利用LaTeX撰写学术论文入门讲座

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图书馆信息咨询部

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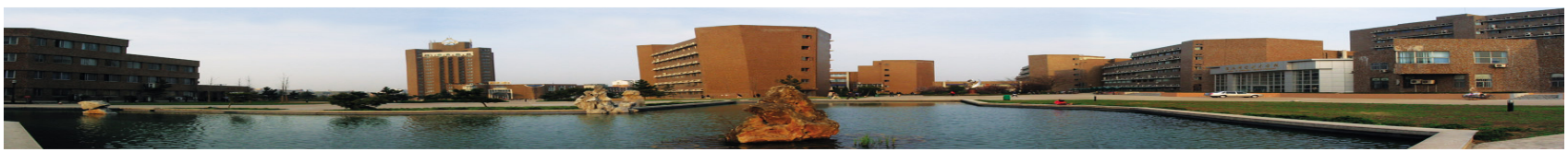


目录

1. 基础知识
   - TEX/LATEX及其扩展
   - TEX系统
   - 下载安装
2. 如何利用LATEX编辑论文
3. 使用模板
4. 总结

基础知识：TEX

- TEX由著名的计算机科学家Donald E. Knuth在1938年开发.
- TEX的读音类似“泰赫”.
- TEX不仅是一个**排版**程序, 也是一种**程序语言**, Plain TEX是它的基本格式, 最终进行排版操作的是TEX程序.
- TEX系统是公认的数学公式排版最好的系统.
- 大部分TEX系统是免费的.

基础知识：LaTeX

- LaTeX是计算机科学家Leslie Lamport于1984年开发的基于TeX的宏集.
- LaTeX扩展了TeX的功能,实现了内容与格式分离, 作者不需要自己设计命令和宏, 可以在短时间内生成高质量的文档.
- 对于生成复杂的数学公式, LaTeX表现的更为出色.
- 1994年LaTeX 2_ε完善之后, 现在已经成为广泛用于数学, 物理, 计算机等领域科技论文排版标准.

基础知识: $\mathcal{AMS}$TEX, $\mathcal{AMS}$LATEX

- $\mathcal{AMS}$TEX是美国数学学会提供的, 在Plain TEX基础上开发的TEX宏集.
- 排版数学公式等的功能通过amsmath宏包在 LATEX中实现.
- $\mathcal{AMS}$LATEX包括amsmath和amscls.
- amsmath宏包主要用于排版数学符号和公式.
- amscls提供了美国数学学会要求的论文和书籍格式.

基础知识: TEX系统

- **TEX Live**是由 TUG(TEXUserGroup) 发布的, 可以在 UNIX, Linux, MacOS 和 Windows 等不同的操作系统平台下安装使用, 相当稳定可靠, 并且支持中文编辑.

  (https://tug.org/texlive/)

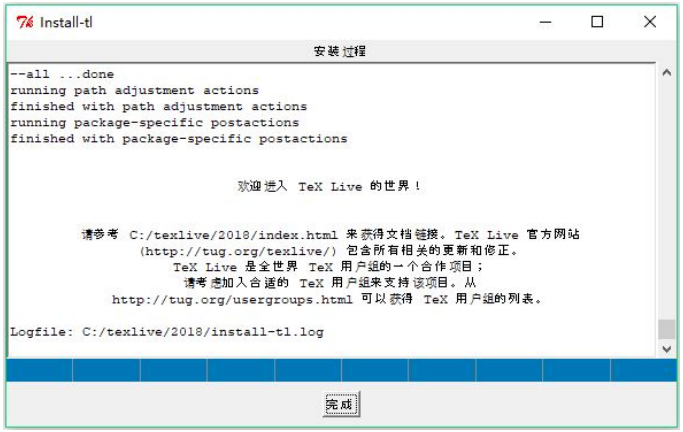
- **MiKTEX**适用于 Windows 操作系统. (https://miktex.org)

- **MacTEX**适用于 Mac OS 操作系统.

  (https://tug.org/mactex/)

TeX Live下载安装

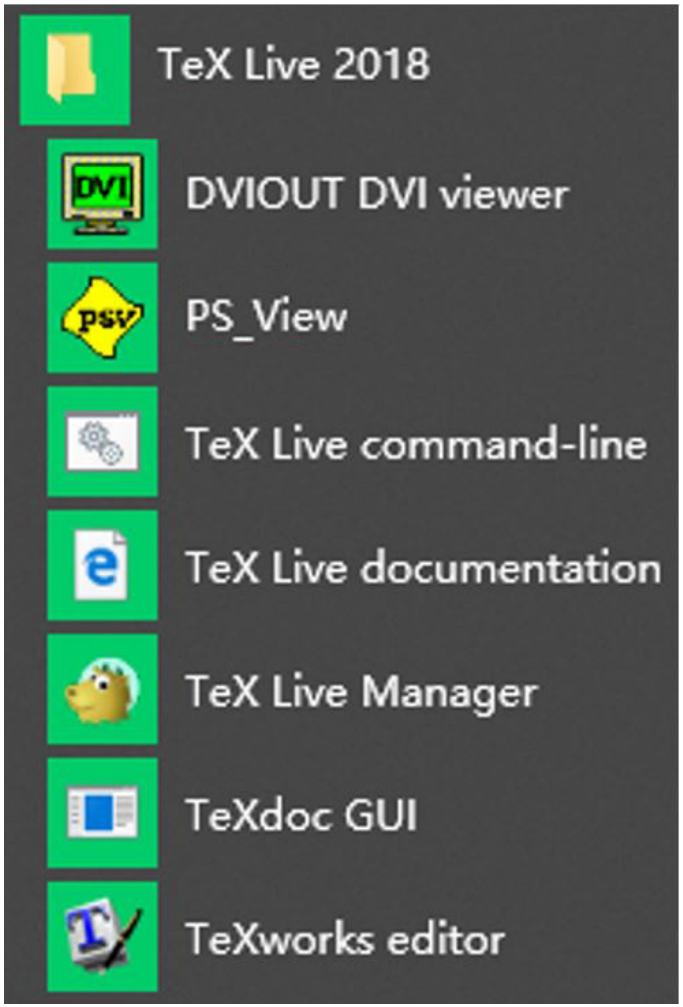


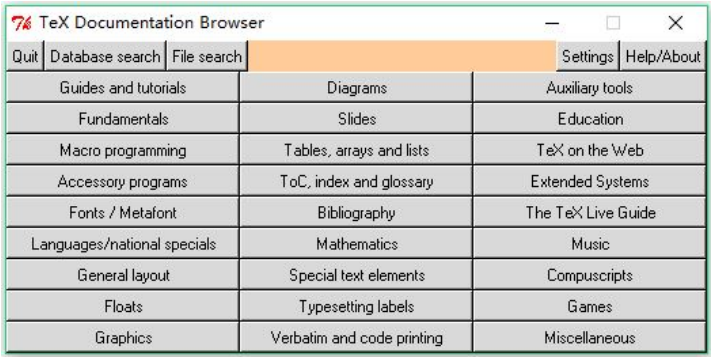


科大镜像下载地址:

