2244 \clist_map_inline:Nn \g__sjtu_lang_clist
<thesis> 2245 { \file_input:n { sjtu-lang-thesis- #1 .def } }
<!thesis> 2246 \file_input:n { sjtu-lang-generic- \g__sjtu_lang_tl .def }
2247 \file_input:n { sjtu-scheme- \g__sjtu_lang_tl .def }

```

info/date 初始化日期。

```

2248 \keys_define:nn { sjtu / info }
2249 {
2250   date .code:n =
2251   {
2252     \regex_match:neTF { \d+-\d+-\d+ } {#1}
2253     {
2254 <*thesis>
2255       \clist_map_inline:Nn \g__sjtu_lang_clist
2256       {
2257         \tl_set:cx { l__sjtu_info_date_ ##1 _tl }
2258         { \exp_last_unbraced:ce { __sjtu_date_aux_ ##1 :w } #1 \q_stop }
2259       }

```

```

2260 </thesis>
2261 <!*thesis>
2262         \tl_set:Nx \@date
2263         {
2264             \exp_last_unbraced:ce
2265             { __sjtu_date_aux_ \g__sjtu_lang_tl :w } #1 \q_stop
2266         }
2267 </!*thesis>
2268     }
2269     {
2270         \regex_match:neT { \d+-\d+ } {#1}
2271         {
2272 <!*thesis>
2273             \clist_map_inline:Nn \g__sjtu_lang_clist
2274             {
2275                 \tl_set:cx { l__sjtu_info_date_ ##1 _tl }
2276                 { \exp_last_unbraced:ce { __sjtu_date_aux_short_ ##1 :w } #1 \q_stop }
2277             }
2278 </thesis>
2279 <!*thesis>
2280             \tl_set:Nx \@date
2281             {
2282                 \exp_last_unbraced:ce
2283                 { __sjtu_date_aux_short_ \g__sjtu_lang_tl :w } #1 \q_stop
2284             }
2285 </!*thesis>
2286         }
2287     }
2288 },
2289 date .initial:x =
2290 {
2291     \int_to_arabic:n { \c_sys_year_int } -
2292     \int_to_arabic:n { \c_sys_month_int } -
2293     \int_to_arabic:n { \c_sys_day_int }
2294 }
2295 }
<thesis> \tl_set:Nv \today { l__sjtu_info_date_ \g__sjtu_lang_tl _tl }
<!*thesis> \tl_set:Nv \today \@date

```

6.19 标题页

6.19.1 定义内部函数

汉字分散对齐的环境。

```

2298 <!*thesis>
2299 \__sjtu_engine_case:nnn
2300 {
2301     \NewDocumentEnvironment { SJTU@CJK@FTS } { m b }
2302     {
2303         \mode_leave_vertical:
2304         \bool_set_false:N \l__sjtu_tmp_bool
2305         \cs_set_eq:NN \SJTU@CJK@FTS@Symbol \CJKsymbol
2306         \cs_set:Npn \CJKsymbol ##1
2307         {
2308             \bool_if:NTF \l__sjtu_tmp_bool
2309             { \hfil \SJTU@CJK@FTS@Symbol { ##1 } }
2310             {
2311                 \SJTU@CJK@FTS@Symbol { ##1 }
2312                 \bool_set_true:N \l__sjtu_tmp_bool
2313             }
2314         }
2315         \hbox_to_wd:nn {#1} {#2}
2316     } { }
2317 }
2318 {

```

```

2319 \NewDocumentEnvironment { SJTU@CJK@FTS } { m b }
2320 {
2321     \mode_leave_vertical:
2322     \cs_set:Npn \CJKglue
2323     { \skip_horizontal:n { \c_zero_dim plus 1 filll } }
2324     \hbox_to_wd:nn {#1} {#2}
2325 } { }
2326 }
2327 {
2328 \NewDocumentEnvironment { SJTU@CJK@FTS } { m b }
2329 {
2330     \mode_leave_vertical:
2331     \ltjsetparameter { kanjiskip = { \c_zero_dim plus 1 filll } }
2332     \hbox_to_wd:nn {#1} {#2}
2333 } { }
2334 }

```

汉字分散对齐的表格列说明符。

```

2335 \newcolumnntype { \SJTUCT@D } [ 1 ]
2336 { >{ \begin { SJTU@CJK@FTS } {#1} } c <{ \end { SJTU@CJK@FTS } } }

```

信息输出。

```

2337 \cs_new:Npn \__sjtu_title_page_info_i:nnn #1#2#3
2338 {
2339     \clist_clear:N \l__sjtu_tmp_clist
2340     \clist_map_inline:nn {#3}
2341     {
2342         \clist_put_right:Nx \l__sjtu_tmp_clist
2343         {
2344             \exp_not:o { \cs:w c__sjtu_name_ ##1 _ #1 _tl \cs_end: }
2345             &
2346             \exp_not:o { \cs:w l__sjtu_info_ ##1 _ #1 _tl \cs_end: }
2347         }
2348     }
2349     \group_begin:
2350     \tl_set:Nn \arraystretch { 1 }
2351     \tabular {#2}
2352     \clist_use:Nn \l__sjtu_tmp_clist { \ }
2353     \endtabular
2354     \group_end:
2355 }
2356 \cs_new:Npn \__sjtu_title_page_info_ii:n #1
2357 {
2358     \tl_use:c { l__sjtu_info_department_ #1 _tl }
2359     \skip_vertical:N \c_zero_skip
2360     \tl_use:c { c__sjtu_name_univ_ #1 _tl }
2361     \skip_vertical:N \c_zero_skip
2362     \tl_use:c { c__sjtu_name_address_ #1 _tl }
2363     \skip_vertical:N \c_zero_skip
2364     \tl_use:c { l__sjtu_info_date_ #1 _tl }
2365 }
2366 \cs_generate_variant:Nn \__sjtu_title_page_info_i:nnn { nxx }
2367 </thesis>
2368 </class>

```

6.19.2 构建标题页

```

2369 <*lang>
2370 <*thesis>
2371 <*zh>
2372 \clist_map_inline:nn
2373 {
2374     { logo }
2375     {
2376         content =

```



```

2377     {
2378         \includegraphics [ width = 3 cm ]
2379             { sjtu-vi-badge-red.pdf }
2380     }
2381 },
2382 { subject }
2383 {
2384     format      = \zihao { -2 } \setbaselineskip { 30 bp } ,
2385     content      = \l__sjtu_info_subject_zh_tl ,
2386     bottom-skip = \c_zero_dim plus 1 fill
2387 },
2388 { title }
2389 {
2390     format      = \zihao { 2 } \setbaselineskip { 36 bp } \bfseries ,
2391     content      = \l__sjtu_info_display_title_zh_tl ,
2392     bottom-skip = 30 bp plus 1 fill
2393 },
2394 { info }
2395 {
2396     format      = \zihao { 4 } \setbaselineskip { 30 bp } \heiti ,
2397     content      =
2398     {
2399         \__sjtu_title_page_info_i:nxx { zh }
2400         {
2401             \exp_not:N \SJTU@CT@D { 5 em }
2402             @ { \exp_not:N \c__sjtu_name_info_sep_zh_tl }
2403             >{ \exp_not:N \normalfont } 1
2404         }
2405         {
2406             author,
2407             id,
2408             \l__sjtu_info_supervisors_clist ,
2409             department,
2410             major,
2411             \int_compare:nNf { \g__sjtu_thesis_type_int } = { 1 }
2412             { degree }
2413         }
2414     } ,
2415     bottom-skip = 30 bp
2416 },
2417 { date }
2418 {
2419     format      = \zihao { 4 } \setbaselineskip { 30 bp } \bfseries ,
2420     content      = \l__sjtu_info_date_zh_tl ,
2421 }
2422 }
2423 {
2424     \__sjtu_declare_component:nnn { title / zh } #1
2425 }
2426 \__sjtu_declare_page:nn { title / zh }
2427 {
2428     bookmark      = true ,
2429     bookmark-text = \c__sjtu_name_title_page_tl ,
2430     style          = SJTU@fund@zh ,
2431     format         = \linespread { } \__sjtu_set_language_zh: ,
2432     prefix         = title / zh ,
2433     components     = { logo, subject, title, info, date }
2434 }
2435 </zh>
2436 <*en|de|ja>
2437 \clist_map_inline:nn
2438 {
2439     { subject }
2440     {
2441         format      = \zihao { 4 } \setbaselineskip { 24 bp } \bfseries ,
2442         content      = \l__sjtu_info_subject_en_tl ,
2443         content      = \l__sjtu_info_subject_de_tl ,

```

```

<ja> 2444         content      = \l__sjtu_info_subject_ja_tl ,
2445         bottom-skip = \c_zero_dim plus 1 fill
2446     },
2447     { title   }
2448     {
2449         format      = \zihao { -2 } \setbaselineskip { 30 bp } \bfseries ,
<en> 2450         content    = \MakeUppercase \l__sjtu_info_display_title_en_tl ,
<de> 2451         content    = \MakeUppercase \l__sjtu_info_display_title_de_tl ,
<ja> 2452         content    = \l__sjtu_info_display_title_ja_tl ,
2453         bottom-skip = \c_zero_dim plus 1 fill
2454     },
2455     { info     }
2456     {
2457         format      = \zihao { 3 } \setbaselineskip { 30 bp } \bfseries ,
2458         content      =
2459         {
<en> 2460             \__sjtu_title_page_info_i:nxx { en }
<de> 2461             \__sjtu_title_page_info_i:nxx { de }
<ja> 2462             \__sjtu_title_page_info_i:nxx { ja }
2463         {
<en> 2464             r @ { \exp_not:V \c__sjtu_name_info_sep_en_tl }
<de> 2465             r @ { \exp_not:V \c__sjtu_name_info_sep_de_tl }
<ja> 2466             r @ { \exp_not:V \c__sjtu_name_info_sep_ja_tl }
2467             >{ \exp_not:N \normalfont } l
2468         }
2469         { author, \l__sjtu_info_supervisors_clist }
2470     } ,
2471     bottom-skip = 30 bp plus 1 fill
2472 },
2473 { date   }
2474 {
2475     format      = \zihao { 3 } \setbaselineskip { 30 bp } ,
2476     content      =
<en> 2477     { \__sjtu_title_page_info_ii:n { en } } ,
<de> 2478     { \__sjtu_title_page_info_ii:n { de } } ,
<ja> 2479     { \__sjtu_title_page_info_ii:n { ja } } ,
2480 },
2481 }
2482 {
<en> 2483     \__sjtu_declare_component:nnn { title / en } #1
<de> 2484     \__sjtu_declare_component:nnn { title / de } #1
<ja> 2485     \__sjtu_declare_component:nnn { title / ja } #1
2486 }
2487 <*en>
2488 \__sjtu_declare_page:nn { title / en }
2489 {
2490     style      = SJTU@fund@en ,
2491     format      = \linespread { } \__sjtu_set_language_en: ,
2492     prefix      = title / en ,
2493     components  = { subject, title, info, date }
2494 }
2495 </en>
2496 <*de>
2497 \__sjtu_declare_page:nn { title / de }
2498 {
2499     style      = SJTU@fund@de ,
2500     format      = \linespread { } \__sjtu_set_language_de: ,
2501     prefix      = title / de ,
2502     components  = { subject, title, info, date }
2503 }
2504 </de>
2505 <*ja>
2506 \__sjtu_declare_page:nn { title / ja }
2507 {
2508     style      = SJTU@fund@ja ,
2509     format      = \linespread { } \__sjtu_set_language_ja: ,
2510     prefix      = title / ja ,

```

```

2511     components = { subject, title, info, date }
2512 }
2513 </ja>
2514 </en|de|ja>
2515 </thesis>
2516 </lang>

```

`\maketitle` 生成标题页, 输出前先确定需要显示的导师列表。

```

2517 <*class>
2518 <*thesis>
2519 \RenewDocumentCommand \maketitle { }
2520 {
2521     \clist_map_inline:nn
2522     { assoc_supervisor, co_supervisor }
2523     {
2524         \tl_if_empty:cF { l__sjtu_info_ ##1 _zh_tl }
2525         { \clist_put_right:Nn \l__sjtu_info_supervisors_clist {##1} }
2526     }
2527     \clist_map_inline:Nn \g__sjtu_lang_clist
2528     { \UseInstance { sjtu } { title / ##1 } }
2529 }
2530 </thesis>

```

6.20 原创性声明及使用授权书