http://mirrors.ustc.edu.cn/CTAN/systems/texlive/

TeX Live包含项目



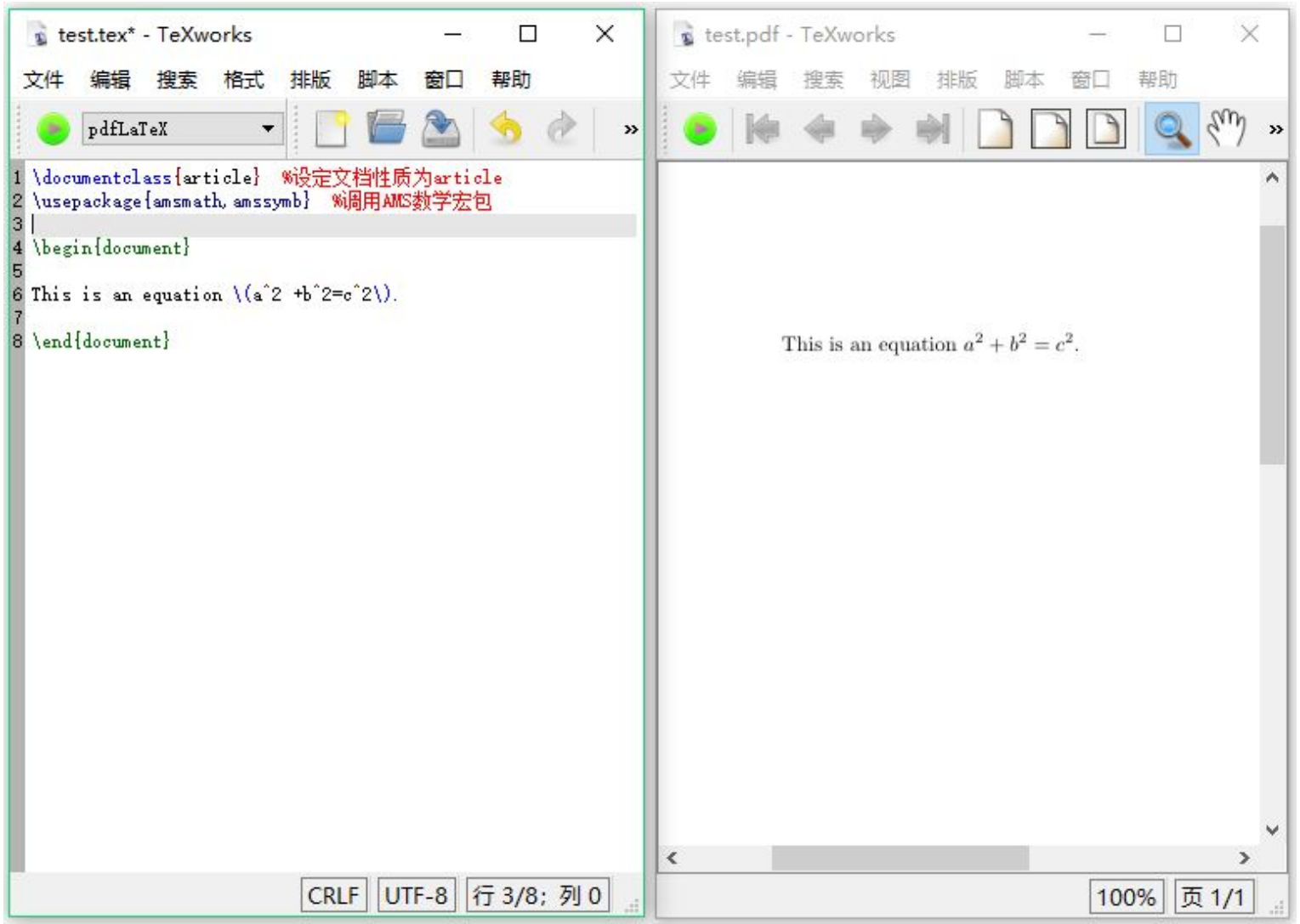




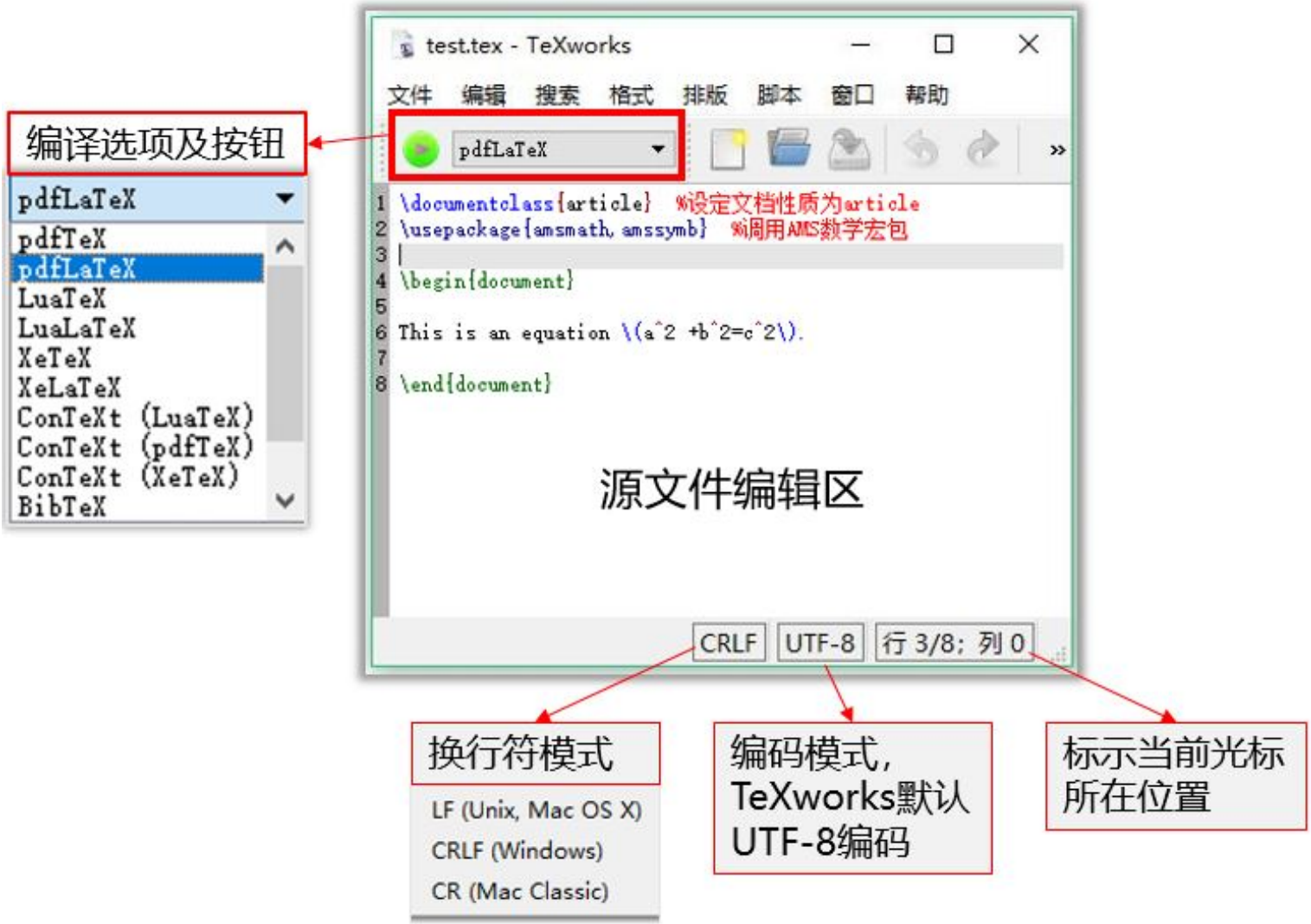
TEX编辑器

- TeXworks–TEX套装自带的编辑器, 界面简单清爽, 可跨平台使用
- TeXStudio–开源免费编辑器,界面集成度好
- TeXmaker–开源免费编辑器
- WinEdt–收费软件, CTEX套装自带编辑器
- 通用编辑器(需手动配置): Vim, Emacs, Sublime, Atom 等

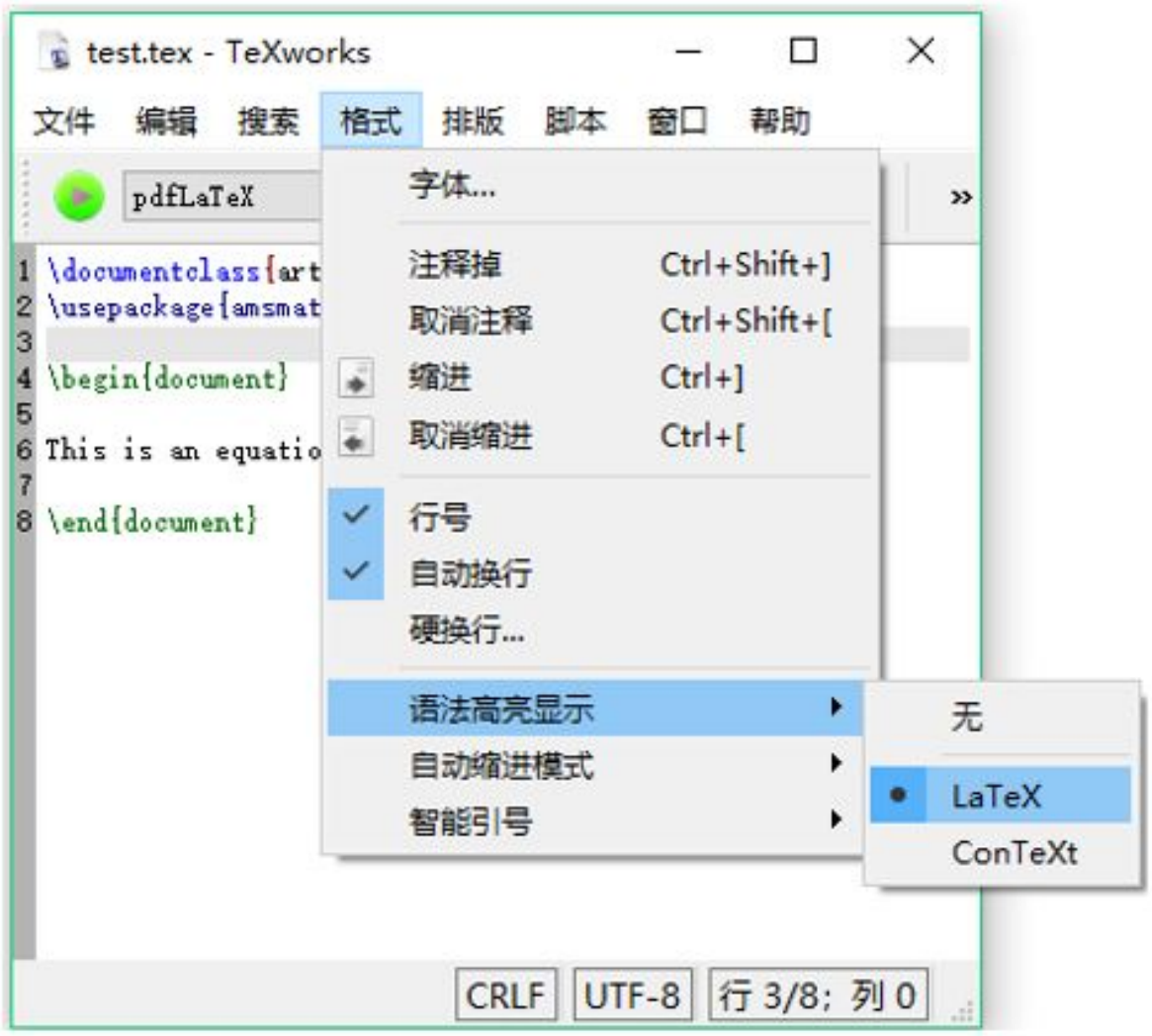
TeXworks编辑器



TeXworks编辑器



TeXworks编辑器



简单示例

This is an equation $a^2 + b^2 = c^2$.

简单示例

This is an equation $a^2 + b^2 = c^2$.

```
\documentclass{article}  %设定文档性质为article
\usepackage{amsmath, amssymb}  %调用AMS数学宏包




\begin{document}

This is an equation \(a^2 +b^2=c^2\).

\end{document}
```

导言区

- 设定文档的性质
- 调用宏包
- 或自定义一些命令

文章主体

- 填写文章内容

基本命令

1. 命令都以 \ 开头
2. \documentclass[ ]{ } 设置文档属性
3. \usepackage{ } 调用宏包
4. 文档内容放在 \begin{document} ...\end{document}之内
5. 一切内容皆在环境之中，有 \begin{ } 必有 \end{ },
   有 { 必有 }

基本命令

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5. 一切内容皆在环境之中，有 \begin{ } 必有 \end{ },
   有 { 必有 }

```
\begin{enumerate}
  \item 命令都以 {$\backslash$ 开头
  \item $\backslash$documentclass[ ]\{ \} 设置文档属性
  \item $\backslash$usepackage\{ \} 调用宏包
  \item 文档内容放在 $\backslash$begin\{document\} ...$\backslash$end\{document\}之内
  \item 一切内容皆在环境之中，有 $\backslash$begin\{ \} 必有 $\backslash$end\{ \}，有 \{ 必有 \}
\end{enumerate}
```

如何利用LaTeX编辑论文



学术论文的结构

标题内容:

- 标题
- 作者
- 单位
- 摘要

正文内容:

- 章节, 段落
- 数学公式
- 图表
- 参考文献

标题内容

```
标题        \title{This is Title}
作者        \author{San Zhang, Si Li}
通讯作者    \thanks{Corresponding author:li@ustc.edu.cn}
单位        \address{USTC, Hefei 230026, China.}
日期        \date{\today}

摘要        \begin{abstract}
             This is abstract. This is abstract.
            \end{abstract}
```

输出标题　　\maketitle

对于不同的文档类, 单位地址表达方式会有不同, 如 \address{ }, \institute{ }, \affiliation{ } 等

标题内容

This is Title

San Zhang, Si Li*
USTC, Hefei 230026, China.
(Dated: December 11, 2015)

This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract.

this is an equation $a^2 + b^2 = c^2$.

*Corresponding author:li@ustc.edu.cn

章节, 段落

部分	\part{ }	可选的最高层
章	\chapter{ }	文档类最高层
节	\section{ }	学术论文最高层,默认编号
小节	\subsection{ }	默认编号
小小节	\subsubsection{ }	默认编号, 不编目录
段	\paragraph{ }	默认不编号, 不编目录
小段	\subparagraph{ }	默认不编号, 不编目录

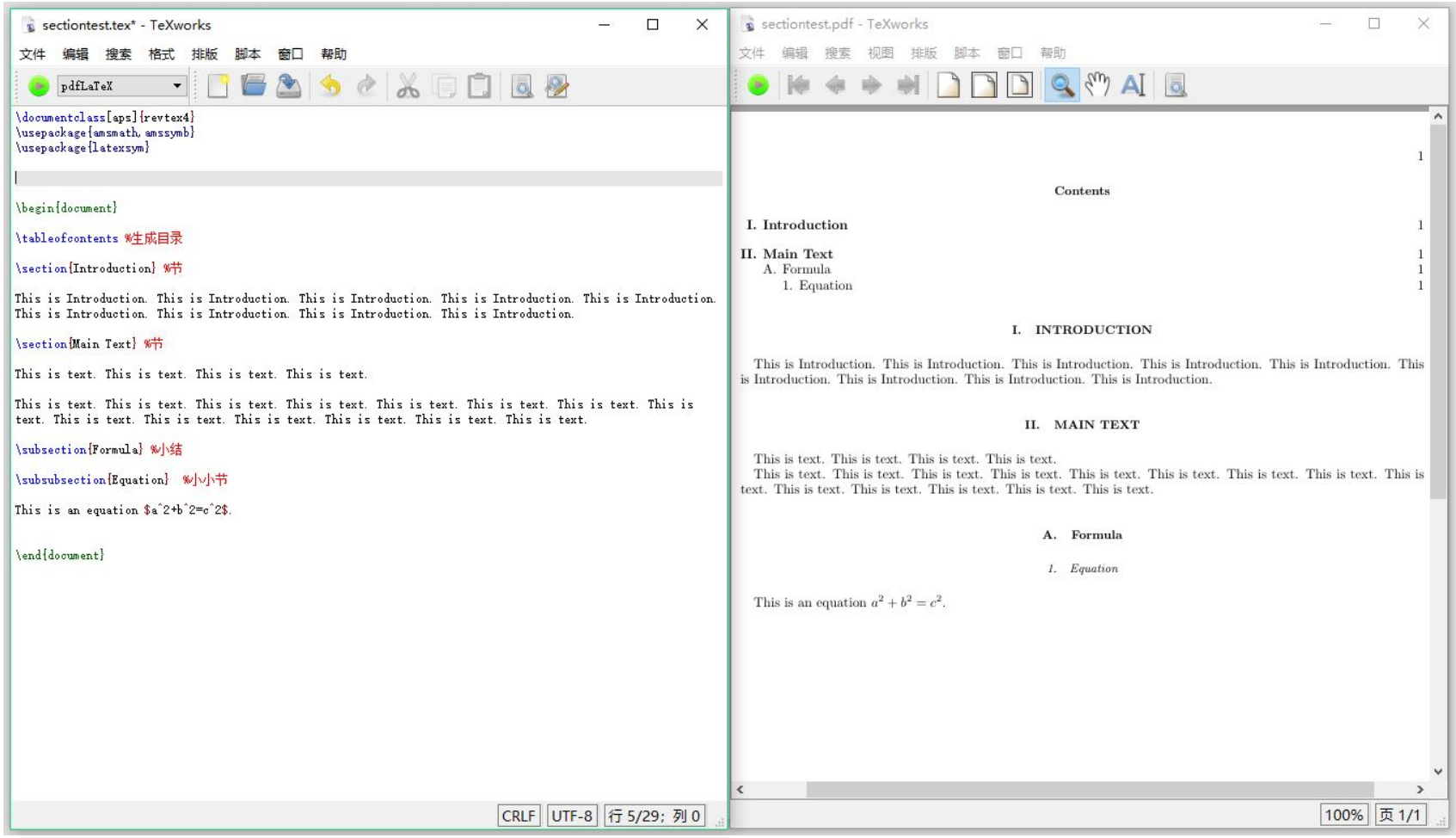
章节，段落

部分	\part{ }	可选的最高层
章	\chapter{ }	文档类最高层
节	\section{ }	学术论文最高层,默认编号
小节	\subsection{ }	默认编号
小小节	\subsubsection{ }	默认编号，不编目录
段	\paragraph{ }	默认不编号，不编目录
小段	\subparagraph{ }	默认不编号，不编目录

生成目录　　\tableofcontents　　需连续编译两次

除\part外，只有在上一层章节存在时才能使用下一章节，否则编号会出现错误.

章节，段落


sectiontest.tex* - TeXworks
文件 编辑 搜索 格式 排版 脚本 窗口 帮助
pdfLaTeX
\documentclass[aps]{revtex4}
\usepackage{amsmath, amssymb}
\usepackage{latexsym}
\begin{document}
\tableofcontents %生成目录
\section{Introduction} %节
This is Introduction. This is Introduction. This is Introduction. This is Introduction. This is Introduction.
This is Introduction. This is Introduction. This is Introduction. This is Introduction.
\section{Main Text} %节
This is text. This is text. This is text. This is text.
This is text. This is text. This is text. This is text. This is text. This is text. This is text. This is
text. This is text. This is text. This is text. This is text. This is text. This is text.
\subsection{Formula} %小结
\subsubsection{Equation} %小小节
This is an equation $a^2+b^2=c^2$.
\end{document}
CRLF UTF-8 行 5/29; 列 0
sectiontest.pdf - TeXworks
文件 编辑 搜索 视图 排版 脚本 窗口 帮助
1
Contents
I. Introduction 1
II. Main Text 1
A. Formula 1
1. Equation 1
I. INTRODUCTION
This is Introduction. This is Introduction. This is Introduction. This is Introduction. This is Introduction. This is Introduction. This is Introduction. This is Introduction. This is Introduction.
II. MAIN TEXT
This is text. This is text. This is text. This is text.
This is text. This is text. This is text. This is text. This is text. This is text. This is text. This is text. This is text. This is text. This is text. This is text. This is text.
A. Formula
1. Equation
This is an equation $a^2 + b^2 = c^2$.
100% 页 1/1

数学公式

$$\sqrt[n]{\frac{x^2+\sqrt{2}}{x+y}}$$

$$\sum_{n=0}^{N} a_n$$

$$A = \begin{pmatrix} a_{11} & a_{12} & a_{13} \\ 0 & a_{22} & a_{23} \\ 0 & 0 & a_{33} \end{pmatrix}$$

$$\int_{-\infty}^{\infty} \frac{1}{\sqrt{2\pi}} e^{-\frac{(x-\mu)^2}{2\sigma^2}} \mathrm{d}x$$

TIPS:

1. 运行texdoc symbols 查看符号表
2. MathType可以编辑并导出LaTeX公式

数学公式–无编号

- **行内数学公式：夹杂在行文段落中的公式**

```
交换律可以表示为 $a+b=b+a$ 或 \(b+a=a+b\).
```

交换律可以表示为 $a+b=b+a$ 或 $b+a=a+b$.

- **行间数学公式：单独占据整行居中展示出来的公式**

```
交换律可以表示为 $$a+b=b+a,$$ 或 \[b+a=a+b.\]
```

交换律可以表示为

$$a+b=b+a,$$

或

$$b+a=a+b.$$

行间数学公式–自动编号

1, 单行公式, equation环境

```
\begin{equation}
 a+b=b+a \label{jhl}
\end{equation}
```

$$a+b=b+a \tag{1}$$

行间数学公式–自动编号

2, 单行公式分行显示, align环境,

```
\begin{align}
 x = & a+b+c  \notag \\
     & +d+e+f \notag \\
     & +g+h   \label{longeq}
\end{align}
```

$$\begin{aligned} x =& a+b+c \\ &+d+e+f \\ &+g+h \end{aligned} \tag{2}$$

行间数学公式–自动编号

3, 多行公式按关系符对齐, eqnarray环境

```
\begin{eqnarray}
 x &=& a+b    \label{meq1}\\
 y &=& d+e    \label{meq2}\\
 z &=& g+h    \label{meq3}
\end{eqnarray}
```

$$
\begin{aligned}
x &= a+b \quad (3)\\
y &= d+e \quad (4)\\
z &= g+h \quad (5)
\end{aligned}
$$

行间数学公式–自动编号

4, 编辑多个子公式, subequations环境

```
\begin{subequations}
 \begin{equation}
  a+b = b+a,  \label{jhl1}
 \end{equation}
 \begin{equation}
  ab=ba.      \label{jhl2}
 \end{equation}
\end{subequations}
```

$$a+b=b+a, \tag{6a}$$

$$ab=ba. \tag{6b}$$

行间数学公式–自动编号

5, 公式组, cases环境,

```
\begin{equation}\label{zu}
  \text{交换律}
  \begin{cases}
   a+b = b+a,     &\text{加法}\\
   ab = ba,       &\text{乘法}
  \end{cases}
\end{equation}
```

$$\text{交换律}\begin{cases} a+b=b+a, & \text{加法} \\ ab=ba, & \text{乘法} \end{cases} \tag{7}$$

引用公式

```
\ref{标签名}
```

公式\ref{jhl2}是乘法交换律. \\公式\ref{zu}是交换律公式组.

引用公式

```
\ref{标签名}
```

```
公式\ref{jhl2}是乘法交换律. \\公式\ref{zu}是交换律公式组.
```

公式6b是乘法交换律.
公式7是交换律公式组.

引用公式

```
\ref{标签名}
```

```
公式\ref{jhl2}是乘法交换律. \\公式\ref{zu}是交换律公式组.
```

公式6b是乘法交换律.
公式7是交换律公式组.

```
\usepackage{amsmath}

\ref{标签名}
```

```
公式\eqref{jhl2}是乘法交换律. \\公式\eqref{zu}是交换律公式组.
```

引用公式

```
\ref{标签名}
```

公式\ref{jhl2}是乘法交换律. \\公式\ref{zu}是交换律公式组.

公式6b是乘法交换律.
公式7是交换律公式组.

```
\usepackage{amsmath}

\ref{标签名}
```

公式\eqref{jhl2}是乘法交换律. \\公式\eqref{zu}是交换律公式组.

公式(6b)是乘法交换律.
公式 (7) 是交换律公式组.

插入表格

```
\begin{tabular}{lcr}
  \hline
  a & bc & def \\
  \hline
  bc & def & a \\
   \hline
\end{tabular}
```

a	bc	def
bc	def	a

插入表格

```
\begin{tabular}{lcr}
  \hline
  a & bc & def \\
  \hline
  bc & def & a \\
   \hline
\end{tabular}
```

a	bc	def
bc	def	a

```
\begin{tabular}{|r|r|r|}
  \hline
  a & bc & def \\
  \hline
  bc & def & a \\
  \hline
\end{tabular}
```

a	bc	def
bc	def	a

插入表格

调用boottabs宏包，插入三线表

```
\usepackage{bookbats} %调用宏包

\begin{table}[htbp]
  \caption{三线表} %添加说明内容
  \label{sanxianbiao} %添加标签
    \begin{tabular}{lccr}
    \toprule
    左 & 中 & 中 & 右 \\
    \midrule
    bc & def & dkj & a \\
    hdk & jjf & sfh & lalg\\
    \bottomrule
    \end{tabular}
\end{table}
```

表 1: 三线表

左	中	中	右
bc	def	dkj	a
hdk	jjf	sfh	lalg

插入表格

表 2: 带短线的三线表

Number	Low-pressure spinel phase			High-pressure tetragonal phase		
	Raman modes $\omega_0(cm^{-1})$	$d\omega/dP$ (cm^{-1}/GPa)	γ	HP observed modes $\omega_0(cm^{-1})$	$d\omega/dP$ (cm^{-1}/GPa)	γ
1	193	0.51	0.51			
2	480	2.56	1.06			
3						
4	524	2.44	0.92			
5	612	3.4	1.13	549	1.97	0.74
6	684	1.28	0.42	709	2.16	0.65

插入表格

```
\usepackage{multirow,booktabs} %调用宏包

\begin{table}[htbp]
  \scriptsize
  \centering
  \caption{带短线的三线表}
  \label{sanxianbiao2}
    \begin{tabular}[b]{*{7}{c}}
    \toprule
    \multirow{2}*{Number} &
    \multicolumn{3}{c}{Low-pressure spinel phase} &
    \multicolumn{3}{c}{High-pressure tetragonal phase} \\
    \cmidrule(lr){2-4}  \cmidrule(lr){5-7}
    & \multicolumn{1}{p{5em}}{\tiny Raman modes $ \omega_0(cm^{-1})$} &
    \multicolumn{1}{p{4em}}{\tiny $d\omega/dP $ $ (cm^{-1}/GPa)$} &
    \multicolumn{1}{c}{$\gamma$} &
    \multicolumn{1}{p{6em}}{\tiny HP observed modes $ \omega_0(cm^{-1})$} &
    \multicolumn{1}{p{4em}}{\tiny $d\omega/dP $ $ (cm^{-1}/GPa)$} &
    \multicolumn{1}{c}{$\gamma$} \\
    \midrule
    1 & 193   & 0.51  & 0.51  &       &       &  \\
    2 & 480   & 2.56  & 1.06  &       &       &  \\
    3 &       &       &       &       &       &  \\
    4 & 524   & 2.44  & 0.92  &       &       &  \\
    5 & 612   & 3.4   & 1.13  & 549   & 1.97  & 0.74 \\
    6 & 684   & 1.28  & 0.42  & 709   & 2.16  & 0.65 \\
    \bottomrule
    \end{tabular}
\end{table}
```

插入表格

Excel2LaTeX – Convert Excel spreadsheets to LaTeX tables

Making tables in LaTeX can be tedious, especially if some columns are calculated. This converter allows you to write a table in Excel instead, and export the current selection as LaTeX markup which can be pasted into an existing LaTeX document, or exported to a file and included via the `\input` command.

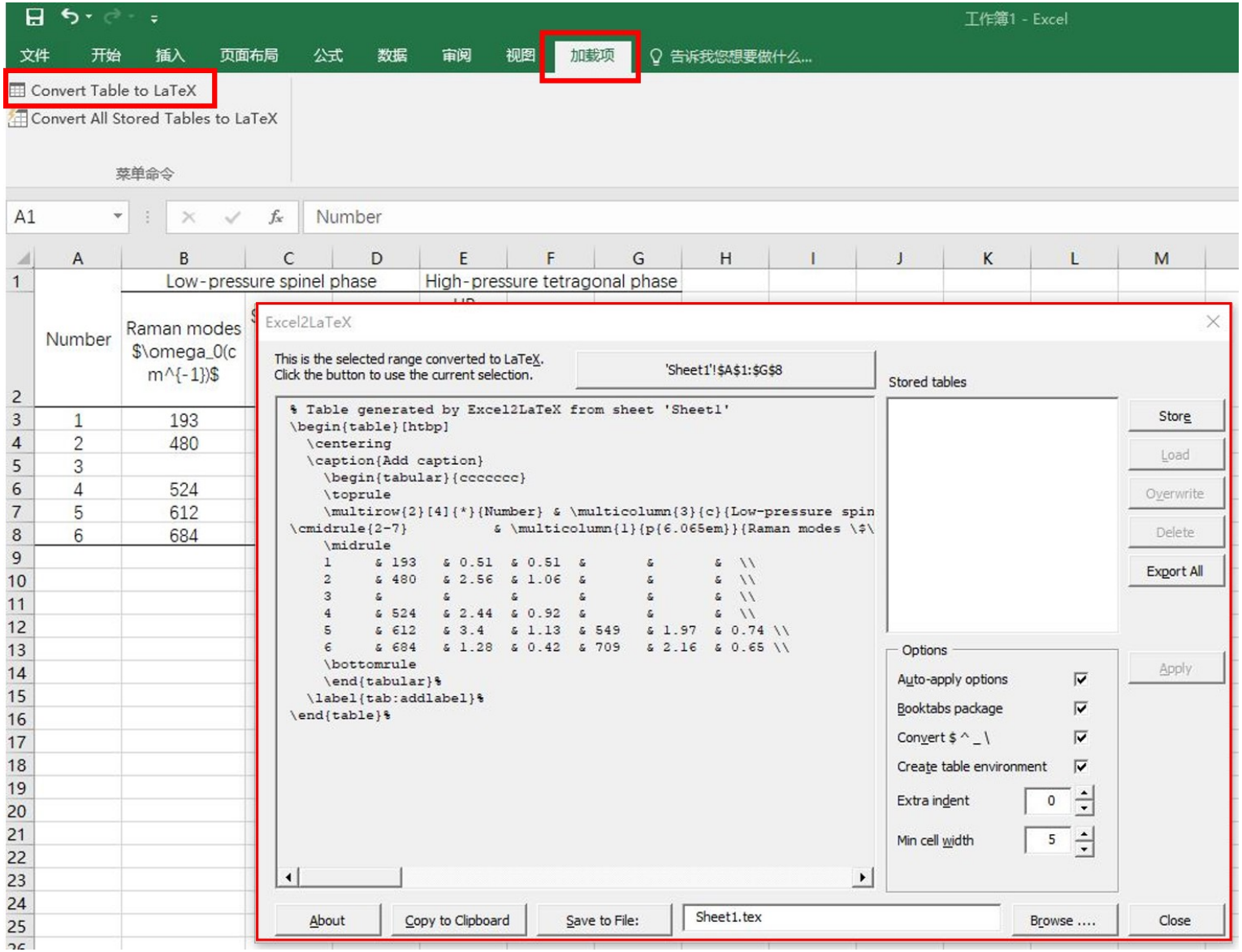
Sources	`/support/excel2latex`
Documentation	README.md
Repository	https://github.com/krlmlr/Excel2LaTeX
Version	3.5.0
Licenses	The LaTeX Project Public License 1.3
Maintainer	Chelsea Hughes Kirill Müller Andrew Hawryluk (inactive) Joachim Marder (inactive) George Pearson (inactive)
Topics	Foreign import



Download the contents of this package in one zip archive (102.9k).