```

2531 <*thesis>
2532 \cs_new_protected:Npn \__sjtu_signature:N #1
2533 {
2534     \parbox [ t ] { 12 em }
2535     { #1 \c__sjtu_signature_text_zh_tl }
2536 }
2537 \clist_map_inline:nn
2538 {
2539     { orig / title }
2540     {
2541         format      = \zihao { 3 } \setbaselineskip { 30 bp }
2542         \bfseries \heiti ,
2543         content      =
2544         {
2545             \c__sjtu_name_univ_zh_tl
2546             \skip_vertical:N \c_zero_skip
2547             \c__sjtu_name_thesis_zh_tl
2548             \c__sjtu_name_orig_decl_zh_tl
2549         } ,
2550         bottom-skip = 12 bp
2551     },
2552     { orig / text }
2553     {
2554         format      = \zihao { -4 } \setbaselineskip { 24 bp } ,
2555         content      = \c__sjtu_orig_decl_text_zh_tl ,
2556         bottom-skip = 24 bp ,
2557         align        = normal
2558     },
2559     { orig / sign }
2560     {
2561         format      = \zihao { 4 } \setbaselineskip { 30 bp } ,
2562         content      =
2563         {
2564             \__sjtu_signature:N \c__sjtu_name_decl_author_zh_tl
2565             \skip_horizontal:n { 4 em } \hbox:n { }
2566         } ,
2567         bottom-skip = \c_zero_dim plus 2 fill ,
2568         align        = right
2569     },
2570     { auth / title }
2571     {

```

```

2572     format      = \zihao { 3 } \setbaselineskip { 30 bp }
2573               \bfseries \heiti ,
2574     content      =
2575     {
2576         \c__sjtu_name_univ_zh_tl
2577         \skip_vertical:N \c_zero_skip
2578         \c__sjtu_name_thesis_zh_tl
2579         \c__sjtu_name_auth_decl_zh_tl
2580     } ,
2581     bottom-skip = 12 bp
2582 },
2583 { auth / text }
2584 {
2585     format      = \zihao { -4 } \setbaselineskip { 24 bp } ,
2586     content      = \c__sjtu_auth_decl_text_zh_tl ,
2587     bottom-skip = 24 bp ,
2588     align        = normal
2589 },
2590 { auth / sign }
2591 {
2592     format      = \zihao { 4 } \setbaselineskip { 30 bp } ,
2593     content      =
2594     {
2595         \__sjtu_signature:N \c__sjtu_name_decl_author_zh_tl
2596         \hfill
2597         \__sjtu_signature:N \c__sjtu_name_decl_supervisor_zh_tl
2598         \skip_horizontal:n { 2 em } \hbox:n { }
2599     } ,
2600     bottom-skip = \c_zero_dim plus 1 fill ,
2601     align        = normal
2602 }
2603 }
2604 {
2605     \__sjtu_declare_component:nnn { copyright } #1
2606 }
2607 \__sjtu_declare_page:nn { copyright }
2608 {
2609     bookmark      = true ,
2610     bookmark-text = \c__sjtu_name_declaration_tl ,
2611     format         = \linespread { } \__sjtu_set_language_zh: ,
2612     prefix         = copyright ,
2613     components     =
2614     {
2615         orig / title, orig / text, orig / sign,
2616         auth / title, auth / text, auth / sign
2617     }
2618 }
2619 \msg_new:nnn { sjtutex } { require-pdfpages }
2620 {
2621     Add~"\token_to_str:N \usepackage{pdfpages}"~ in~ your~ preamble \
2622     before~ inserting~ pages~ of~ external~ PDF.
2623 }
\copyrightpage 2624 \NewDocumentCommand \copyrightpage { 0{ } }
2625 {
2626     \bool_if:NF \g__sjtu_review_bool
2627     {
2628         \tl_if_blank:nTF {#1}
2629         { \UseInstance { sjtu } { copyright } }
2630         {
2631             \cs_if_exist:NTF \includepdf
2632             {
2633                 \bool_if:NTF \g__sjtu_openright_bool
2634                 { \cleardoublepage } { \clearpage }
2635                 \__sjtu_pdf_bookmark:nn { 0 } { \c__sjtu_name_declaration_tl }
2636                 \includepdf {#1}
2637             }
2638         }
2639     }

```

```

2639             \msg_warning:nn { sjtutex } { require-pdfpages }
2640             \UseInstance { sjtu } { copyright }
2641         }
2642     }
2643 }
2644 }
2645 </thesis>

```

6.21 摘要

style/keywords-format 关键词排版样式。

```

2646 \keys_define:nn { sjtu / style }
2647 {
2648     keywords-format .choice: ,
2649     keywords-format / plain .code:n =
2650     { \cs_set:Nn \__sjtu_keywords_format:n { \noindent { \bfseries ##1 } } } ,
2651     keywords-format / hang .code:n =
2652     { \cs_set:Nn \__sjtu_keywords_format:n { \@hangfrom { \bfseries ##1 } } } ,
2653     keywords-format .initial:n = { plain }
2654 }

```

abstract 学位论文摘要环境。

```

abstract*
abstract*
2655 <*thesis>
2656 \DeclareDocumentEnvironment { abstract } { 0 { zh } +b }
2657 {
2658     \__sjtu_if_lang_valid:nTF {#1}
2659     {
2660         \use:c { __sjtu_set_language_ #1 : }
2661         \exp_args:Nv \SJTU@head { c__sjtu_name_abstract_ #1 _tl }
2662         #2
2663         \clist_if_empty:cF { l__sjtu_info_keywords_ #1 _clist }
2664         {
2665             \par \mode_leave_vertical: \par
2666             \__sjtu_keywords_format:n
2667             {
2668                 \tl_use:c { c__sjtu_name_keywords_ #1 _tl }
2669                 \tl_use:c { c__sjtu_name_info_sep_ #1 _tl }
2670             }
2671             \clist_use:cv { l__sjtu_info_keywords_ #1 _clist }
2672             { c__sjtu_name_item_sep_ #1 _tl }
2673             \par
2674         }
2675     }
2676     { \msg_error:nnn { sjtutex } { lang-validation } {#1} }
2677 } { }
2678 \DeclareDocumentEnvironment { abstract* } { 0 { zh } +b }
2679 {
2680     \__sjtu_if_lang_valid:nTF {#1}
2681     {
2682         \use:c { __sjtu_set_language_ #1 : }
2683         \exp_args:NNv \SJTU@head* { c__sjtu_name_abstract_ #1 _tl }
2684         #2
2685         \clist_if_empty:cF { l__sjtu_info_keywords_ #1 _clist }
2686         {
2687             \par \mode_leave_vertical: \par
2688             \__sjtu_keywords_format:n
2689             {
2690                 \tl_use:c { c__sjtu_name_keywords_ #1 _tl }
2691                 \tl_use:c { c__sjtu_name_info_sep_ #1 _tl }
2692             }
2693             \clist_use:cv { l__sjtu_info_keywords_ #1 _clist }
2694             { c__sjtu_name_item_sep_ #1 _tl }
2695             \par
2696         }
2697     }

```

```

2698     { \msg_error:nnn { sjtutex } { lang-validation } {#1} }
2699   } { }
2700 </thesis>

```

修复通用模板摘要段首缩进。

```

2701 <!*thesis>
2702 \bool_if:NT \g__sjtu_titlepage_bool
2703   { \__sjtu_appto_cmd:Nn \abstract { \par } }

```

通用模板摘要后添加关键词。

```

2704 \__sjtu_preto_cmd:Nn \endabstract
2705   {
2706     \clist_if_empty:NF \l__sjtu_info_keywords_clist
2707     {
2708       \par \mode_leave_vertical: \par
2709       \__sjtu_keywords_format:n
2710       {
2711         \c__sjtu_name_keywords_tl
2712         \c__sjtu_name_info_sep_tl
2713       }
2714       \clist_use:NV \l__sjtu_info_keywords_clist \c__sjtu_name_item_sep_tl
2715       \par
2716     }
2717   }
2718 </!*thesis>

```

6.22 目录

`\tableofcontents` 目录。

```

\tableofcontents*
2719 \DeclareDocumentCommand \tableofcontents { s }
2720   {
2721     \IfBooleanTF {#1}
2722       { \SJTU@head* { \contentsname } }
2723       { \SJTU@head { \contentsname } }
2724     \group_begin:
2725     \cs_set:Npn \makebox [##1][##2]##3 { \, ##3 }
2726     \@starttoc { toc }
2727     \group_end:
2728   }

```

`\SJTU@listof` 图表索引。

```

\listoffigures
\listoffigures*
\listoftables
\listoftables*
2729 \NewDocumentCommand \SJTU@listof { m m s }
2730   {
2731     \IfBooleanTF {#3}
2732       { \SJTU@head* {#1} }
2733       { \SJTU@head {#1} }
2734     \group_begin:
2735     \cs_set:Npn \makebox [##1][##2]##3 { \, ##3 }
2736     \exp_args:Nv \@starttoc { ext@ #2 }
2737     \group_end:
2738   }
2739 \DeclareDocumentCommand \listoffigures { }
2740   { \SJTU@listof { \listfigurename } { figure } }
2741 \DeclareDocumentCommand \listoftables { }
2742   { \SJTU@listof { \listtablename } { table } }
2743 \tl_set:Nn \cftdotsep { 0.5 }
<|article> 2744 \tl_set:Nn \cftchappleader { \bfseries \cftdotfill { \cftdotsep } }
2745 <!*thesis>
2746 \clist_map_inline:nn
2747   {
2748     { cft before chap skip } { 10 bp plus 1 pt } ,
2749     { cft chap numwidth } { 3.5 em } ,
2750     { cft sec indent } { 2 em } ,

```

```

2751 { cft sec numwidth } { 1.5 em } ,
2752 { cft subsec indent } { 4 em } ,
2753 { cft subsec numwidth } { 2.3 em }
2754 }
2755 { \skip_set:cn #1 }
2756 </thesis>

```

图表清单标题前添加名称。

```

\__sjtu_update_cft_presnum:nn 图表清单标题前添加名称。
\l__sjtu_cft_presnum_clist
2757 \clist_set:Nn \l__sjtu_cft_presnum_clist
2758 {
2759   { fig } { \figurename } ,
2760   { tab } { \tablename }
2761 }
2762 \cs_new:Npn \__sjtu_update_cft_presnum:nn #1#2
2763 {
2764   \tl_set:cn { cft #1 presnum } { #2 \c_space_tl }
2765   \skip_zero:c { cft #1 indent }
<article> 2766   \skip_set:cn { cft #1 numwidth } { 1.8 em }
<!article> 2767   \skip_set:cn { cft #1 numwidth } { 2.8 em }
2768   \__sjtu_skip_add_to_wd:cv { cft #1 numwidth } { cft #1 presnum }
2769 }
2770 \ctex_at_end_preamble:n
2771 {
2772   \clist_map_inline:Nn \l__sjtu_cft_presnum_clist
2773     { \__sjtu_update_cft_presnum:nn #1 }
2774 }

```

6.23 预定义环境

abbreviation 缩略语对照表。

```

abbreviation* 2775 <*thesis>
2776 \NewDocumentEnvironment { abbreviation } { 0 { \SJTU@abbrname } }
2777 {
2778   \chapter {#1}
2779   \tl_clear:N \SJTU@style@float@font
2780 } { }
2781 \NewDocumentEnvironment { abbreviation* } { 0 { \SJTU@abbrname } }
2782 {
2783   \SJTU@head* {#1}
2784   \tl_clear:N \SJTU@style@float@font
2785 } { }

```

nomenclature 符号对照表。

```

nomenclature* 2786 \NewDocumentEnvironment { nomenclature } { 0 { \SJTU@nomname } }
2787 {
2788   \chapter {#1}
2789   \tl_clear:N \SJTU@style@float@font
2790 } { }
2791 \NewDocumentEnvironment { nomenclature* } { 0 { \SJTU@nomname } }
2792 {
2793   \SJTU@head* {#1}
2794   \tl_clear:N \SJTU@style@float@font
2795 } { }

```

acknowledgements 致谢, 盲审模式下隐藏致谢。

```

2796 \NewDocumentEnvironment { acknowledgements } { 0 { \SJTU@ackname } +b }
2797 {
2798   \bool_if:NF \g__sjtu_review_bool
2799   {
2800     \SJTU@head {#1}
2801     #2
2802   }
2803 } { }

```

achievements 发表论文与学术成果。

```

bibliolist
bibliolist*
2804 \newcounter { SJTU@bib }
2805 \NewDocumentEnvironment { @bibliolist } { m }
2806 {
2807   \cs_if_exist_use:N \bibfont
2808   \list
2809   {
2810     \tl_if_blank:nTF {#1}
2811     { \hfill }
2812     { \@biblabel { \arabic{ SJTU@bib } } }
2813   }
2814   {
2815     \tl_if_blank:nTF {#1}
2816     {
2817       \skip_if_exist:NTF \bibhang
2818       { \dim_set_eq:NN \leftmargin \bibhang }
2819       { \dim_set:Nn \leftmargin { 1 em } }
2820       \dim_set:Nn \itemindent { - \leftmargin }
2821     }
2822     {
2823       \_sjtu_dim_set_to_wd:Nn \labelwidth { \@biblabel {#1} }
2824       \dim_set_eq:NN \leftmargin \labelwidth
2825       \dim_add:Nn \leftmargin { \labelsep }
2826     }
2827     \skip_if_exist:NTF \bibitemsep
2828     {
2829       \skip_set_eq:NN \itemsep \bibitemsep
2830       \skip_if_exist:NT \bibparsep
2831       { \skip_set_eq:NN \parsep \bibparsep }
2832     }
2833     {
2834       \skip_if_exist:NT \bibsep
2835       {
2836         \skip_set_eq:NN \itemsep \bibsep
2837         \skip_zero:N \parsep
2838       }
2839     }
2840     \@nmbriolisttrue
2841     \tl_set:Nn \@listctr { SJTU@bib }
2842     \cs_set:Npn \p@SJTU@bib { }
2843     \cs_set:Npn \theSJTU@bib { \arabic { SJTU@bib } }
2844   }
2845   \sloppy
2846   \int_set:Nn \clubpenalty { 4000 }
2847   \int_set_eq:NN \@clubpenalty \clubpenalty
2848   \int_set:Nn \widowpenalty { 4000 }
2849   \char_set_sfcode:nn { \. } { 1000 }
2850 }
2851 {
2852   \cs_set:Npn \@noitemerr
2853   { \msg_warning:nnn { sjtutex } { empty-environment } { bibliolist } }
2854   \endlist
2855 }
2856 \msg_new:nnn { sjtutex } { empty-environment }
2857 { Empty~`#1'~ environment. }
2858 \bool_new:N \l__sjtu_achievements_bool
2859 \NewDocumentEnvironment { achievements } { O{ \SJTU@achvname } }
2860 {
2861   \SJTU@head {#1}
2862   \setcounter { SJTU@bib } { 0 }
2863   \bool_set_true:N \l__sjtu_achievements_bool
2864 } { }
2865 \NewDocumentEnvironment { bibliolist } { m +b }
2866 {
2867   \bool_if:NF \l__sjtu_achievements_bool
2868   {
2869     \msg_error:nnnn { sjtutex } { environment-validation }

```



```

2870         { bibliolist } { achievements }
2871     }
2872     \bool_if:NF \g__sjtu_review_bool
2873     {
2874         \cs_set:Npn \@noitemerr { }
2875         \begin { @bibliolist } {#1}
2876             #2
2877         \end { @bibliolist }
2878     }
2879 } { }
2880 \NewDocumentEnvironment { bibliolist* } { m +b }
2881 {
2882     \bool_if:NF \l__sjtu_achievements_bool
2883     {
2884         \msg_error:nnnn { sjtutex } { environment-validation }
2885         { bibliolist* } { achievements }
2886     }
2887     \bool_if:NT \g__sjtu_review_bool
2888     {
2889         \cs_set:Npn \@noitemerr { }
2890         \begin { @bibliolist } {#1}
2891             #2
2892         \end { @bibliolist }
2893     }
2894 } { }
2895 \msg_new:nnn { sjtutex } { environment-validation }
2896 { `#1' is only valid in `#2' environment. }

```

resume 简历。

```

2897 \NewDocumentEnvironment { resume } { 0 { \SJTU@resumename } +b }
2898 {
2899     \bool_if:NF \g__sjtu_review_bool
2900     {
2901         \SJTU@head {#1}
2902         #2
2903     }
2904 } { }

```

digest 大摘要。

```

2905 \NewDocumentEnvironment { digest } { 0 { en } +b }
2906 {
2907     \__sjtu_if_lang_valid:nTF {#1}
2908     {
2909         \AtEndDocument
2910         {
2911             \use:c { __sjtu_set_language_ #1 : }
2912             \bool_if:NTF \g__sjtu_openright_bool
2913             { \cleardoublepage } { \clearpage }
2914             \pagenumbering { roman }
2915             \cs_gset:Nn \__sjtu_thepage: { \arabic { page } }
2916             \cs_gset_eq:NN \addcontentsline \use_none:nnn
2917             \clist_map_inline:Nn \l__sjtu_counter_without_chapter_clist
2918             {
2919                 \counterwithout {##1} { chapter }
2920                 \setcounter {##1} { 0 }
2921             }
2922             \__sjtu_head_aux_s:nx { \SJTU@digestname }
2923             {
2924                 \exp_not:N \MakeUppercase
2925                 { \exp_not:v { l__sjtu_info_title_ #1 _t1 } }
2926             }
2927             #2
2928         }
2929     }
2930     { \msg_error:nnn { sjtutex } { lang-validation } {#1} }

```

```
2931 } { }
2932 </thesis>
```

6.24 设置接口

`\sjtusetup` 用户设置接口。

```
2933 \NewDocumentCommand \sjtusetup { } { \keys_set:nn { sjtu } }
```

定义元(meta)键值对。

```
2934 \keys_define:nn { sjtu }
2935 {
2936   style .meta:nn = { sjtu / style } {#1} ,
2937   info .meta:nn = { sjtu / info } {#1} ,
2938   name .meta:nn = { sjtu / name } {#1}
2939 }
```

兼容 `sjtuthesis` 旧接口。

```
2940 <*thesis>
2941 \keys_define:nn { sjtu / info }
2942 {
2943   title .meta:n = { zh / title = {#1} } ,
2944   title* .meta:n = { en / title = {#1} } ,
2945   display-title .meta:n = { zh / display-title = {#1} } ,
2946   display-title* .meta:n = { en / display-title = {#1} } ,
2947   subject .meta:n = { zh / subject = {#1} } ,
2948   subject* .meta:n = { en / subject = {#1} } ,
2949   keywords .meta:n = { zh / keywords = {#1} } ,
2950   keywords* .meta:n = { en / keywords = {#1} } ,
2951   author .meta:n = { zh / author = {#1} } ,
2952   author* .meta:n = { en / author = {#1} } ,
2953   supervisor .meta:n = { zh / supervisor = {#1} } ,
2954   supervisor* .meta:n = { en / supervisor = {#1} } ,
2955   assoc-supervisor .meta:n = { zh / assoc-supervisor = {#1} } ,
2956   assoc-supervisor* .meta:n = { en / assoc-supervisor = {#1} } ,
2957   co-supervisor .meta:n = { zh / co-supervisor = {#1} } ,
2958   co-supervisor* .meta:n = { en / co-supervisor = {#1} } ,
2959   degree .meta:n = { zh / degree = {#1} } ,
2960   degree* .meta:n = { en / degree = {#1} } ,
2961   department .meta:n = { zh / department = {#1} } ,
2962   department* .meta:n = { en / department = {#1} } ,
2963   major .meta:n = { zh / major = {#1} } ,
2964   major* .meta:n = { en / major = {#1} } ,
2965   fund .meta:n = { zh / fund = {#1} } ,
2966   fund* .meta:n = { en / fund = {#1} } ,
2967   display-date .meta:n = { zh / date = {#1} } ,
2968   display-date* .meta:n = { en / date = {#1} }
2969 }
2970 \keys_define:nn { sjtu / name }
2971 {
2972   abbreviation .meta:n = { abbr = {#1} } ,
2973   nomenclature .meta:n = { nom = {#1} } ,
2974   acknowledgements .meta:n = { ack = {#1} } ,
2975   publications .meta:n = { achv = {#1} } ,
2976   achievements .meta:n = { achv = {#1} }
2977 }
2978 </thesis>
```

`\subject` 通用模板新接口。

`\keywords`

```
2979 <*!thesis>
2980 \NewDocumentCommand \subject { m }
2981 { \keys_set:nn { sjtu / info } { subject = {#1} } }
2982 \NewDocumentCommand \keywords { m }
2983 { \keys_set:nn { sjtu / info } { keywords = {#1} } }
2984 </!thesis>
```

6.25 其他宏包的设置

这些宏包并非格式要求,但是为了方便同学们使用,在这里进行简单设置。

6.25.1 hyperref 宏包

```

2985 \ctex_at_end_package:nn { hyperref }
2986 {
2987   \hypersetup
2988   {
2989     linktoc           = all,
2990     bookmarksdepth    = 2,
2991     bookmarksnumbered = true,
2992     bookmarksopen     = true,
2993     bookmarksopenlevel = 1,
2994     unicode           = true,
2995     psdextra          = true,
2996     breaklinks        = true,
2997     pdfdisplaydoctitle = true
2998   }
2999   \int_new:N \g__sjtu_bookmark_int
3000   \cs_gset_protected:Npn \__sjtu_pdf_bookmark:nn #1#2
3001   {
3002     \phantomsection
3003     \int_gincr:N \g__sjtu_bookmark_int
3004     \pdfbookmark [#1] {#2}
3005     { sjtubookmark. \int_use:N \g__sjtu_bookmark_int }
3006   }
3007   \cs_gset_eq:NN \__sjtu_phantom_section: \phantomsection
3008   \pdfstringdefDisableCommands
3009   {
3010     \cs_set_eq:NN \ \ \prg_do_nothing:
3011     \cs_set_eq:NN \quad \c_empty_tl
3012     \cs_set_eq:NN \qquad \c_empty_tl
3013     \cs_set_eq:NN \hspace \use_none:n
3014   }
3015   \ctex_after_end_preamble:n
3016   {
3017     \hypersetup
3018     {
3019       <*thesis>
3020         pdftitle      = \l__sjtu_info_title_zh_tl ,
3021         pdfauthor     = \l__sjtu_info_author_zh_tl ,
3022         pdfsubject    = \l__sjtu_info_subject_zh_tl ,
3023         pdfkeywords   = \l__sjtu_info_keywords_zh_clist
3024       </thesis>
3025       <!*thesis>
3026         pdftitle      = \@title ,
3027         pdfauthor     = \@author ,
3028         pdfsubject    = \l__sjtu_info_subject_tl ,
3029         pdfkeywords   = \l__sjtu_info_keywords_clist
3030       </!thesis>
3031     }
3032   }
3033 }

```

6.25.2 threeparttable 宏包

```

3034 \ctex_at_end_package:nn { threeparttable }
3035 { \tl_put_right:Nn \TPNoteSettings { \footnotesize } }

```

6.25.3 longtable 宏包

```

3036 \ctex_at_end_package:nn { longtable }
3037 { \AtBeginEnvironment { longtable } { \SJ TU@style@float@font } }

```

6.25.4 amsthm 宏包和 ntheorem 宏包

预定义的数学环境, 不包括证明环境 `proof`。定义前会检测环境是否已经存在, 避免覆盖用户的定义。

```

3038 \cs_new_protected:Nn \__sjtu_new_theorems:
3039 {
3040   \clist_map_inline:nn
3041   {
3042     assumption, axiom, conjecture, corollary, definition, example,
3043     exercise, lemma, problem, proposition, theorem
3044   }
3045   {
3046     \cs_if_exist:cF {##1}
3047     <!*article>
3048     {
3049       \exp_args:Nnv \newtheorem {##1} { c__sjtu_name_ ##1 _tl }
3050       [ chapter ]
3051     }
3052     <!/article>
3053     { \exp_args:Nnv \newtheorem {##1} { c__sjtu_name_ ##1 _tl } }
3054   }
3055   \clist_map_inline:nn
3056   { remark, solution }
3057   {
3058     \cs_if_exist:cF {##1}
3059     { \exp_args:NNnv \newtheorem* {##1} { c__sjtu_name_ ##1 _tl } }
3060   }
3061 }

```

`amsthm` 会定义 `\openbox`, 为避免与一些宏包冲突, 我们先保存 `\openbox`, 然后取消定义。