下载网址：https://www.ctan.org/pkg/excel2latex

插入表格


工作簿1 - Excel
文件 开始 插入 页面布局 公式 数据 审阅 视图 加载项 告诉我您想要做什么...
Convert Table to LaTeX
Convert All Stored Tables to LaTeX
菜单命令
A1
Number
Low-pressure spinel phase
High-pressure tetragonal phase
Number
Raman modes $\omega_0(cm^{-1})$
1 193
2 480
3
4 524
5 612
6 684
Excel2LaTeX
This is the selected range converted to LaTeX.
Click the button to use the current selection.
'Sheet1'!$A$1:$G$8
% Table generated by Excel2LaTeX from sheet 'Sheet1'
\begin{table}[htbp]
\centering
\caption{Add caption}
\begin{tabular}{ccccccc}
\toprule
\multirow{2}[4]{*}{Number} & \multicolumn{3}{c}{Low-pressure spin
\cmidrule{2-7} & \multicolumn{1}{p{6.065em}}{Raman modes \$\
\midrule
1 & 193 & 0.51 & 0.51 & & & \\
2 & 480 & 2.56 & 1.06 & & & \\
3 & & & & & & \\
4 & 524 & 2.44 & 0.92 & & & \\
5 & 612 & 3.4 & 1.13 & 549 & 1.97 & 0.74 \\
6 & 684 & 1.28 & 0.42 & 709 & 2.16 & 0.65 \\
\bottomrule
\end{tabular}%
\label{tab:addlabel}%
\end{table}%
Stored tables
Store
Load
Overwrite
Delete
Export All
Options
Auto-apply options
Booktabs package
Convert $ ^ _ \
Create table environment
Extra indent 0
Min cell width 5
Apply
About
Copy to Clipboard
Save to File:
Sheet1.tex
Browse ....
Close

插入图片

- 插入图片的格式: eps, pdf, jpg, png. . .
- 建立图片文件夹, 并与.tex文件放在同一个目录下
- 调用宏包: graphics或graphicx
- 设置图片路径 \graphicspath{{pic/}}
- 插入图片命令 \includegraphics[设置图片大小]{图片文件名}

插入图片

```
\usepackage{graphicx}  %在导言区调用graphicx宏包
\graphicspath{{pic/}} %导言区设置图片路径

\begin{figure}[htbp]  %插入图片的位置,可选项htbp
   \centering  %居中对齐
   \includegraphics[width=3cm,height=2cm]{yu.jpg}
   \caption{插入文件名为yu.jpg的图片}
   \label{yujinxiang}
\end{figure}
```



图 1: 插入文件名为yu.jpg的图片

插入图片



图 2: 插入多行多列图片，共用一个caption

插入图片–用minipage插入多行多列图片

```
\begin{figure}[htbp]

   \begin{minipage}{2.3cm}
   \includegraphics[width=2.4cm,height=1.6cm]{yu}
   \includegraphics[width=2.4cm,height=1.6cm]{duo}
   \end{minipage}

   \begin{minipage}{2.3cm}
   \includegraphics[width=2.4cm,height=1.6cm]{lotus}
   \includegraphics[width=2.4cm,height=1.6cm]{sun}
   \end{minipage}

   \begin{minipage}{2.3cm}
   \includegraphics[width=2.4cm,height=1.6cm]{glory}
   \includegraphics[width=2.4cm,height=1.6cm]{moli}
   \end{minipage}

   \caption{插入多行多列图片，共用一个caption}
   \label{fivepic2}

  \end{figure}
```

插入图片

用subfigure实现多张图片并排插入，且子图有文字说明

```
\usepackage{subfigure} %导言曲调用subfigure宏包

\begin{figure}[h]
    \centering
    \subfigure[郁金香]{ \label{yujinxiang1}
    \includegraphics[width=3cm,height=2cm]{yu.jpg}}
    \subfigure[多肉植物]{ \label{duorou1}
    \includegraphics[width=3cm,height=2cm]{duo.jpg}}
    \subfigure[荷花]{ \label{lotus1}
    \includegraphics[width=3cm,height=2cm]{lotus.jpg}}

    \caption{并排插入图片}
    \label{tripic}
\end{figure}
```



(a) 郁金香　(b) 多肉植物　(c) 荷花

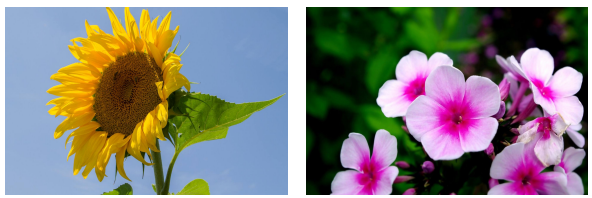
图 3: 并排插入图片

插入图片

```
\begin{figure}[h]
 \begin{tabular}{*{3}{p{0.7cm}}}
 \subfigure[郁金香]{  \label{yu2} \includegraphics[width=1cm]{yu}}  &
 \subfigure[多肉植物]{\label{duo2}\includegraphics[width=1cm]{duo}} &
 \subfigure[荷花]{    \label{lo2} \includegraphics[width=1cm]{lotus}}\\
 \subfigure[向日葵]{  \label{sun2}\includegraphics[width=1cm]{sun}} &
 \subfigure[牵牛花]{  \label{mor2}\includegraphics[width=1cm]{glory}}
 \end{tabular}
 \caption{插入多行多列图片}
 \label{fivepic}
\end{figure}
```



(a) 郁金香 (b) 多肉植物 (c) 荷花



(d) 向日葵 (e) 牵牛花

图 4: 插入多行多列图片

文字绕排图片

```
\usepackage{wrapfig} %调用wrapfig宏包

\begin{wrapfigure}{r}{4cm}
  \centering
  \includegraphics[width=3cm]{yu}
  \caption{文字绕排图片}
  \label{raopaifig}
\end{wrapfigure}
```

叶 3-5 枚，条状披针形至卵状披针状，花单朵顶生，大型而艳丽，花被片红色或杂有白色和黄色，有时为白色或黄色，长 5-7 厘米，宽 2-4 厘米，6 枚雄蕊等长，花丝无毛，无花柱，柱头增大呈鸡冠状，花期 4-5 月。



图 1: 文字绕排图片

多年生草本。鳞茎偏圆锥形，直径约 2-3cm，外被淡黄至棕褐色皮膜，内有肉质鳞片 2-5 片。茎叶光滑，被白粉。叶 3-5 枚，带状披针形至卵状披针形，全缘并成波形，常有毛，其中 2-3 枚宽广而基生。花单生茎顶，大型，直立杯状，洋红色，鲜黄至紫红色，基部具有墨紫斑，花被片 6 枚，离生，倒卵状长

文字绕排表格

```
\usepackage{wrapfig} %调用wrapfig宏包

\begin{wraptable}{l}{4cm}
  \centering
  \caption{文字绕排表格}
  \label{raopaitable}
    \begin{tabular}{|l|c|r|}
    \hline
    a & bc & def \\
    \hline
    bc & def & a \\
    \hline
    \end{tabular}
\end{wraptable}
```

Knuth 设计了一个名叫 PlainTeX 的基本格式，以与低层次的原始 TeX 呼应。这种格式是用 TeX 处理文本时相当基本的部分，以致于我们有时都分不清到底哪条指令是真正的处理程序 TeX 的原始命令，哪条是 PlainTeX 格式的。大多数声称只使用 TeX 的人，实际上指的是只用 PlainTeX。

表 1: 文字绕排表格

a	bc	def
bc	def	a

PlainTeX 的重点还只是在于如何排版的层次上，而不是从一位作者的观点出发。对它的深层功能的进一步发掘，需要相当丰富的编程技巧。因此它的应用就局限于高级排版和程序设计人员。

Leslie Lamport 开发的 LaTeX 是当今世界上最流行和使用最为广泛的 TeX 格式。它构筑在 PlainTeX 的基础之上，并加进了很多的功能以使得使用者可以更为方便的利用 TeX 的强大功能。使用 LaTeX 基本上不需要使用者自己设计命令和宏等，因为 LaTeX 已经替你做好了。因此，即使使用者并不是很了解 TeX，也可以在短短的时间内生成高质量的文档。对于生成复杂的数学公式，LaTeX 表现的更为出色。

LaTeX 已经成为国际上数学、物理、计算机等科技领域专业排版的实际标准，其他领域（化学、生物、工程、语言学等）也有大量用户。本书内容取材广泛，涵盖了正文组织、自动化工具、数学公式、图表制作、幻灯片演示、错误处

引用图表

用\ref{标签名}引用图表

图 \ref{yujinxiang}是郁金香，图 \ref{duorou1} 是多肉植物，图 \ref{mor2} 是牵牛花.

表 \ref{sanxianbiao2}是复杂三线表.

引用图表

用\ref{标签名}引用图表

图 \ref{yujinxiang}是郁金香，图 \ref{duorou1} 是多肉植物，图 \ref{mor2} 是牵牛花.

表 \ref{sanxianbiao2}是复杂三线表.

图 1 是郁金香, 图 3(b)是多肉植物, 图 4(e) 是牵牛花.
表 2 是复杂三线表.

参考文献

- 在 LaTeX中直接列出参考文献
- BibTeX辅助 LaTeX参考文献写作
- BibTeX中参考文献的收集
- BibTeX参考文献库管理助手–JabRef

参考文献–在正文中直接列出参考文献

```
引用测试\cite{Bar}引用测试\cite{Woo,Bar}.

\begin{thebibliography}{99}
\bibitem{Woo} W.K. Wootters,et.al.,Nature 299,802(1982)
\bibitem{Bar} H. Barnum,et.al.,Phys.Rev.Lett. 76,2818(1996)
\end{thebibliography}
```

参考文献–在正文中直接列出参考文献

```
引用测试\cite{Bar}引用测试\cite{Woo,Bar}.

\begin{thebibliography}{99}
\bibitem{Woo} W.K. Wootters,et.al.,Nature 299,802(1982)
\bibitem{Bar} H. Barnum,et.al.,Phys.Rev.Lett. 76,2818(1996)
\end{thebibliography}
```

引用测试 [2] 引用测试 [1, 2].