```

3062 \ctex_at_begin_package:nn { amsthm }
3063 {
3064   \cs_if_exist:NT \openbox
3065   {
3066     \cs_new_eq:NN \__sjtu_save_openbox: \openbox
3067     \cs_undefine:N \openbox
3068   }
3069 }
3070 \ctex_at_end_package:nn { amsthm }
3071 {
3072   \__sjtu_cs_provide_eq:NN \QED \openbox
3073   \cs_if_exist:NT \__sjtu_save_openbox:
3074   { \cs_set_eq:NN \openbox \__sjtu_save_openbox: }
3075   \tl_set:Nn \qedsymbol { \ensuremath { \QED } }
3076   \RenewDocumentEnvironment { proof } { 0 { \proofname } }
3077   {
3078     \par \pushQED { \qed }
3079     \SJTU@style@thm@body@font \dim_zero:N \topsep
3080     \trivlist
3081     \item
3082     [
3083       \skip_horizontal:N \labelsep
3084       \SJTU@style@thm@header@font #1 \@addpunct { \enskip }
3085     ]
3086     \ignorespaces
3087   }
3088   { \popQED \endtrivlist \@endpefalse }
3089   \newtheoremstyle { sjtu }
3090   { } { } { \SJTU@style@thm@body@font } { } { }
3091   { \SJTU@style@thm@header@font } { } { \ccwd } { }
3092 }

```

如果用户加载了 `amsthm` 或 `ntheorem` 宏包, 则在导言区末尾应用预设的样式定义定理环境。

```

3093 \ctex_at_end_preamble:n

```

```

3094 {
3095   \@ifpackageloaded { amsthm }
3096   {
3097     \theoremstyle { sjtu }
3098     \__sjtu_new_theorems:
3099   }
3100   {
3101     \@ifpackageloaded { ntheorem }
3102     {
3103       \__sjtu_cs_provide_eq:NN \QED \c_empty_tl
3104       \theoremheaderfont { \SJTU@style@thm@header@font }
3105       \theorembodyfont   { \SJTU@style@thm@body@font   }
3106       \theoremseparator { \enskip }
3107       \theoremsymbol { \ensuremath { \QED } }
3108       \qedsymbol       { \ensuremath { \QED } }
3109       \cs_if_exist:NF \proof
3110       { \newtheorem* { proof } { \proofname } }
3111       \theoremsymbol { }
3112       \__sjtu_new_theorems:
3113     } { }
3114   }
3115 }

```

6.25.5 thmtools 宏包

使用 tocloft 包设置 \listoftheorems 的样式。

```

3116 \ctex_at_end_package:nn { thmtools }
3117 {
3118   \newlistentry { thm } { loe } { 0 }
3119   \newcounter { loedepth }
3120   \setcounter { loedepth } { 1 }
3121   \skip_set:Nn \cftthmnumwidth { 2.3 em }
3122   \define@key { thmt-listof } { numwidth }
3123   { \skip_set:Nn \cftthmnumwidth {#1} }
3124   \cs_set:Npn \thmtlo@newentry
3125   { \cs_set_eq:cN { l@ \thmt@envname } \l@thm }
3126   \cs_set:Npn \thmtlo@chaptervspacehack { }
3127   \RenewDocumentCommand \listoftheorems { s O{ } }
3128   {
3129     \group_begin:
3130     \setlisttheoremstyle {#2}
3131     \IfBooleanTF {#1}
3132     { \SJTU@head* { \listtheoremname } }
3133     { \SJTU@head { \listtheoremname } }
3134     \cs_set:Npn \contentsline ##1
3135     { \use:c { thmt@contentsline@ ##1 } {##1} }
3136     \clist_map_inline:Nn \thmt@allenvs
3137     {
3138       \tl_set:Nn \thmt@envname {##1}
3139       \thmtlo@newentry
3140     }
3141     \@filesfalse
3142     \AddToHook { enddocument / afterlastpage }
3143     {
3144       \if@filesw
3145       \@ifundefined { tf@loe }
3146       {
3147         \expandafter\newwrite\csname tf@loe\endcsname
3148         \immediate\openout \csname tf@loe\endcsname \jobname.loe\relax
3149       } { }
3150       \fi
3151     }
3152     \cs_set:Npn \makebox [##1][##2]##3 { \, , ##3 }
3153     \@starttoc { loe }
3154     \group_end:

```

```

3155     }
3156 }

```

6.25.6 algorithm 宏包和 algorithm2e 宏包

```

3157 \cs_new_protected:Npn \__sjtu_newlistof:nnnnn #1#2#3#4#5
3158 {
3159     \exp_args:Nnv \newlistentry {#2} { ext@ #3 } { 0 }
3160     \exp_args:Ne \newcounter { \tl_use:c { ext@ #3 } depth }
3161     \exp_args:Ne \setcounter { \tl_use:c { ext@ #3 } depth } { 1 }
3162     \clist_put_right:Nn \l__sjtu_cft_presnum_clist { {#2} {#4} }
3163     \cs_set_eq:cc { l@ #3 } { l@ #2 }
3164     \exp_args:Nc \DeclareDocumentCommand { listof #1 s } { }
3165         { \SJTU@listof {#5} {#3} }
<|article> 3166     \SJTU@counterwithin { #3 } { chapter }
<|thesis> 3167     \clist_put_right:Nn \l__sjtu_counter_without_chapter_clist {#3}
3168 }

```

algorithm 宏包。

```

3169 \ctex_at_end_package:nn { algorithm }
3170 {
3171     \tl_set:Nn \fname@algorithm { \SJTU@algorithmname }
3172     \tl_set:Nn \listalgorithmname { \SJTU@listalgorithmname }
3173     \__sjtu_newlistof:nnnnn { algorithm } { alg } { algorithm }
3174     { \fname@algorithm } { \listalgorithmname }
3175 }

```

algorithm2e 宏包。

```

<|article> 3176 \ctex_at_begin_package:nn { algorithm2e }
<|article> 3177 { \cs_set_eq:NN \__sjtu_save_chapter:w \@chapter }
3178 \ctex_at_end_package:nn { algorithm2e }
3179 {
<|article> 3180     \cs_set_eq:NN \@chapter \__sjtu_save_chapter:w
3181     \SetAlgorithmName { \SJTU@algorithmname }
3182         { \SJTU@algorithmname }
3183         { \SJTU@listalgorithmname }
3184     \SetAlgoCaptionSeparator { \enskip }
3185     \__sjtu_newlistof:nnnnn { algorithm } { alg } { algocf }
3186     { \algorithmcfname } { \listalgorithmcfname }
3187     \ctex_patch_cmd:Nnn \algocf@latexcaption
3188     { \addcontentsline }
3189     { \caption@iflist { \addcontentsline } { \@gobblethree } }
3190 }

```

6.25.7 nomenc1 宏包

```

3191 \ctex_at_end_package:nn { nomenc1 }
3192 { \tl_set:Nn \nomname { \SJTU@nomname } }

```

6.25.8 translations 宏包

```

3193 \ctex_at_end_package:nn { translations }
3194 {
3195     \DeclareLanguage { chinese }
3196     \DeclareLanguageAlias { Chinese } { chinese }
3197 }

```

6.25.9 siunitx 宏包

```

3198 \ctex_at_end_package:nn { siunitx }
3199 {
3200     \RequirePackage { translations }
3201     \DeclareTranslation { Chinese } { and } { 和 }
3202     \DeclareTranslation { Japanese } { and } { と }
3203     \DeclareTranslation { Chinese }
3204         { to~(numerical~range) } { \textasciitilde }
3205     \DeclareTranslation { Japanese }
3206         { to~(numerical~range) } { \textasciitilde }

```

```

3207 \IfPackageAtLeastTF { siunitx } { 2021/05/17 } { }
3208 {
3209     \DeclareTranslation { English } { to~(numerical~range) } { to }
3210     \DeclareTranslation { German } { to~(numerical~range) } { bis }
3211     \keys_set:nn { siunitx }
3212     {
3213         list-final-separator =
3214         {
3215             \ifmmode \ \else \space \fi
3216             \text { \GetTranslation { and } }
3217             \ifmmode \ \else \space \fi
3218         } ,
3219         list-pair-separator =
3220         {
3221             \ifmmode \ \else \space \fi
3222             \text { \GetTranslation { and } }
3223             \ifmmode \ \else \space \fi
3224         } ,
3225         range-phrase =
3226         {
3227             \ifmmode \ \else \space \fi
3228             \text { \GetTranslation { to~(numerical~range) } }
3229             \ifmmode \ \else \space \fi
3230         }
3231     }
3232 }
3233 }
3234 </class>

```

6.26 名称配置

```

3235 <*name>
3236 <zhja>
3237 \clist_map_inline:nn
3238 {
3239     { year } { 年 } ,
3240     { month } { 月 } ,
3241     { day } { 日 }
3242 }
3243 <zh> { \__sjtu_define_name:nnn { zh } #1 }
3244 <ja> { \__sjtu_define_name:nnn { ja } #1 }
3245 </zhja>
3246 <*en>
3247 \clist_const:Nn \c__sjtu_name_month_en_clist
3248 {
3249     January, February, March, April, May, June,
3250     July, August, September, October, November, December
3251 }
3252 </en>
3253 <*de>
3254 \clist_const:Nn \c__sjtu_name_month_de_clist
3255 {
3256     Januar, Februar, März, April, Mai, Juni,
3257     Juli, August, September, Oktober, November, Dezember
3258 }
3259 </de>
3260 <*thesis>
3261 <zh>
3262 \__sjtu_define_symbol:nn { white_square } { "25A1 }
3263 \__sjtu_define_name_from_clist:nnnn { zh }
3264 { degree_level } { \g__sjtu_thesis_type_int }
3265 { 学士, 硕士, 博士 }
3266 </zh>
3267 <*en>
3268 \__sjtu_define_name_from_clist:nnnn { en }
3269 { degree_level } { \g__sjtu_thesis_type_int }
3270 { Bachelor, Master, Doctor }

```

```

3271 </en>
3272 <*de>
3273 \_sjtu_define_name_from_clist:nnnn { de }
3274 { degree_level } { \g__sjtu_thesis_type_int }
3275 { Bachelor, Master, Doktor }
3276 </de>
3277 <*ja>
3278 \_sjtu_define_name_from_clist:nnnn { ja }
3279 { degree_level } { \g__sjtu_thesis_type_int }
3280 { 学士, 修士, 博士 }
3281 </ja>
3282 </thesis>
3283 <*zh>
3284 \clist_map_inline:nn
3285 {
3286 <*thesis>
3287 { univ } { 上海交通大学 } ,
3288 { author } { 姓名 } ,
3289 { id } { 学号 } ,
3290 { supervisor } { 导师 } ,
3291 { assoc_supervisor } { 副导师 } ,
3292 { department } { 院系 } ,
3293 { co_supervisor } { 联合导师 } ,
3294 { major } { 学科 / 专业 } ,
3295 { degree } { 申请学位 } ,
3296 { thesis } { 学位论文 } ,
3297 { title_page } { 题名页 } ,
3298 { declaration } { 原创性声明及使用授权书 } ,
3299 { orig_decl } { 原创性声明 } ,
3300 { auth_decl } { 使用授权书 } ,
3301 { decl_author } { 学位论文作者 } ,
3302 { decl_supervisor } { 指导教师 } ,
3303 { abstract } { 摘 \protect \quad 要 } ,
3304 </thesis>
3305 { keywords } { 关键词 } ,
3306 { info_sep } { : \null } ,
3307 { item_sep } { , } ,
3308 }
</thesis> 3309 { \_sjtu_define_name:nnn { zh } #1 }
<!thesis> 3310 { \_sjtu_define_name:nn #1 }
3311 </zh>
3312 <*en>
3313 \clist_map_inline:nn
3314 {
3315 <*thesis>
3316 { univ } { Shanghai~ Jiao~ Tong~ University } ,
3317 { address } { Shanghai,~ P.R.~ China } ,
3318 { author } { Author } ,
3319 { supervisor } { Supervisor } ,
3320 { assoc_supervisor } { Assoc.~ Supervisor } ,
3321 { co_supervisor } { Co-supervisor } ,
3322 { title_page } { Title~ Page } ,
3323 { declaration } { Statutory~ Declaration } ,
3324 { abstract } { Abstract } ,
3325 </thesis>
3326 { keywords } { Key~words } ,
3327 { info_sep } { :~ } ,
3328 { item_sep } { ,~ } ,
3329 }
</thesis> 3330 { \_sjtu_define_name:nnn { en } #1 }
<!thesis> 3331 { \_sjtu_define_name:nn #1 }
3332 </en>
3333 <*de>
3334 \clist_map_inline:nn
3335 {
3336 <*thesis>
3337 { univ } { Shanghai~ Jiao~ Tong~ Universität } ,

```



```

3338 { address          } { Shanghai,~ VR~ China          } ,
3339 { author           } { Autor/in                      } ,
3340 { supervisor       } { Betreuer/in                      } ,
3341 { assoc_supervisor } { Zweitbetreuer/in                 } ,
3342 { co_supervisor    } { Co-Betreuer/in                   } ,
3343 { title_page       } { Titelblatt                       } ,
3344 { declaration      } { Eidesstattliche~ Erklärung      } ,
3345 { abstract         } { Abstrakt                         } ,
3346 </thesis>
3347 { keywords         } { Schlüsselwörter                 } ,
3348 { info_sep         } { :~                               } ,
3349 { item_sep         } { ,~                               }
3350 }
<thesis> 3351 { \_sjtu_define_name:nnn { de } #1 }
<!thesis> 3352 { \_sjtu_define_name:nn #1 }
3353 </de>
3354 <*ja>
3355 \clist_map_inline:nn
3356 {
3357 <*thesis>
3358 { univ             } { 上海交通大学          } ,
3359 { address          } { 中国·上海              } ,
3360 { author           } { 氏名                  } ,
3361 { supervisor       } { 指導教員              } ,
3362 { assoc_supervisor } { 副指導教員            } ,
3363 { co_supervisor    } { 共同指導              } ,
3364 { thesis           } { 學位請求論文          } ,
3365 { title_page       } { 標題紙                } ,
3366 { declaration      } { 誓約書・公表許諾書    } ,
3367 { abstract         } { 要 \protect \quad 旨 } ,
3368 </thesis>
3369 { keywords         } { キーワード            } ,
3370 { info_sep         } { : \null               } ,
3371 { item_sep         } { \quad                 }
3372 }
<thesis> 3373 { \_sjtu_define_name:nnn { ja } #1 }
<!thesis> 3374 { \_sjtu_define_name:nn #1 }
3375 </ja>
3376 <*thesis>
3377 <*zh>
3378 \tl_const:Nn \c__sjtu_orig_decl_text_zh_tl
3379 {
3380 本人郑重声明：所呈交的学位论文，是本人在导师的指导下，独立进行研究工作所取得的成果。除文中已经注明引用的内容外，本论文不包含任何其他个人或集体已经发表或撰写过的作品成果。对本文的研究做出重要贡献的个人和集体，均已在文中以明确方式标明。本人完全知晓本声明的法律后果由本人承担。
3381
3382
3383
3384 }
3385 }
3386 \tl_const:Nn \c__sjtu_auth_decl_text_zh_tl
3387 {
3388 本人同意学校保留并向国家有关部门或机构送交论文的复印件和电子版，允许论文被查阅和借阅。 \par
3389 \vskip 6 bp
3390 \noindent
3391 本学位论文属于： \par
3392 { \c__sjtu_symbol_white_square_tl } \textbf { 公开论文 } \par
3393 { \c__sjtu_symbol_white_square_tl } \textbf { 内部论文 } ,
3394 保密 { \c__sjtu_symbol_white_square_tl } ~ 1~ 年 /
3395 { \c__sjtu_symbol_white_square_tl } ~ 2~ 年 /
3396 { \c__sjtu_symbol_white_square_tl } ~ 3~ 年 ,
3397 过保密期后适用本授权书。 \par
3398 { \c__sjtu_symbol_white_square_tl } \textbf { 秘密论文 } ,
3399 保密 \underline { \hspace { 2 em } } 年 (不超过~ 10~ 年) ,
3400 过保密期后适用本授权书。 \par
3401 { \c__sjtu_symbol_white_square_tl } \textbf { 机密论文 } ,
3402 保密 \underline { \hspace { 2 em } } 年 (不超过~ 20~ 年) ,
3403 过保密期后适用本授权书。 \par
3404

```

```

3405 \hspace { 6 em } (请在以上方框内选择打 “ \ensuremath { \checkmark } ” )
3406 }
3407 \tl_const:Nn \c__sjtu_signature_text_zh_tl
3408 {
3409     签名: \\
3410     日期: \hspace { \stretch { 3 } } 年
3411           \hspace { \stretch { 2 } } 月
3412           \hspace { \stretch { 2 } } 日
3413 }
3414 </zh>
3415 </thesis>
3416 </name>

3417 <*scheme>
3418 \clist_map_inline:nn
3419 {
3420 <*zh>
3421     { assumption } { 假设 } ,
3422     { axiom } { 公理 } ,
3423     { conjecture } { 猜想 } ,
3424     { corollary } { 推论 } ,
3425     { definition } { 定义 } ,
3426     { example } { 例 } ,
3427     { exercise } { 练习 } ,
3428     { lemma } { 引理 } ,
3429     { problem } { 问题 } ,
3430     { proposition } { 命题 } ,
3431     { remark } { 注 } ,
3432     { solution } { 解 } ,
3433     { theorem } { 定理 }
3434 </zh>
3435 <*en>
3436     { assumption } { Assumption } ,
3437     { axiom } { Axiom } ,
3438     { conjecture } { Conjecture } ,
3439     { corollary } { Corollary } ,
3440     { definition } { Definition } ,
3441     { example } { Example } ,
3442     { exercise } { Exercise } ,
3443     { lemma } { Lemma } ,
3444     { problem } { Problem } ,
3445     { proposition } { Proposition } ,
3446     { remark } { Remark } ,
3447     { solution } { Solution } ,
3448     { theorem } { Theorem }
3449 </en>
3450 <*de>
3451     { assumption } { Annahme } ,
3452     { axiom } { Axiom } ,
3453     { conjecture } { Hypothese } ,
3454     { corollary } { Korollar } ,
3455     { definition } { Definition } ,
3456     { example } { Beispiel } ,
3457     { exercise } { Übung } ,
3458     { lemma } { Lemma } ,
3459     { problem } { Problem } ,
3460     { proposition } { Proposition } ,
3461     { remark } { Anmerkung } ,
3462     { solution } { Lösung } ,
3463     { theorem } { Theorem }
3464 </de>
3465 <*ja>
3466     { assumption } { 仮定 } ,
3467     { axiom } { 公理 } ,
3468     { conjecture } { 予想 } ,
3469     { corollary } { 系 } ,
3470     { definition } { 定義 } ,
3471     { example } { 例 } ,

```