[1] W.K. Wootters,et. al.,Nature 299,802(1982)

[2] H. Barnum,et.al.,Phys.Rev.Lett. 76,2818(1996)

参考文献–在正文中直接列出参考文献

在文后直接列出参考文献问题所在:

- 需手工逐条输入参考文献
- 需手工调整参考文献顺序
- 需手工调整参考文献格式

参考文献–BibTEX辅助参考文献写作

- 收集参考文献, 建立参考文献库
- 引用文献库中的文献

参考文献–BibTeX辅助参考文献写作

reference.bib - TeXworks

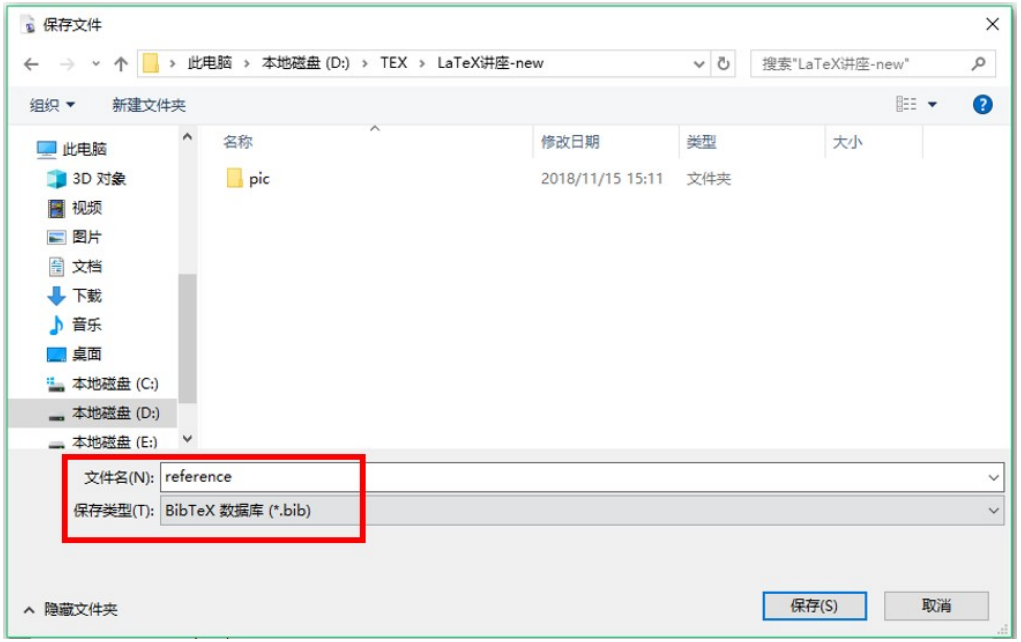
文件 编辑 搜索 格式 排版 脚本 窗口 帮助

pdfLaTeX

```
@Article{aslan2007fluorescent,
 Title              = {Fluorescent core-shell Ag@ SiO2 nanocomposites for metal-enhanced fluorescence and single nanoparticle
sensing platforms},
 Author             = {Aslan, Kadir and Wu, Meng and Lakowicz, Joseph R and Geddes, Chris D},
 Journal            = {Journal of the American Chemical Society},
 Year               = {2007},
 Number             = {6},
 Pages              = {1524–1525},
 Volume             = {129},
 Publisher          = {ACS Publications}
}

@Article{Barnum,
 Title              = {Noncommuting mixed states cannot be broadcast},
 Author             = {Barnum, H and Caves, CM and Fuchs, CA and Jozsa, R and Schumacher, B},
 Journal            = {PHYSICAL REVIEW LETTERS},
 Year               = {1996},
 Month              = {APR 8},
 Number             = {15},
 Pages              = {2818-2821},
 Volume             = {76},
 DOI                = {10.1103/PhysRevLett.76.2818},
 ISSN               = {0031-9007},
 Orcid-numbers      = {Caves, Carlton/0000-0001-8876-1186},
 Researcherid-numbers = {Caves, Carlton/K-8167-2014},
 Times-cited        = {263},
 Unique-id          = {ISI:A1996UE19000054}
}

@Article{Buzek,
 Title              = {Quantum copying: Beyond the no-cloning theorem},
 Author             = {Buzek, V and Hillery, M},
 Journal            = {PHYSICAL REVIEW A},
 Year               = {1996},
```

参考文献–BibTEX辅助参考文献写作

保存为扩展名为.bib的文件



BibTEX中参考文献的收集

(a)建立参考文献库–手工添加参考文献

```
@ARTICLE{标签,
  author =        {作者},
  title =         {标题},
  journal =       {期刊},
  year =          {年},
  volume =        {卷},
  number =        {期},
  pages =         {页码},
  month =         {月},
  note =          {说明},
  abstract =      {摘要},
  keywords =      {关键词},
  source =        {出版社},
}
```

BibTeX中参考文献的收集

(a)建立参考文献库–手工添加参考文献

```
@ARTICLE{标签,
  author =        {作者},
  title =         {标题},
  journal =       {期刊},
  year =          {年},
  volume =        {卷},
  number =        {期},
  pages =         {页码},
  month =         {月},
  note =          {说明},
  abstract =      {摘要},
  keywords =      {关键词},
  source =        {出版社},
}
```

缺点:
逐项手工输入,
繁琐,
效率低下.

BibTeX中参考文献的收集

(b)建立参考文献库–网上导入



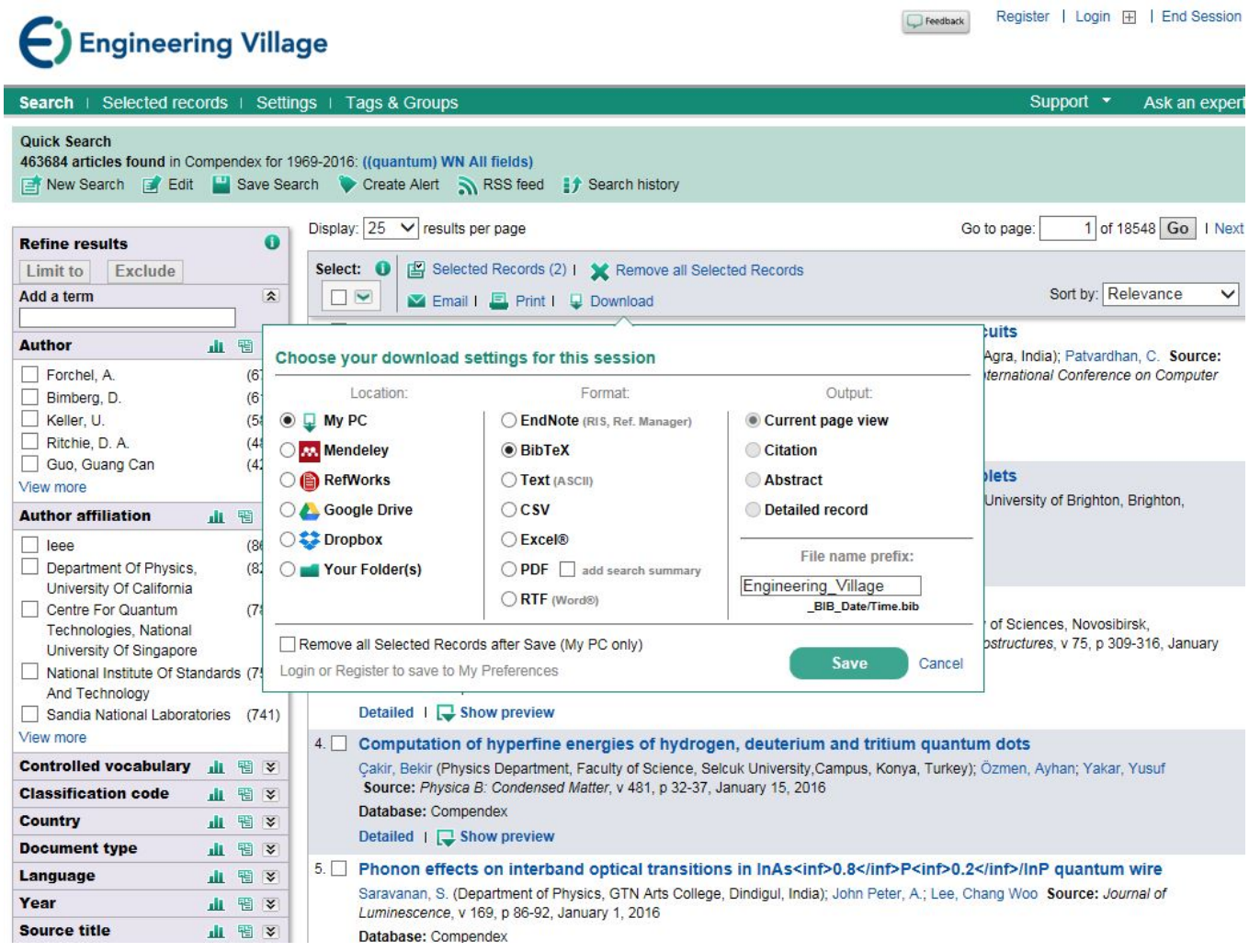
BibTeX中参考文献的收集

(b)建立参考文献库–网上导入



BibTEX中参考文献的收集

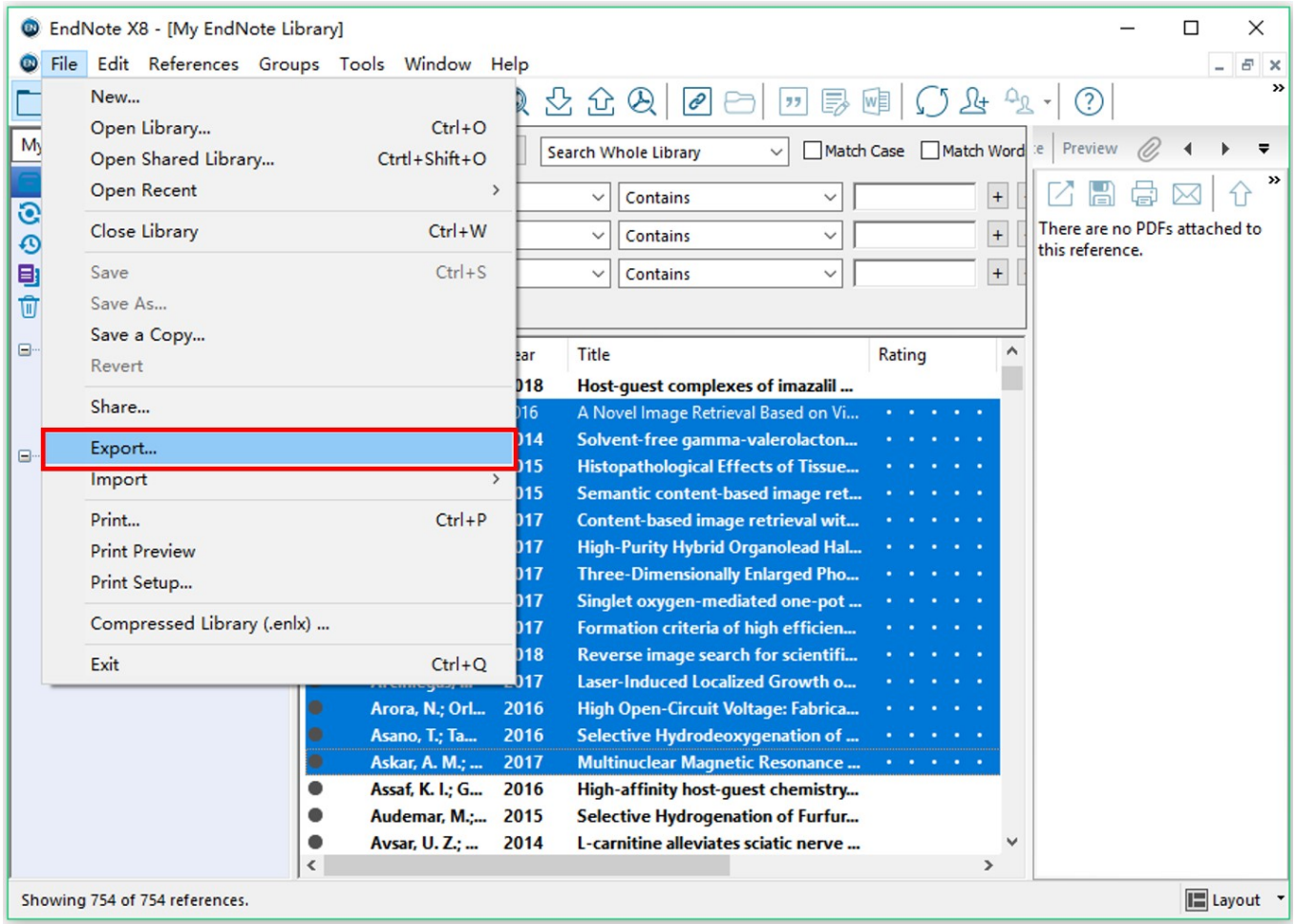
(c)建立参考文献库–网上导入



BibTEX中参考文献的收集

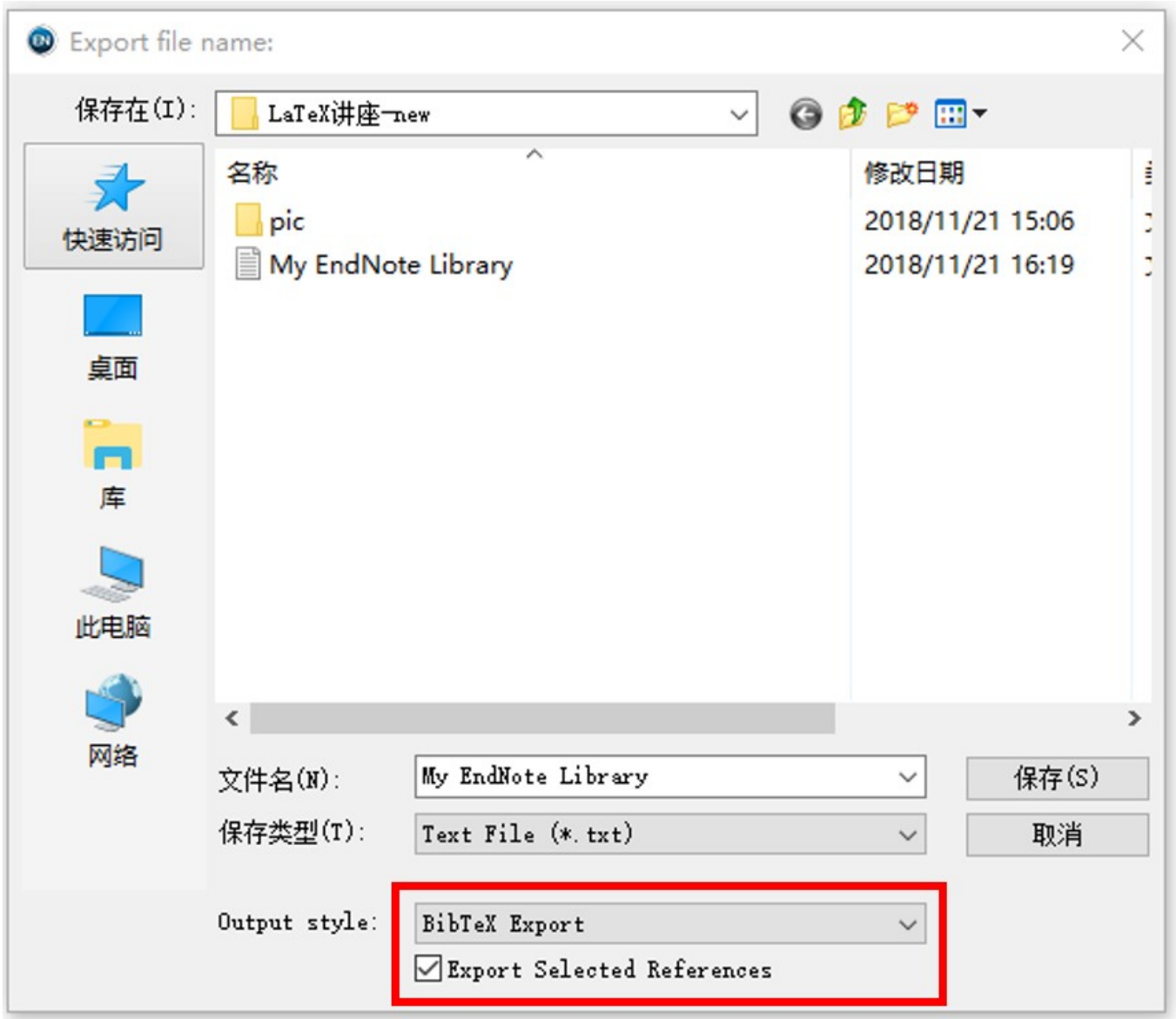
(c)建立参考文献库–EndNote转入

没有提供 bibtex 下载格式的网站，可以先下载成EndNote格式再转入bibtex.



BibTeX中参考文献的收集

(c)建立参考文献库–EndNote转入



引用BibTEX文献库中的参考文献

```
test\cite{Wootters}test\cite{Barnum,Wootters}.

\bibliographystyle{unsrt}%四种文献格式: plain, unsrt, alpha, abbrv
\bibliography{reference} %调用文献数据库reference.bib
\nocite{Buzek}           %列出未被引用的文献,
                         %\cite{*}列出所有参考文献
```

引用BibTEX文献库中的参考文献

```
test\cite{Wootters}test\cite{Barnum,Wootters}.

\bibliographystyle{unsrt}%四种文献格式: plain, unsrt, alpha, abbrv
\bibliography{reference} %调用文献数据库reference.bib
\nocite{Buzek}           %列出未被引用的文献,
                         %\cite{*}列出所有参考文献
```

test [1] test [1, 2]

---

[1] WK WOOTTERS and WH ZUREK. A single quantum cannot be cloned. *NATURE*, 299(5886):802–803, 1982.

[2] H Barnum, CM Caves, CA Fuchs, R Jozsa, and B Schumacher. Noncommuting mixed states cannot be broadcast. *PHYSICAL REVIEW LETTERS*, 76(15):2818–2821, APR 8 1996.

[3] V Buzek and M Hillery. Quantum copying: Beyond the no-cloning theorem. *PHYSICAL REVIEW A*, 54(3):1844–1852, SEP 1996.

BibTeX辅助 LaTeX参考文献写作注意事项

- .bib文献库必须与 .tex 文件放在同一目录下
- 引用参考文献使用命令
  \cite{标签名}
  \bibliographystyle{风格名}
  \bibliography{文件名}
- 编译次序: pdfLaTeX, BibTeX, pdfLaTeX, pdfLaTeX
- 将编译.tex文件生成的.bbl文件一起投稿

BibTeX辅助 LaTeX参考文献写作优点

- 参考文献可重复利用
- 参考文献格式无需手工调整
- 参考文献顺序按文中引用次序自动生成

.bib文件中参考文献的呈现形式

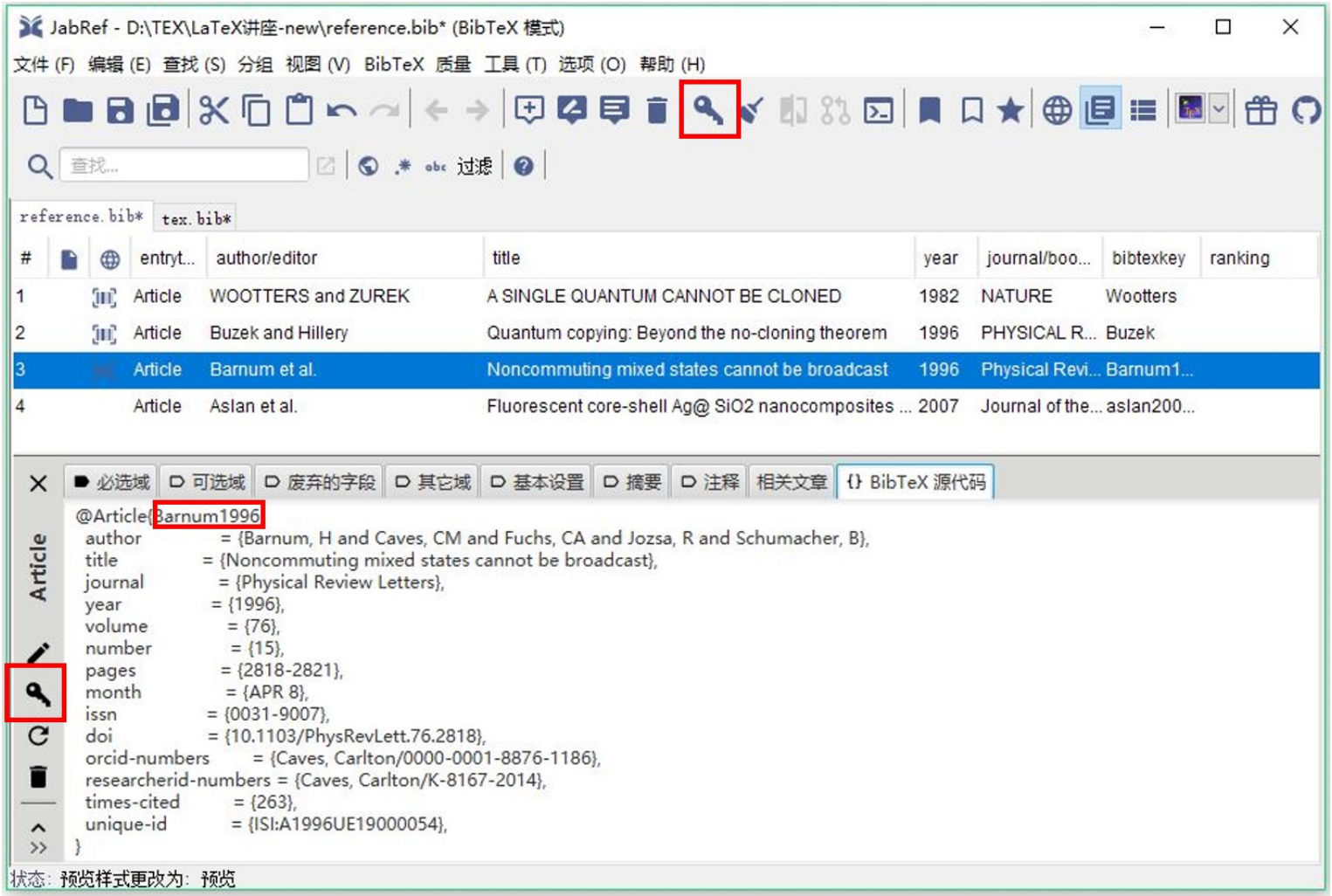
```
@Article{aslan2007fluorescent,
  Title                    = {Fluorescent core-shell Ag@ SiO2 nanocomposites for metal-enhanced fluorescence
  Author                   = {Aslan, Kadir and Wu, Meng and Lakowicz, Joseph R and Geddes, Chris D},
  Journal                  = {Journal of the American Chemical Society},
  Year                     = {2007},
  Number                   = {6},
  Pages                    = {1524--1525},
  Volume                   = {129},
  Publisher                = {ACS Publications}
}

@Article{Barnum,
  Title                    = {Noncommuting mixed states cannot be broadcast},
  Author                   = {Barnum, H and Caves, CM and Fuchs, CA and Jozsa, R and Schumacher, B},
  Journal                  = {PHYSICAL REVIEW LETTERS},
  Year                     = {1996},
  Month                    = {APR 8},
  Number                   = {15},
  Pages                    = {2818-2821},
  Volume                   = {76},
  DOI                      = {10.1103/PhysRevLett.76.2818},
  ISSN                     = {0031-9007},
  Orcid-numbers            = {Caves, Carlton/0000-0001-8876-1186},
  Researcherid-numbers     = {Caves, Carlton/K-8167-2014},
  Times-cited              = {263},
  Unique-id                = {ISI:A1996UE19000054}
}

@Article{Buzek,
  Title                    = {Quantum copying: Beyond the no-cloning theorem},
  Author                   = {Buzek, V and Hillery, M},
  Journal                  = {PHYSICAL REVIEW A},
  Year                     = {1996},
  Month                    = {SEP},
  Number                   = {3},
  Pages                    = {1844-1852},
```