```
3472 { exercise } { 練習 } ,
3473 { lemma } { 補題 } ,
3474 { problem } { 問題 } ,
3475 { proposition } { 命題 } ,
3476 { remark } { 注意 } ,
3477 { solution } { 解法 } ,
3478 { theorem } { 定理 }
3479 </ja>
3480 }
3481 { \_sjtu_define_name:nn #1 }
3482 </scheme>
```

版本历史

v2.0(2021/09/10 – 2023/03/23)

General: sjtuthesis 类型选项移除 course, 不再支持课程论文。16

abstract 环境新增指定语言的可选参数。61

digest 环境新增指定语言的可选参数。65

不再自动载入 pdfpages 宏包。60

使用 assoc-supervisor 键表示副导师, 使用 co-supervisor 键表示联合导师。50

使用语言代码前缀区别不同语种的 sjtu/info 键。50

启用新版封面。56

应用 L^AT_EX3 重构代码。1

新增文档类 sjtuarticle 和 sjtureport。1

添加 display-date 键。50

添加 lineskip 文档类选项。17

添加 math-style 文档类选项, 默认值为 ISO。17

添加 subject 键。50

移除 summary 环境。63

简化 sjtu/name 中键的名称: abbr, nom, ack, achv。40

语言选项新增 de, 添加德文模板。16

语言选项新增 ja, 添加日文模板。16

重新制定 sjtu/style 域中的接口。66

v2.0.1(2023/03/31)

General: 插图、表格和算法等索引不缩进。63

调整插图、表格和算法等索引编号宽度。63

v2.0.2(2023/03/31 – 2023/04/01)

General: 区分 dim 与 skip 类型变量。21

延迟载入字体配置, 修复 unicode-math 设置不生效的问题。39

标题页日期底部增加空白。56

v2.0.3(2023/04/08 – 2023/09/25)

General: 学位论文页面纵向顶部对齐。42

新增 libertineus 字体配置。26

更新学位论文初始英文主题。51

添加 siunitx 本地化支持。70

移除 listings 宏包预设。67

v2.1(2023/10/24 – 2024/01/10)

General: abstract 环境添加目录条目, abstract* 环境对应修改为不添加目录条目。61

\tableofcontents 添加目录条目, \tableofcontents* 对应修改为不添加目录条目。62

同步 L^AT_EX 2020/10/01, 无需显式调用 expl3 和 xparse 宏包。15

新增 style/equation-font 选项。46

新增 style/indent-first 选项。45

新增 style/keywords-format 选项。61

新增 style/num-sep, style/theorem-num-sep 选项。47

更新题注格式。47

标题页信息栏改用表格实现。56

添加 baselineskip 文档类选项, 替换原 lineskip 选项。17

v2.1.1(2024/03/21 – 2024/03/22)

General: 新增 style/theorem-header-font、style/theorem-body-font 选项。46

添加 thmtools 宏包支持。69

预定义的数学环境声明移至导言区末尾, 且不会覆盖重名的已定义环境。68

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

\,	2725, 2735, 3152
\.	2849
\\	48, 557, 2070, 2075, 2352, 2621, 3010, 3409
_	3215, 3217, 3221, 3223, 3227, 3229

A

abbreviation	12, 2775
abbreviation*	12, 2775
\abovedisplayshortskip	467, 478
\abovedisplayskip	466, 469, 477, 480
\abstract	2703
abstract	11, 2655
abstract*	11, 2655
achievements	12, 2804
acknowledgements	12, 2796
\addcontentsline	1754, 1755, 2916, 3188, 3189
\addnolimits	993
\AddToHook	3142
\algorithmcfname	3186
\appendix	12
\arabic	1878, 2812, 2843, 2915
\arraystretch	2350
\AssignTemplateKeys	397, 429
assumption	11
\AtBeginEnvironment	1797, 3037
\AtEndDocument	2909
\AtEndOfClass	1566
\author	8
\awint	997
axiom	11

B

\backmatter	12
baselineskip	5, 90
\begin	2336, 2875, 2890
\belowdisplayshortskip	468, 479
\belowdisplayskip	469, 480
\bfseries	1678, 1684, 1704, 1708, 1714, 1718, 1817, 1838, 1839, 2390, 2419, 2441, 2449, 2457, 2542, 2573, 2650, 2652, 2744
\bibfont	2807
\bibhang	2817, 2818
\bibitemsep	2827, 2829
bibliolist	12, 2804
bibliolist*	12, 2804
\bibparsep	2830, 2831
\bibsep	2834, 2836
\bm	985
\boldsymbol	987

bool commands:

\bool_gset_false:N	93, 110, 111, 112, 126, 130, 136, 142, 149, 159, 166
\bool_gset_true:N	96, 116, 117, 118, 124, 132, 138, 144, 151, 157, 164
\bool_if:NTF	180, 188, 190, 198, 207, 209, 211, 213, 236, 430, 432, 458, 514, 630, 660, 787, 811, 864, 891, 989, 992, 1614, 1635, 1655, 2025, 2308, 2626, 2633, 2702, 2798, 2867, 2872, 2882, 2887, 2899, 2912
\bool_lazy_or:nnTF	268
\bool_new:N	3, 17, 22, 23, 24, 26, 30, 33, 36, 39, 2858
\bool_set_false:N	32, 35, 38, 2304
\bool_set_true:N	31, 34, 37, 2312, 2863
\bottomfraction	1823

box commands:

\box_new:N	7
\box_wd:N	316, 322

C

\captionsetup	1846, 1852, 1863
\ccwd	1777, 1778, 3091
\centering	391, 1679, 1684, 2226
\cftchapleader	2744
\cftdotfill	2744
\cftdotsep	2743, 2744
\cftthmnumwidth	3121, 3123
\chapter	1759, 2778, 2788
\chaptername	1441
char commands:	
\char_set_sfcode:nn	2849
\checkmark	817, 3405
\cirfnint	997
cjk-font	5, 101
\CJKfamily	1405, 1406, 1407, 1408, 1409, 1410, 1414, 1415, 1416
\CJKfontspec	1929
\CJKglue	2322
\CJKrmdefault	1021, 1022, 1023, 1063, 1065, 1066, 1143, 1144, 1145, 1224, 1225, 1226, 1281, 1282, 1283, 1376, 1377, 1378, 1414, 2179, 2204
\CJKrmfamily	1413
\CJKsfdefault	1064, 1415, 2180, 2205
\CJKsffamily	1413, 1679, 1684, 1705, 1708, 1715, 1718, 1817
\CJKsymbol	2305, 2306
\CJKttdefault	1416, 2181, 2206
\CJKttfamily	1413
\cleardoublepage	431, 1652, 1665, 2634, 2913
\clearpage	431, 444, 1654, 2634, 2913
clist commands:	
\clist_clear:N	2032, 2339
\clist_const:Nn	507, 3247, 3254
\clist_gput_right:Nn	67

`\clist_if_empty:N`NTF 2663, 2685, 2706
`\clist_if_in:Nn`TF 66, 368
`\clist_item:Nn` 2129, 2137, 2146, 2153
`\clist_item:nn` 361
`\clist_map_inline:Nn` 240, 440, 509,
516, 1547, 2027, 2244, 2255, 2273, 2527, 2772, 2917, 3136
`\clist_map_inline:nn` 522, 562, 581, 1549, 1735,
1790, 1798, 1981, 1988, 2029, 2340, 2372, 2437, 2521,
2537, 2746, 3040, 3055, 3237, 3284, 3313, 3334, 3355, 3418
`\clist_new:N` 4, 25, 29, 1990, 2045
`\clist_put_right:Nn` ... 193, 202, 2342, 2525, 3162, 3167
`\clist_set:Nn` 10, 27, 186, 221, 1896, 2022, 2757
`\clist_use:Nn`
. 260, 262, 2227, 2228, 2229, 2230, 2352, 2671, 2693, 2714
`\clubpenalty` 2846, 2847
`conjecture` 11
`\contentsline` 3134
`\contentsname` 2722, 2723
`\copyrightpage` 10, 2624
`corollary` 11
`\counterwithout` 2919
cs commands:
`\cs:w` 1886, 2344, 2346
`\cs_end:` 1886, 2344, 2346
`\cs_generate_variant:Nn`
. . 260, 261, 262, 264, 324, 325, 328, 362, 1591, 1767, 2366
`\cs_gset:Nn` 2915
`\cs_gset:Npn` 260
`\cs_gset:Npo` 260, 1885
`\cs_gset_eq:NN` 2916, 3007
`\cs_gset_protected:Npn` 3000
`\cs_if_exist:NTF`
. 173, 327, 2631, 3046, 3058, 3064, 3073, 3109
`\cs_if_exist_use:N` 2807
`\cs_new:Nn` 1592, 1918, 1941, 1943, 2177, 2202
`\cs_new:Npn` 292, 299, 313, 319, 326, 446,
448, 1765, 1902, 1979, 2088, 2094, 2096, 2101, 2105,
2127, 2133, 2135, 2140, 2144, 2149, 2151, 2156, 2160,
2166, 2168, 2173, 2217, 2218, 2219, 2220, 2337, 2356, 2762
`\cs_new:Npx` 266, 274, 284, 494
`\cs_new_eq:NN` 493, 1651, 1769, 1770, 3066
`\cs_new_protected:Nn`
. 500, 505, 520, 560, 2183, 2192, 2193, 2208, 3038
`\cs_new_protected:Npn` ... 40, 42, 301, 306, 330, 335,
340, 349, 355, 357, 360, 364, 367, 451, 489, 541, 2532, 3157
`\cs_set:Nn` 1587, 2650, 2652
`\cs_set:Npn` . 1626, 1758, 1970, 2223, 2306, 2322, 2725,
2735, 2842, 2843, 2852, 2874, 2889, 3124, 3126, 3134, 3152
`\cs_set_eq:NN` 327, 387, 389, 391,
393, 511, 512, 517, 1585, 1757, 1761, 1899, 1900, 1901,
1950, 1951, 1952, 1956, 1957, 1958, 1969, 1973, 2233,
2305, 3010, 3011, 3012, 3013, 3074, 3125, 3163, 3177, 3180
`\cs_set_protected:Npn` 452
`\cs_undefine:N` 502, 3067
`\csname` 3147, 3148

ctex commands:

`\ctex_after_end_preamble:n` 3015
`\ctex_appto_cmd:Nnn`TF 308
`\ctex_at_begin_package:nn` 3062, 3176
`\ctex_at_end_package:nn` 983,
2985, 3034, 3036, 3070, 3116, 3169, 3178, 3191, 3193, 3198
`\ctex_at_end_preamble:n` . 1002, 1968, 2023, 2770, 3093
`\ctex_file_input:n` 551, 1012, 1013,
1052, 1053, 1132, 1133, 1213, 1214, 1270, 1271, 1367, 1368
`\ctex_if_autoindent_touched:TF` 1773
`\ctex_if_platform_macos:TF` 536
`\ctex_load_zhmap:nnnn` 1019, 1061, 1141, 1222, 1279, 1374
`\ctex_patch_cmd:Nnn`
. 1777, 1778, 1779, 1801, 1808, 1831, 3187
`\ctex_patch_failure:N` 304, 309
`\ctex_preto_cmd:Nnn`TF 303
`\ctex_punct_map_bfseries:nn`
. 1022, 1065, 1144, 1225, 1282, 1377
`\ctex_punct_map_family:nn`
. 1021, 1063, 1064, 1143, 1224, 1281, 1376
`\ctex_punct_map_itshape:nn`
. 1023, 1066, 1145, 1226, 1283, 1378
`\ctex_punct_set:n` .. 1020, 1062, 1142, 1223, 1280, 1375
`\ctex_set:n` 1728, 1774, 1775, 1776, 2186, 2197, 2211
`\ctex_set:nn` 1671, 1699, 1709, 1719, 1742

D

`\d` 2252, 2270
`\date` 8
`\DeclareCaptionFont` 1836, 1841
`\DeclareCaptionOption` 1858
`\DeclareDocumentCommand` . 985, 987, 2719, 2739, 2741, 3164
`\DeclareDocumentEnvironment` 2656, 2678
`\DeclareEncodingSubset` 618
`\DeclareInstance` 447, 449
`\DeclareLanguage` 3195
`\DeclareLanguageAlias` 3196
`\DeclareMathAlphabet` 858, 859
`\DeclareMathSymbol` 503
`\DeclareObjectType` 371
`\DeclareSizeFunction` 578
`\DeclareSymbolFont` 862
`\DeclareTemplateCode` 379, 417
`\DeclareTemplateInterface` 372, 406
`\DeclareTextSymbolDefault` 620
`\DeclareTranslation` ... 3201, 3202, 3203, 3205, 3209, 3210
`definition` 11
`digest` 12, 2905

dim commands:

`\dim_add:Nn` 2825
`\dim_gset:Nn` 77, 83, 97
`\dim_new:N` 5, 15, 16
`\dim_set:Nn` 316, 2819, 2820
`\dim_set_eq:NN` 342, 347, 2818, 2824
`\dim_to_decimal:n` 455, 456
`\dim_zero:N` 3079

\c_zero_dim . 343, 2323, 2331, 2386, 2445, 2453, 2567, 2600
 document 10
 draft 4, 161

E

\else 3215, 3217, 3221, 3223, 3227, 3229
 \encodingdefault 617, 695, 699, 707, 716, 763, 797, 871
 \end 2336, 2877, 2892
 \endabstract 2704
 \endcsname 3147, 3148
 \endlist 2854
 \endminipage 2231
 \endtabular 2353
 \endtrivlist 3088
 \enskip 3084, 3106, 3184
 \ensuremath 3075, 3107, 3108, 3405
 example 11
 exercise 11

exp commands:

\exp_after:wN 463, 474
 \exp_args:Nc 3164
 \exp_args:Ne 3160, 3161
 \exp_args:NNnv 260, 3059
 \exp_args:NNv 2683
 \exp_args:Nnv 3049, 3053, 3159
 \exp_args:No 216, 434, 803
 \exp_args:Nv 2661, 2736
 \exp_args_generate:n 263
 \exp_last_unbraced:ce 260, 2258, 2264, 2276, 2282
 \exp_last_unbraced:Ne 264
 \exp_not:N
 294, 1786, 1787, 2070, 2075, 2108, 2401, 2403, 2467, 2924
 \exp_not:n
 2065, 2066, 2067, 2071, 2072, 2076, 2077, 2080,
 2081, 2082, 2090, 2091, 2092, 2098, 2099, 2162, 2163,
 2164, 2170, 2171, 2344, 2346, 2402, 2464, 2465, 2466, 2925
 \expandafter 3147

F

\fancyfoot 1624
 \fancyfootinit 1580
 \fancyhead 1616, 1617, 1618, 1621, 1622, 1639, 1646
 \fancyheadinit 1579
 \fancyhf 1569
 \fancypagestyle 1637, 1644