缺点：不易查看，不便引用

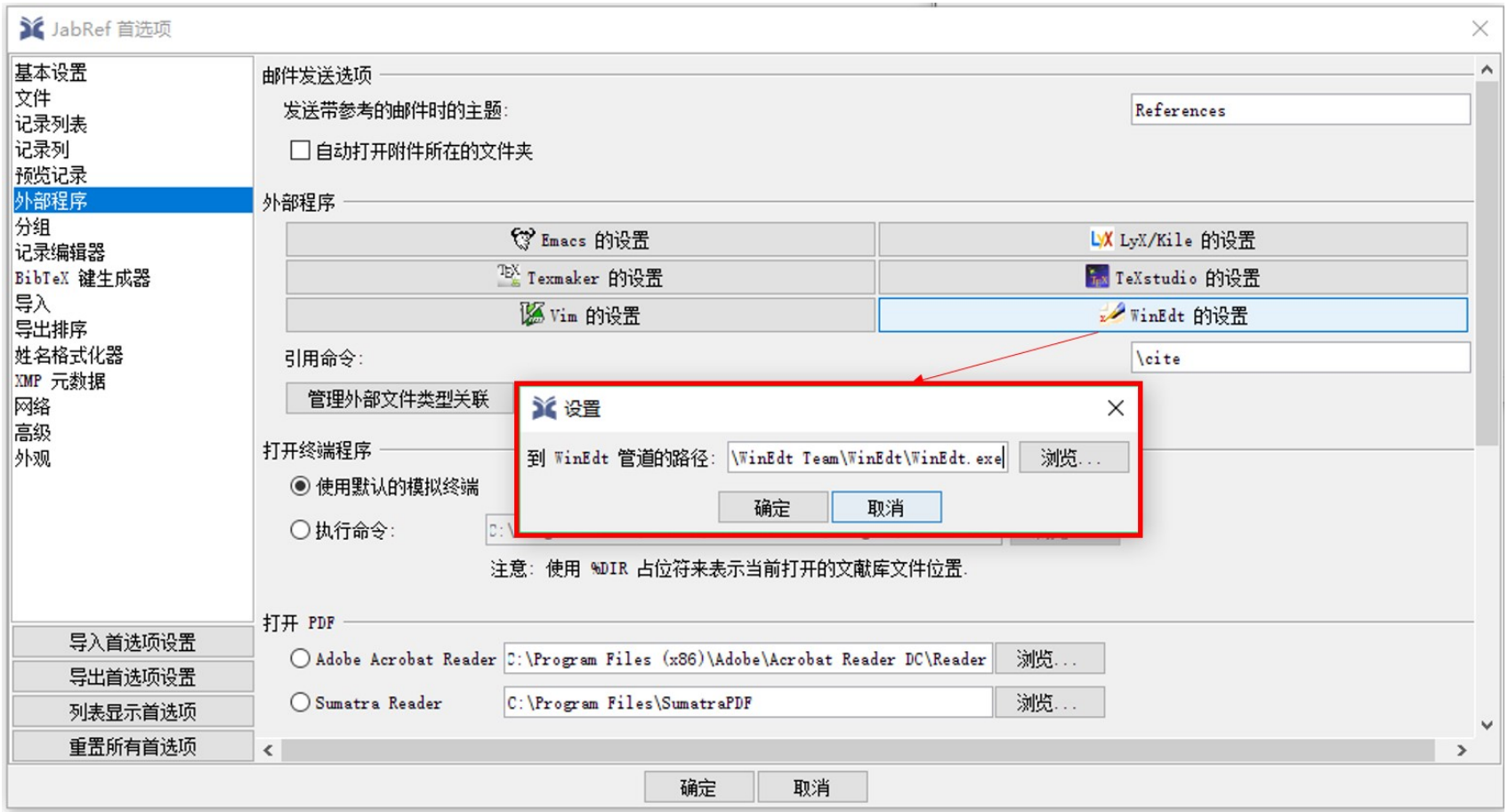
BibTEX参考文献库管理助手
—JabRef

下载地址: http://www.jabref.org/

BibTeX参考文献库管理助手–JabRef

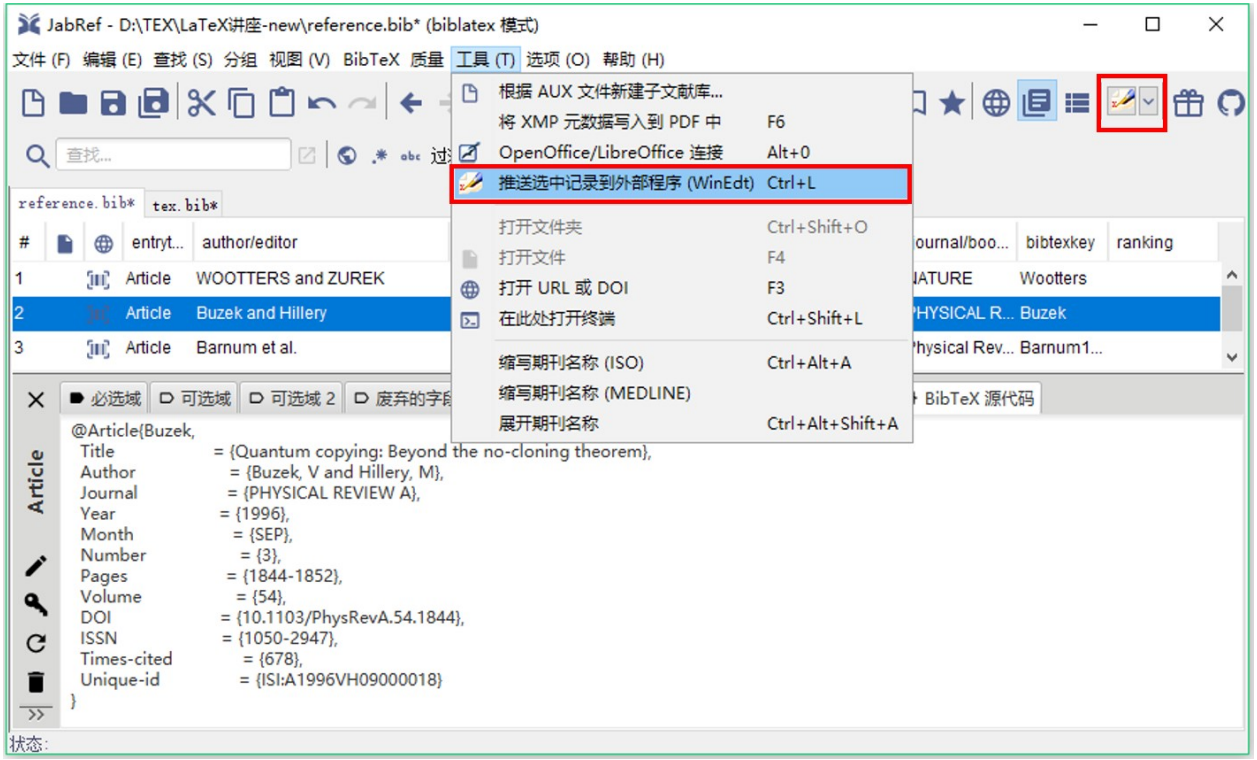


如何使JabRef与WinEdt关联



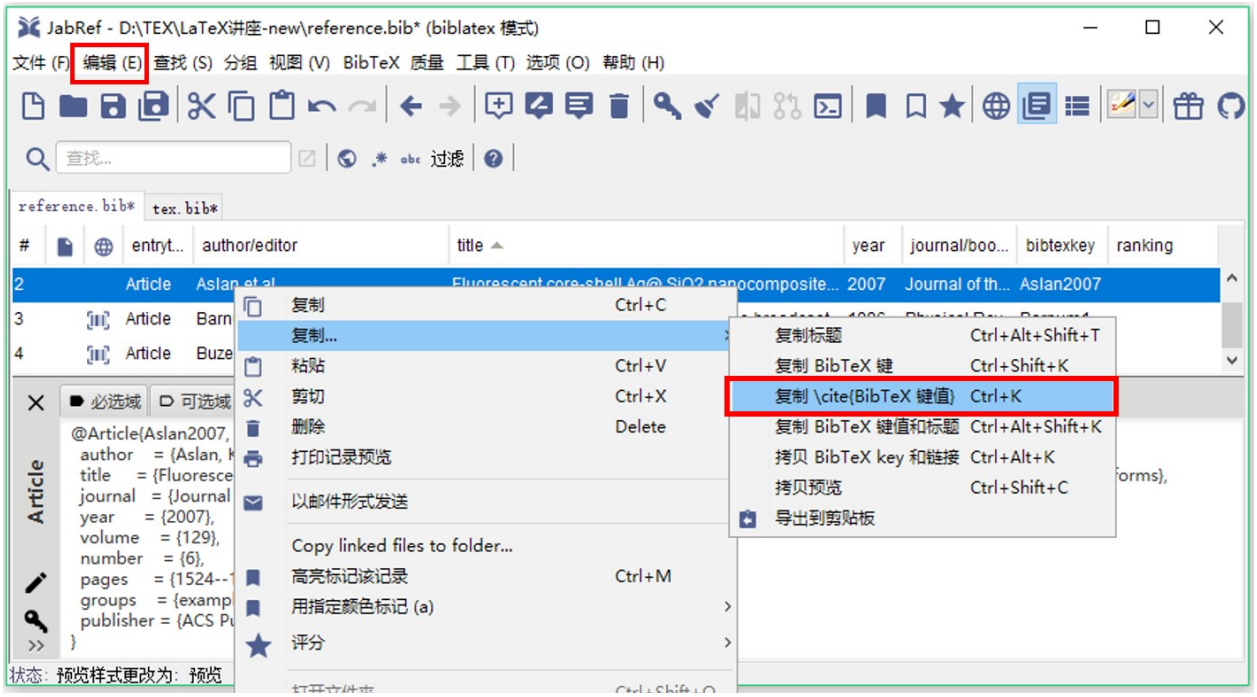
如何利用JabRef引用参考文献

将光标放在需插入参考文献位置 → 在JabRef中选中参考文献 → 点击“工具” → 点击“推送选中记录到外部程序(WinEdt)”



如何利用JabRef引用参考文献

打开JabRef → 选中参考文献 → 右键 → 点击“复制\cite{(BibTeX 键值)}” → 粘贴到文中相应位置



使用模板快速生成学术论文

各种论文模板–APS

aps.tex - TeXworks

文件 编辑 搜索 格式 排版 脚本 窗口 帮助

pdfLaTeX

```
\documentclass[aps,fleqn,leqno]{revtex4}
%\documentclass[aps,twocolumn]{revtex4}
\usepackage{amsmath,amssymb}
\usepackage{latexsym}
%\usepackage{graphicx}
%\usepackage{subfigure}

\begin{document}
\title{This is Title}
\author{San Zhang, Si Li},
\thanks{Corresponding author:li@ustc.edu.cn}
\address{USTC, Hefei 230026, China.}
\date{\today}

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

\maketitle

\tableofcontents %

\section{Section}

This is introduction. This is introduction. This is introduction. This is
introduction. This is
introduction. This is introduction. This is introduction.

This is introduction. This is introduction. This is introduction. This is
introduction. This is
introduction. This is introduction.

\section{section}

\subsection{subsection}

\subsubsection{subsubsection}
```

CRLF UTF-8 行 1/65; 列 0

aps.pdf - TeXworks

文件 编辑 搜索 视图 排版 脚本 窗口 帮助

This is Title

San Zhang, Si Li*
USTC, Hefei 230026, China.
(Dated: November 28, 2018)

This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract. This is abstract.

Contents

I. Section 1
II. section 1
A. subsection 1
1. subsubsection 1
References 1

I. SECTION

This is introduction. This is introduction. This is introduction. This is introduction. This is introduction. This is introduction. This is introduction.
This is introduction. This is introduction. This is introduction. This is introduction. This is introduction. This is introduction.

II. SECTION

A. subsection

1. subsubsection

this is an equation

$$cx^2 + b^2 = c^2 \quad (1)$$

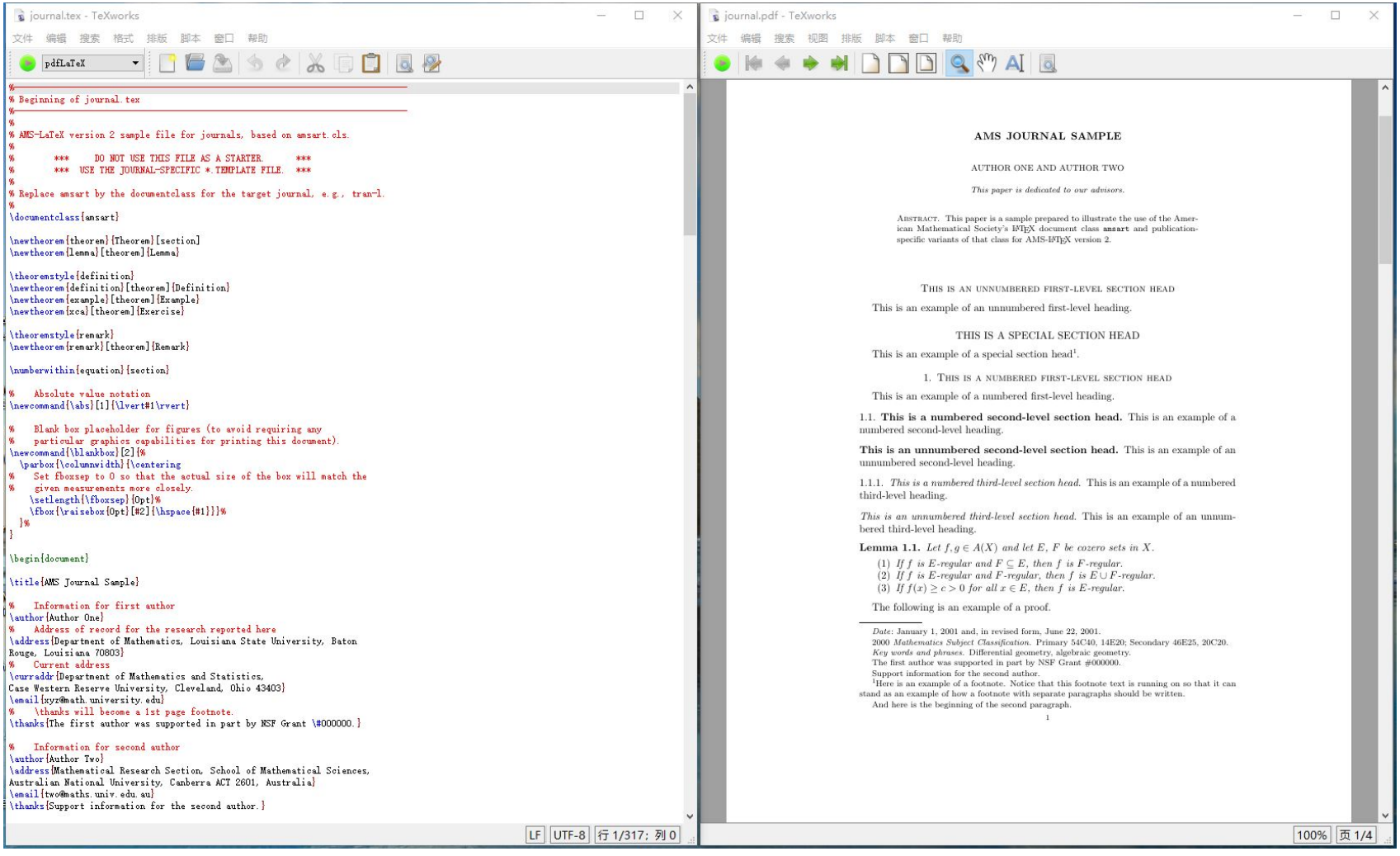
test [1] test [1, 2].