 \fangsong 1407
 \fi 3150, 3215, 3217, 3221, 3223, 3227, 3229
 \figurename 1860, 2759

file commands:

\file_if_exist:nTF 545
 \file_input:n 1548, 1553, 2245, 2246, 2247
 final 4, 161
 \fint 997
 \floatpagefraction 1824
 \fontsize 488
 \footnote 11
 \footnotesize 3035

fp commands:

\fp_if_nan:nTF 182, 205
 \fp_new:N 18
 \fp_set:Nn 183
 \fp_use:N 206
 \c_nan_fp 88
 \frontmatter 11, 1662

G

\geometry 1554
 \GetTranslation 3216, 3222, 3228
 \gothic 1410

group commands:

\group_begin: 398, 438, 1972, 2349, 2724, 2734, 3129
 \group_end: 403, 442, 1975, 2354, 2727, 2737, 3154

H

hbox commands:

\hbox:n 1658, 1918, 2565, 2598
 \hbox_set:Nn 315, 321
 \hbox_to_wd:nn 2315, 2324, 2332
 \headrule 1625
 \headrulewidth 1640, 1647
 \headwidth 1628, 1630
 \heiti 1406, 2396, 2542, 2573
 \hfil 2309
 \hfill 2596, 2811
 \hrule 343, 1628, 1630
 \hspace 3013, 3400, 3403, 3405, 3410, 3411, 3412
 \hypersetup 2987, 3017

I

\IfBooleanF 1883
 \IfBooleanTF 1750, 2721, 2731, 3131
 \ifmmode 3215, 3217, 3221, 3223, 3227, 3229
 \IfPackageAtLeastTF 3207
 \ignorespaces 3086
 \iiiint 995
 \iiint 995
 \iint 995
 \immediate 3148
 \includegraphics 1607, 2378
 \includepdf 2631, 2636
 info 7
 info/<lang>/assoc-supervisor 7
 info/<lang>/author 7
 info/<lang>/co-supervisor 7
 info/<lang>/degree 7
 info/<lang>/department 7
 info/<lang>/display-date 8
 info/<lang>/display-title 7
 info/<lang>/fund 8
 info/<lang>/keywords 7
 info/<lang>/major 7
 info/<lang>/subject 7
 info/<lang>/supervisor 7
 info/<lang>/title 7

info/date	8, <u>2248</u>	\language	2185, 2195, 2196, 2210, 2238, 2239, 2240, 2241
info/id	7	\Large	1684
\int	995	\large	1708
int commands:		\leftmargin	2818, 2819, 2820, 2824, 2825
\int_case:nn	460	\leftmark	1611, 1613
\int_case:nnTF	2110, 2117	lemma	11
\int_compare:nNnTF	1904, 1907, 1910, 2411	\let	470, 481
\int_div_truncate:nn	295	\linespread	1786, 2431, 2491, 2500, 2509, 2611
\int_eval:n	1905, 1908, 1911	linespread	5, <u>87</u>
\int_gincr:N	3003	\list	2808
\int_gset:Nn	76, 82	\listalgorithmcfname	3186
\int_gset_eq:NN	56	\listalgorithmname	3172, 3174
\int_if_odd:nTF	1657	\listfigurename	2740
\int_mod:nn	296, 2110, 2117	\listofalgorithms	11
\int_new:N	8, 14, 2999	\listofalgorithms*	11
\int_set:Nn	2846, 2848	\listoffigures	11, <u>2729</u>
\int_set_eq:NN	2847	\listoffigures*	11, <u>2729</u>
\int_to_arabic:n		\listoftables	11, <u>2729</u>
....	2090, 2091, 2092, 2098, 2099, 2107, 2131, 2138,	\listoftables*	11, <u>2729</u>
	2147, 2154, 2162, 2163, 2164, 2170, 2171, 2291, 2292, 2293	\listoftheorems	3127
\int_use:N	3005	\listtablename	2742
\intBar	997	\listtheoremname	3132, 3133
\intbar	997	\LoadClass	242, 243, 244
\intcap	999	\lowint	999
\intclockwise	996	\ltjdefcharrange	1423
\intcup	999	\ltjsetparameter	1425, 2331
integral	6, <u>127</u>		
integral-limits	6, <u>133</u>		
\intlarkhk	998		
\intx	998		
\item	3081		
\itemindent	2820		
\itemsep	2829, 2836		
J			
\jobname	3148		
K			
\kaishu	1408		
keys commands:			
\l_keys_choice_int	56		
\l_keys_choice_tl	64		
\keys_define:nn			
.....	49, 1428, 1570, 1581, 1593, 1729, 1783, 1814,		
	1825, 1833, 1864, 1919, 1945, 1991, 1993, 1995, 2020,		
	2046, 2057, 2058, 2059, 2060, 2248, 2646, 2934, 2941, 2970		
\l_keys_key_tl	48, 172		
\keys_set:nn ..	45, 990, 991, 1963, 2933, 2981, 2983, 3211		
\keys_set_known:nn	1468, 1493, 1520, 1695		
\keywords	8, <u>2979</u>		
L			
l internal commands:			
\l_sjtu_component_align:	387, 389, 391, 393, 399		
\labelsep	2825, 3083		
\labelwidth	2823, 2824		
lang	4, 59		
M			
\mainmatter	11		
\makebox	2725, 2735, 3152		
\maketitle	10, <u>2517</u>		
\MakeUppercase	1762, 2450, 2451, 2924		
math-font	5, <u>101</u>		
math-style	5, <u>106</u>		
\mathbf	779, 783		
\mathit	781, 785		
\mathord	863		
\mathsf	780, 784, 858, 860		
\mathtt	782, 786, 859, 861		
\mincho	1409		
\minipage	2225		
mode commands:			
\mode_leave_vertical:	2303, 2321, 2330, 2665, 2687, 2708		
msg commands:			
\msg_error:nn	169		
\msg_error:nnn	2676, 2698, 2930		
\msg_error:nnnn	490, 2869, 2884		
\msg_new:nnn	47, 171, 369, 491, 555, 1916, 2619, 2856, 2895		
\msg_warning:nn	1912, 2639		
\msg_warning:nnn	41, 2853		
\msg_warning:nnnn	548		
N			
name	10		
name/abbr	10		
name/abstract	10		
name/achv	10		

[illegible]

S

scan commands:

`\scan_stop:` 299
`\scpolint` 998
`\section` 1760
`\selectfont` 488
`\SetAlgoCaptionSeparator` 3184
`\SetAlgorithmName` 3181
`\setbaselineskip` 11, 487, 1573, 1576, 1678, 1704,
 1714, 1724, 1828, 1837, 1842, 2384, 2390, 2396, 2419,
 2441, 2449, 2457, 2475, 2541, 2554, 2561, 2572, 2585, 2592
`\setCJKfamilyfont`
 1038, 1039, 1041, 1043, 1044, 1045, 1097, 1102,
 1108, 1115, 1120, 1121, 1183, 1188, 1194, 1200, 1205,
 1206, 1248, 1253, 1259, 1261, 1262, 1263, 1325, 1331,
 1338, 1345, 1351, 1356, 1393, 1394, 1396, 1398, 1399, 1400
`\setCJKmainfont` 1029, 1035,
 1071, 1086, 1150, 1168, 1231, 1237, 1288, 1308, 1384, 1390
`\setCJKmonofont` 1032, 1037,
 1083, 1096, 1161, 1178, 1234, 1247, 1301, 1320, 1387, 1392
`\setCJKsansfont` 1031, 1036,
 1078, 1091, 1156, 1173, 1233, 1242, 1295, 1314, 1386, 1391
`\setcounter` 2862, 2920, 3120, 3161
`\setlist` 1782
`\setlisttheoremstyle` 3130
`\setmainfont` 643, 683, 722, 820, 878, 904, 975
`\SetMathAlphabet` 779, 780, 781, 782, 783, 784, 785, 786, 860, 861
`\setmathfont` 632,
 635, 636, 662, 670, 676, 812, 814, 817, 893, 896, 897, 969
`\setmathrm` 642, 682, 819, 903, 970
`\setmathsf` 735, 833, 927, 971
`\setmathtt` 746, 946, 972
`\setmonofont` 747, 880, 947, 977
`\setsansfont` 736, 834, 879, 928, 976
`\SetSymbolFont` 771, 772, 773, 774, 775, 776, 777, 778
`\sfdefault` 623, 697, 703, 709, 765, 799, 874
`\sffamily` 1574

sjtu internal commands:

`\l_sjtu_achievements_bool` 2858, 2863, 2867, 2882
`_sjtu_appto_cmd:Nn` 300, 306, 2703
`\c_sjtu_auth_decl_text_zh_tl` 2586, 3386
`\g_sjtu_baseline_skip_dim` 13, 97, 456
`\g_sjtu_bookmark_int` 2999, 3003, 3005
`\l_sjtu_cft_presnum_clist` 2757, 3162
`\g_sjtu_cjk_font_tl` 19, 104, 531, 534, 537, 538
`\l_sjtu_component_bottom_skip` 383, 404
`\l_sjtu_component_content_tl` 382, 401
`\l_sjtu_component_format_tl` 381, 400
`\l_sjtu_counter_without_chapter_clist`
 1895, 2917, 3167
`_sjtu_cs_provide_eq:NN` 326, 326, 328, 527, 3072, 3103
`_sjtu_date_aux_de:nnn` 2143, 2144, 2150
`_sjtu_date_aux_de:w` 2143, 2149
`_sjtu_date_aux_en:nnn` 2127, 2127, 2134
`_sjtu_date_aux_en:w` 2127, 2133
`_sjtu_date_aux_ja:nnn` 2159, 2160, 2167

`_sjtu_date_aux_ja:w` 2159, 2166
`_sjtu_date_aux_short_de:nn` 2143, 2151, 2157
`_sjtu_date_aux_short_de:w` 2143, 2156
`_sjtu_date_aux_short_en:nn` 2127, 2135, 2141
`_sjtu_date_aux_short_en:w` 2127, 2140
`_sjtu_date_aux_short_ja:nn` 2159, 2168, 2174
`_sjtu_date_aux_short_ja:w` 2159, 2173
`_sjtu_date_aux_short_zh:nn` 2087, 2096, 2102
`_sjtu_date_aux_short_zh:w` 2087, 2101
`_sjtu_date_aux_zh:nnn` 2087, 2088, 2095
`_sjtu_date_aux_zh:w` 2087, 2094
`_sjtu_declare_component:nnn`
 446, 2424, 2483, 2484, 2485, 2605
`_sjtu_declare_math_symbol:nnNn` . 500, 500, 613, 863
`_sjtu_declare_page:nn` 448, 2426, 2488, 2497, 2506, 2607
`_sjtu_define_name:nn`
 355, 355, 362, 1551, 3310, 3331, 3352, 3374, 3481
`_sjtu_define_name:nnn`
 355, 357, 3243, 3244, 3309, 3330, 3351, 3373
`_sjtu_define_name_from_clist:nnnn`
 355, 360, 3263, 3268, 3273, 3278
`_sjtu_define_symbol:nn` 364, 364, 3262
`_sjtu_deprecated_option:n` 40, 40, 44
`_sjtu_dim_set_to_wd:Nn` 312, 313, 324, 2823
`\g_sjtu_draft_bool` 39, 164, 166, 213
`_sjtu_engine_case:nn` .. 266, 266, 290, 493, 496, 1924
`_sjtu_engine_case:nnn` 274, 274, 2299
`\g_sjtu_fixed_baselineskip_bool` 13, 93, 96, 180, 458
`\g_sjtu_font_size_dim` 13, 77, 83, 455
`\g_sjtu_font_size_int` 13, 76, 82, 460
`\l_sjtu_font_size_tl` 453, 463, 474
`_sjtu_fontset_case:nn` .. 493, 493, 575, 654, 714,
 761, 794, 869, 885, 963, 1016, 1057, 1137, 1218, 1275, 1371
`_sjtu_fontset_case:nnn` 494, 494, 1056, 1136, 1217, 1274
`_sjtu_fontset_error:nn` 489, 489, 655,
 656, 886, 887, 964, 965, 1026, 1058, 1138, 1219, 1276, 1381
`_sjtu_footnote_number:N` 1902, 1902, 1942, 1944
`_sjtu_head_aux_s:nn` 1747, 1765, 1767, 2922
`\l_sjtu_header_tl` 1598, 1616, 1621
`_sjtu_if_lang_valid:nTF` . 366, 367, 2658, 2680, 2907
`\l_sjtu_info_author_zh_tl` 3021
`\l_sjtu_info_date_zh_tl` 2420
`\l_sjtu_info_display_title_de_tl` 2451
`\l_sjtu_info_display_title_en_tl` 2450
`\l_sjtu_info_display_title_ja_tl` 2452
`\l_sjtu_info_display_title_zh_tl` 2391
`\l_sjtu_info_fund_de_clist` 2229
`\l_sjtu_info_fund_en_clist` 2228
`\l_sjtu_info_fund_ja_clist` 2230
`\l_sjtu_info_fund_zh_clist` 2227
`\l_sjtu_info_id_zh_tl` 2019, 2034
`_sjtu_info_keys_define:n`
 1978, 1979, 2039, 2040, 2041, 2042
`\l_sjtu_info_keywords_clist` .. 2043, 2706, 2714, 3029
`\l_sjtu_info_keywords_zh_clist` 3023
`\l_sjtu_info_subject_de_tl` 2443

\l_sjtu_info_subject_en_tl	2442	_sjtu_newlistof:nnnn	3157, 3173, 3185
\l_sjtu_info_subject_ja_tl	2444	_sjtu_nouppercase:n	
\l_sjtu_info_subject_tl	1612, 2043, 3028	.....	1581, 1585, 1587, 1591, 1617, 1618, 1622
\l_sjtu_info_subject_zh_tl	1603, 2385, 3022	\g_sjtu_openright_bool	33, 149, 151, 209, 430, 2633, 2912
\l_sjtu_info_supervisors_clist	2022, 2408, 2469, 2525	\g_sjtu_options_to_ctex_class_clist ..	27, 202, 217
\l_sjtu_info_title_zh_tl	3020	\g_sjtu_options_to_packages_clist	29, 221, 240
\g_sjtu_integral_limits_bool		_sjtu_ordinal_en:n	2104, 2105, 2130
.....	24, 112, 118, 136, 138, 198, 236, 992	_sjtu_orig_ctex_gettitle:n	1757, 1758, 1761
_sjtu_keywords_format:n	2650, 2652, 2666, 2688, 2709	\c_sjtu_orig_decl_text_zh_tl	2555, 3378
\g_sjtu_lang_clist		_sjtu_orig_make_fntext:n	1969, 1974
.....	9, 66, 67, 368, 1547, 2027, 2244, 2255, 2273, 2527	_sjtu_page:n	1592, 1595, 1624
\c_sjtu_lang_de_tl	9, 196	\l_sjtu_page_bookmark_bool	419, 432
\c_sjtu_lang_ja_tl	9, 1011, 1051, 1131, 1212, 1269, 1366	\l_sjtu_page_bookmark_text_tl	420, 433
\g_sjtu_lang_tl	9, 64, 196, 1011, 1051, 1131,	\l_sjtu_page_bottom_skip	426, 443
	1212, 1269, 1366, 1551, 1553, 2246, 2247, 2265, 2283, 2296	\l_sjtu_page_components_clist	424, 440
\l_sjtu_leftmark_tl	1611, 1612, 1617	\l_sjtu_page_format_tl	422, 439
\g_sjtu_line_spread_fp	13, 87, 182, 183, 205, 206	\l_sjtu_page_prefix_tl	423, 441
_sjtu_load_font:nn	541, 541, 568, 570	\l_sjtu_page_style_tl	421, 434
_sjtu_load_fontset:	541, 560, 571, 1427	\l_sjtu_page_top_skip	425, 435
_sjtu_makefnmark:	1950, 1956, 1973	_sjtu_pdf_bookmark:nn	433, 1747, 1751, 1769, 2635, 3000
_sjtu_makefnmark_circled:	1918, 1918, 1956	_sjtu_phantom_section:	1747, 1753, 1770, 3007
_sjtu_makefnmark_plain:	1899, 1899, 1950	_sjtu_preto_cmd:Nn	300, 301, 2704
\g_sjtu_math_font_options_clist ..	25, 186, 200, 804	\g_sjtu_review_bool	
\g_sjtu_math_font_tl	19, 103, 529, 530	.....	26, 167, 2025, 2626, 2798, 2872, 2887, 2899
\c_sjtu_name_auth_decl_zh_tl	2579	\l_sjtu_rightmark_tl	1613, 1618, 1622
\c_sjtu_name_day_ja_tl	2164	_sjtu_save_chapter:w	3177, 3180
\c_sjtu_name_day_zh_tl	2092	\l_sjtu_save_encodingdefault_tl	695, 707
\c_sjtu_name_decl_author_zh_tl	2564, 2595	_sjtu_save_openbox:	3066, 3073, 3074
\c_sjtu_name_decl_supervisor_zh_tl	2597	\l_sjtu_save_rmdefault_tl	696, 708, 854, 856
\c_sjtu_name_declaration_tl	2610, 2635	\l_sjtu_save_sfdefault_tl	697, 709
\c_sjtu_name_degree_level_de_tl	2077	\l_sjtu_save_ttdefault_tl	698, 710
\c_sjtu_name_degree_level_en_tl	2072	_sjtu_set_cjk_default_ja:	2176, 2202, 2212
\c_sjtu_name_degree_level_ja_tl	2081	_sjtu_set_cjk_default_zh: ...	1602, 2176, 2177, 2187
\c_sjtu_name_degree_level_zh_tl	2066	_sjtu_set_deprecated_option:n	40, 42, 105
\c_sjtu_name_info_sep_de_tl	2465	_sjtu_set_font_size:nnNn	451, 451, 463, 474
\c_sjtu_name_info_sep_en_tl	2464	_sjtu_set_language_de:	2176, 2193, 2500
\c_sjtu_name_info_sep_ja_tl	2466	_sjtu_set_language_en:	2176, 2192, 2491
\c_sjtu_name_info_sep_tl	2712	_sjtu_set_language_ja:	2176, 2208, 2509
\c_sjtu_name_info_sep_zh_tl	2402	_sjtu_set_language_zh:	2176, 2183, 2431, 2611
\c_sjtu_name_item_sep_tl	2714	_sjtu_set_slanted_greek:	505, 505, 614, 789
\c_sjtu_name_keywords_tl	2711	_sjtu_set_unimath_symbol: ...	520, 520, 711, 790, 866
\c_sjtu_name_month_de_clist	2146, 2153, 3254	_sjtu_signature:N	2532, 2564, 2595, 2597
\c_sjtu_name_month_en_clist	2129, 2137, 3247	\c_sjtu_signature_text_zh_tl	2535, 3407
\c_sjtu_name_month_ja_tl	2163, 2171	_sjtu_skip_add_to_wd:Nn	312, 319, 325, 2768
\c_sjtu_name_month_zh_tl	2091, 2099	\g_sjtu_slanted_uppercase_greek_bool	
\c_sjtu_name_orig_decl_zh_tl	2548	.....	22, 110, 116, 124, 126, 188, 514, 989
\c_sjtu_name_thesis_ja_tl	2082	\l_sjtu_style_fnmark_font_tl	
\c_sjtu_name_thesis_zh_tl	2067, 2547, 2578	.....	1925, 1927, 1938, 1942, 1944
\c_sjtu_name_title_page_tl	2429	\l_sjtu_style_footer_font_tl	1575, 1580
\c_sjtu_name_univ_de_tl	2076	\l_sjtu_style_header_font_tl	1572, 1579
\c_sjtu_name_univ_en_tl	2071	\c_sjtu_symbol_white_square_tl	
\c_sjtu_name_univ_ja_tl	2080	.....	3393, 3394, 3395, 3396, 3397, 3399, 3402
\c_sjtu_name_univ_zh_tl	2065, 2545, 2576	\g_sjtu_text_font_tl	19, 101, 530
\c_sjtu_name_year_ja_tl	2162, 2170	_sjtu_thefootnote_circled:	1941, 1941, 1957
\c_sjtu_name_year_zh_tl	2090, 2098	_sjtu_thefootnote_plain:	1899, 1900, 1951
_sjtu_new_theorems:	3038, 3098, 3112	_sjtu_thempfootnote_circled:	1941, 1943, 1958

_sjtu_thempfootnote_plain:	1899, 1901, 1952	style/fnmark-style	9, 1945
_sjtu_thepage:	1592, 1624, 2915	style/footer-font	9, 1570
_g_sjtu_thesis_type_int	8, 56, 2411, 3264, 3269, 3274, 3279	style/header-font	9, 1570
_sjtu_title_page_info_i:nnn	2337, 2337, 2366, 2399, 2460, 2461, 2462	style/header-uppercase	9, 1581
_sjtu_title_page_info_ii:n	2337, 2356, 2477, 2478, 2479	style/indent-first	8, 1729
_g_sjtu_titlepage_bool	36, 157, 159, 211, 2702	style/keywords-format	9, 2646
_l_sjtu_tmp_bool	2, 2304, 2308, 2312	style/num-sep	9, 1864
_l_sjtu_tmp_box	2, 315, 316, 321, 322	style/page-number	9, 1592
_l_sjtu_tmp_clist	2, 2339, 2342, 2352	style/subcaption-font	9, 1833
_l_sjtu_tmp_dim	2, 342, 347	style/theorem-body-font	9, 1814
_l_sjtu_tmp_skip	2, 337, 338, 351, 352	style/theorem-header-font	9, 1814
_g_sjtu_twoside_bool	30, 142, 144, 207, 1614, 1635, 1655	style/theorem-num-sep	9, 1864
_sjtu_unicode_char:n	290, 292, 299, 365, 1905, 1908, 1911	\subject	8, 2979
_sjtu_unicode_engine_case:nn	284, 284, 1417	\sumint	996
_sjtu_update_cft_presnum:nn	2757, 2762, 2773	\symsf	986, 988
_c_sjtu_uppercase_greek_clist	507, 509, 516	sys commands:	
_g_sjtu_upright_integral_bool	23, 111, 117, 130, 132, 190, 630, 660, 787, 811, 864, 891	\c_sys_day_int	2293
_sjtu_vspace:N	329, 330, 338, 404, 443	\sys_if_engine luatex:TF	279, 288
_sjtu_vspace:n	329, 335, 436, 437	\sys_if_engine luatex_p:	270
_sjtu_vspace_r:N	329, 340, 352, 435	\sys_if_engine pdftex:TF	272, 281
_sjtu_vspace_r:n	329, 349	\sys_if_engine xetex:TF	276, 286
_g_sjtu_zihao_tl	13, 75, 81, 204, 1787	\sys_if_engine xetex_p:	269
\sjtusetup	6, 2933	\sys_if_output_pdf:TF	497
skip commands:		\sys_if_platform_windows:TF	533
\skip_add:Nn	322	\c_sys_month_int	2292
\skip_horizontal:N	3083	\c_sys_year_int	2291
\skip_horizontal:n	2323, 2565, 2598		
\skip_if_exist:NTF	2817, 2827, 2830, 2834	T	
\skip_new:N	6	\tablename	1861, 2760
\skip_set:Nn	337, 351, 2755, 2766, 2767, 3121, 3123	\tableofcontents	11, 2719
\skip_set_eq:NN	2829, 2831, 2836	\tableofcontents*	11, 2719
\skip_vertical:N	332, 333, 345, 346, 2359, 2361, 2363, 2546, 2577	\tabular	2351
\skip_vertical:n	1629, 1631	TeX and L ^A T _E X 2 _ε commands:	
\skip_zero:N	2765, 2837	\@addpunct	3084
\c_zero_skip	333, 346, 376, 414, 415, 1688, 1689, 2359, 2361, 2363, 2546, 2577	\@addtoreset	1882
\sloppy	2845	\@author	2049, 3027
\songti	1405	\@biblabel	2812, 2823
\space	1696, 3215, 3217, 3221, 3223, 3227, 3229	\@chapter	3177, 3180
\sqint	998	\@classoptionslist	193
str commands:		\@clubpenalty	2847
\str_if_eq:nnTF	543	\@date	2050, 2262, 2280, 2297
\stretch	3410, 3411, 3412	\@endpfalse	3088
style	8	\@evenfoot	2233
style/caption-font	8, 1833	\@filesfalse	3141
style/equation-font	8, 1783	\@floatboxreset	1831
style/equation-num-sep	9, 1864	\@font@info	578
style/float-font	8, 1825	\@gobblethree	3189
style/float-num-sep	9, 1864	\@hangfrom	2652
style/fnmark-font	9, 1919	\@ifbothcounters	1880
		\@ifpackageloaded	1004, 3095, 3101
		\@ifundefined	3145
		\@listI	470, 481
		\@listctr	2841
		\@listi	470, 481
		\@mainmatterfalse	1666
		\@makefnmark	1899, 1973

\@makefntext	49, 1969, 1970	\ps@SJTU@fund@en	2218
\@minus	466, 468, 477, 479	\ps@SJTU@fund@ja	2220
\@mkboth	1762	\ps@SJTU@fund@zh	2217
\@nmbrlisttrue	2840	\ps@SJTU@null	1651
\@noitemerr	2852, 2874, 2889	\qhv@scale	622, 702
\@oddfoot	2223, 2233	\setbaselineskip	11
\@onlypreamble	570, 571	\SJTU@abbrname	1451, 2776, 2781
\@plus	466, 467, 468, 477, 478, 479	\SJTU@achvname	1461, 2859
\@setfontsize	452	\SJTU@ackname	1455, 2796
\@starttoc	2726, 2736, 3153	\SJTU@algorithmname	1446, 3171, 3181, 3182
\@thefnmark	1918	\SJTU@CJK@FTS@Symbol	2305, 2309, 2311
\@thmcountersep	1870, 1875	\SJTU@counterwithin	1877, 1891, 1892, 1893, 3166
\@title	2048, 3026	\SJTU@CT@D	2335, 2401
\algocf@latexcaption	3187	\SJTU@digestname	1459, 2922
\appendix	12	\SJTU@figurename@bi@second	1442, 1860
\author	8	\SJTU@head	1747, 2661, 2683, 2722, 2723, 2732, 2733, 2783, 2793, 2800, 2861, 2901, 3132, 3133
\backmatter	12	\SJTU@listalgorithmname	1448, 3172, 3183
\begin	10–12	\SJTU@listof	2729, 3165
\c@footnote	1942	\SJTU@nomname	1453, 2786, 2791, 3192
\c@mpfootnote	1944	\SJTU@resumename	1457, 2897
\c@page	1657	\SJTU@style@eq@num@sep	1869, 1874, 1893
\caption@iflist	3189	\SJTU@style@equation@font	1785, 1797, 1804, 1811
\chapter	3	\SJTU@style@fl@num@sep	1868, 1873, 1878
\collect@body	1802, 1805	\SJTU@style@float@font	1827, 1832, 2779, 2784, 2789, 2794, 3037
\copyrightpage	10	\SJTU@style@thm@body@font	1818, 3079, 3090, 3105
\CTEX@chapter@break	1749	\SJTU@style@thm@header@font	1816, 3084, 3091, 3104
\CTEX@getttitle	1757, 1758, 1761	\SJTU@tablename@bi@second	1444, 1861
\date	8	\sjtusetup	6
\define@key	3122	\spread@equation	1809, 1812
\end	10–12	\start@align	1799
\f@size	488	\start@gather	1799
\fname@algorithm	3171, 3174	\start@multline	1799
\footnote	11	\stix@lccg	613
\frontmatter	11	\sub@sfcnt	578
\gather@split	1808	\subject	8
\Hv@scale	857, 873	\tableofcontents	11
\if@filesw	3144	\tableofcontents*	11
\item	12	\theSJTU@bib	2843
\keywords	8	\thmt@allenvs	3136
\l@thm	3125	\thmt@envname	3125, 3138
\listofalgorithms	11	\thmtlo@chaptervspacehack	3126
\listofalgorithms*	11	\thmtlo@newentry	3124, 3139
\listoffigures	11	\title	8
\listoffigures*	11	\vspace	22
\listoftables	11	\vspace*	22, 24
\listoftables*	11	\z@	467, 478
\listoftheorems	69	tex commands:	
\mainmatter	11	\tex_baselineskip:D	437
\maketitle	10	\tex_parskip:D	436
\normalsize	24	\tex_Uchar:D	299
\openbox	68	\text	3216, 3222, 3228
\p@	466, 467, 468, 477, 478, 479	text-font	5, 101
\p@SJTU@bib	2842	\textasciitilde	3204, 3206
\pagestyle	42	\textbf	3393, 3394, 3399, 3402
\ps@empty	2222		
\ps@SJTU@fund@de	2219		

1837, 1839, 1842, 1844, 2226, 2384, 2390, 2396, 2419, zihao 5, 71
2441, 2449, 2457, 2475, 2541, 2554, 2561, 2572, 2585, 2592