[1] WK WOOTTERS and WH ZUREK. A single quantum cannot be cloned. *NATURE*, 299(5886):802–803, 1982.
[2] H Barnum, CM Caves, CA Fuchs, R Jozsa, and B Schumacher. Noncommuting mixed states cannot be broadcast. *PHYSICAL REVIEW LETTERS*, 76(15):2818–2821, APR 8 1996.
[3] V Buzek and M Hillery. Quantum copying: Beyond the no-cloning theorem. *PHYSICAL REVIEW A*, 54(3):1844–1852, SEP 1996.

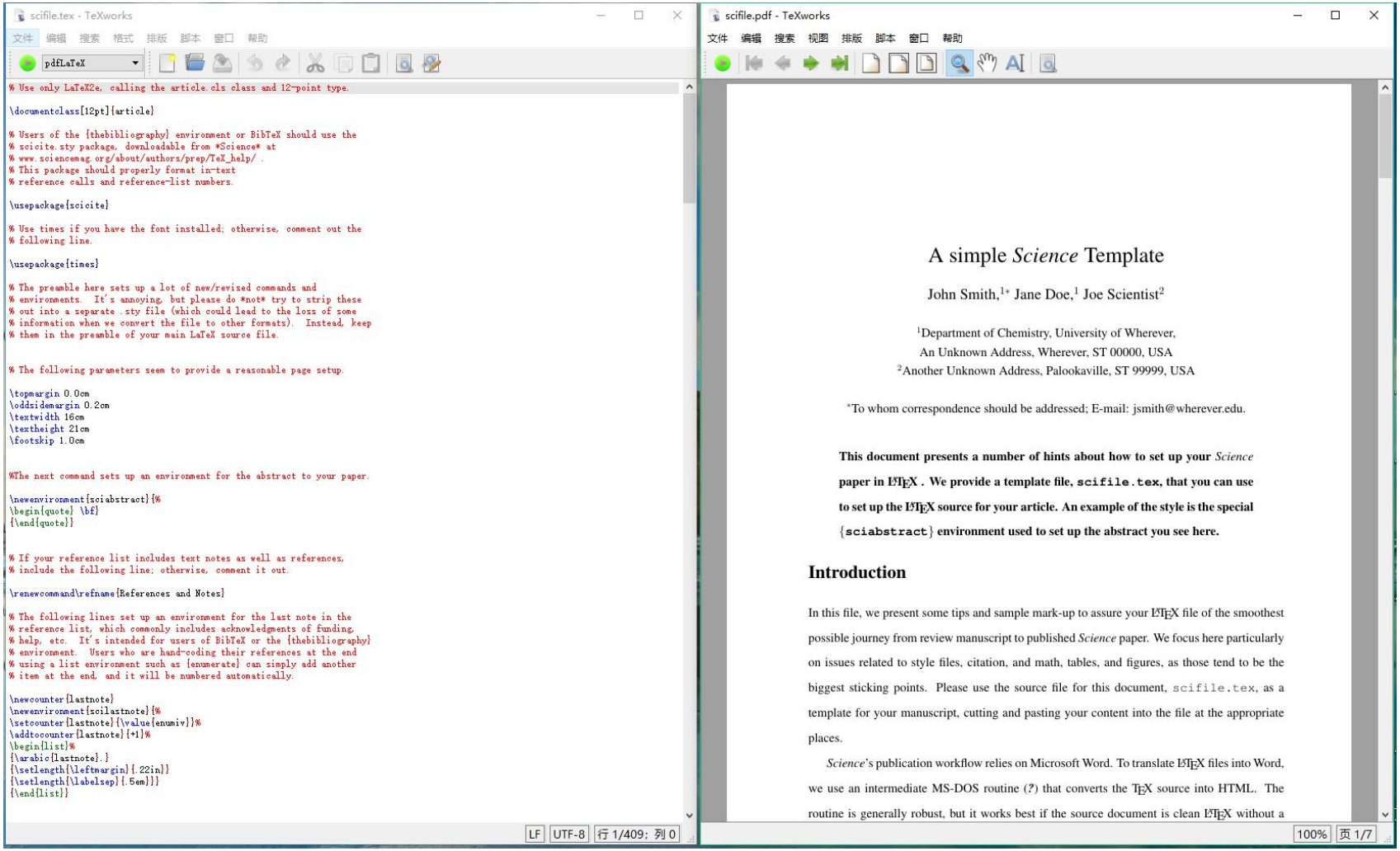
*Corresponding author:li@ustc.edu.cn

50% 页 1/1

各种论文模板–AMS


journal.tex - TeXworks
文件 编辑 搜索 格式 排版 脚本 窗口 帮助
pdfLaTeX
% Beginning of journal.tex
% AMS-LaTeX version 2 sample file for journals, based on amsart.cls.
% *** DO NOT USE THIS FILE AS A STARTER. ***
% *** USE THE JOURNAL-SPECIFIC *.TEMPLATE FILE. ***
% Replace amsart by the documentclass for the target journal, e.g., tran-l.
\documentclass{amsart}
\newtheorem{theorem}{Theorem}[section]
\newtheorem{lemma}[theorem]{Lemma}
\theoremstyle{definition}
\newtheorem{definition}[theorem]{Definition}
\newtheorem{example}[theorem]{Example}
\newtheorem{xca}[theorem]{Exercise}
\theoremstyle{remark}
\newtheorem{remark}[theorem]{Remark}
\numberwithin{equation}{section}
% Absolute value notation
\newcommand{\abs}[1]{\lvert#1\rvert}
% Blank box placeholder for figures (to avoid requiring any
% particular graphics capabilities for printing this document).
\newcommand{\blankbox}[2]{%
\parbox{\columnwidth}{\centering
% Set fboxsep to 0 so that the actual size of the box will match the
% given measurements more closely.
\setlength{\fboxsep}{0pt}%
\fbox{\raisebox{0pt}[#2]{\hspace{#1}}}%
}%
}
\begin{document}
\title{AMS Journal Sample}
% Information for first author
\author{Author One}
% Address of record for the research reported here
\address{Department of Mathematics, Louisiana State University, Baton Rouge, Louisiana 70803}
% Current address
\curraddr{Department of Mathematics and Statistics, Case Western Reserve University, Cleveland, Ohio 43403}
\email{xyz@math.university.edu}
% \thanks will become a 1st page footnote.
\thanks{The first author was supported in part by NSF Grant \#000000.}
% Information for second author
\author{Author Two}
\address{Mathematical Research Section, School of Mathematical Sciences, Australian National University, Canberra ACT 2601, Australia}
\email{two@maths.univ.edu.au}
\thanks{Support information for the second author.}
LF UTF-8 行 1/317; 列 0
journal.pdf - TeXworks
文件 编辑 搜索 视图 排版 脚本 窗口 帮助
AMS JOURNAL SAMPLE
AUTHOR ONE AND AUTHOR TWO
This paper is dedicated to our advisors.
Abstract. This paper is a sample prepared to illustrate the use of the American Mathematical Society's LaTeX document class amsart and publication-specific variants of that class for AMS-LaTeX version 2.
This is an unnumbered first-level section head
This is an example of an unnumbered first-level heading.
THIS IS A SPECIAL SECTION HEAD
This is an example of a special section head[1].
1. This is a numbered first-level section head
This is an example of a numbered first-level heading.
1.1. This is a numbered second-level section head. This is an example of a numbered second-level heading.
This is an unnumbered second-level section head. This is an example of an unnumbered second-level heading.
1.1.1. This is a numbered third-level section head. This is an example of a numbered third-level heading.
This is an unnumbered third-level section head. This is an example of an unnumbered third-level heading.
Lemma 1.1. Let $f, g \in A(X)$ and let E, F be cozero sets in X.
(1) If f is E-regular and $F \subseteq E$, then f is F-regular.
(2) If f is E-regular and F-regular, then f is $E \cup F$-regular.
(3) If $f(x) \geq c > 0$ for all $x \in E$, then f is E-regular.
The following is an example of a proof.
Date: January 1, 2001 and, in revised form, June 22, 2001.
2000 Mathematics Subject Classification. Primary 54C40, 14E20; Secondary 46E25, 20C20.
Key words and phrases. Differential geometry, algebraic geometry.
The first author was supported in part by NSF Grant #000000.
Support information for the second author.
[1]Here is an example of a footnote. Notice that this footnote text is running on so that it can stand as an example of how a footnote with separate paragraphs should be written.
And here is the beginning of the second paragraph.
1
100% 页 1/4

各种论文模板–SCIENCE



scifile.tex - TeXworks

```
% Use only LaTeX2e, calling the article.cls class and 12-point type.

\documentclass[12pt]{article}

% Users of the {thebibliography} environment or BibTeX should use the
% scicite.sty package, downloadable from *Science* at
% www.sciencemag.org/about/authors/prep/TeX_help/ .
% This package should properly format in-text
% reference calls and reference-list numbers.

\usepackage{scicite}

% Use times if you have the font installed; otherwise, comment out the
% following line.

\usepackage{times}

% The preamble here sets up a lot of new/revised commands and
% environments.  It's annoying, but please do *not* try to strip these
% out into a separate .sty file (which could lead to the loss of some
% information when we convert the file to other formats).  Instead, keep
% them in the preamble of your main LaTeX source file.


% The following parameters seem to provide a reasonable page setup.

\topmargin 0.0cm
\oddsidemargin 0.2cm
\textwidth 16cm
\textheight 21cm
\footskip 1.0cm


%The next command sets up an environment for the abstract to your paper.

\newenvironment{sciabstract}{%
\begin{quote} \bf}
{\end{quote}}


% If your reference list includes text notes as well as references,
% include the following line; otherwise, comment it out.

\renewcommand\refname{References and Notes}

% The following lines set up an environment for the last note in the
% reference list, which commonly includes acknowledgments of funding,
% help, etc.  It's intended for users of BibTeX or the {thebibliography}
% environment.  Users who are hand-coding their references at the end
% using a list environment such as {enumerate} can simply add another
% item at the end, and it will be numbered automatically.

\newcounter{lastnote}
\newenvironment{scilastnote}{%
\setcounter{lastnote}{\value{enumiv}}%
\addtocounter{lastnote}{+1}%
\begin{list}%
{\arabic{lastnote}.}
{\setlength{\leftmargin}{.22in}}
{\setlength{\labelsep}{.5em}}}
{\end{list}}
```

scifile.pdf - TeXworks

A simple *Science* Template

John Smith,[1*] Jane Doe,[1] Joe Scientist[2]

[1]Department of Chemistry, University of Wherever,
An Unknown Address, Wherever, ST 00000, USA
[2]Another Unknown Address, Palookaville, ST 99999, USA

*To whom correspondence should be addressed; E-mail: jsmith@wherever.edu.

This document presents a number of hints about how to set up your *Science* paper in LaTeX . We provide a template file, `scifile.tex`, that you can use to set up the LaTeX source for your article. An example of the style is the special {`sciabstract`} environment used to set up the abstract you see here.

Introduction

In this file, we present some tips and sample mark-up to assure your LaTeX file of the smoothest possible journey from review manuscript to published *Science* paper. We focus here particularly on issues related to style files, citation, and math, tables, and figures, as those tend to be the biggest sticking points. Please use the source file for this document, `scifile.tex`, as a template for your manuscript, cutting and pasting your content into the file at the appropriate places.

Science's publication workflow relies on Microsoft Word. To translate LaTeX files into Word, we use an intermediate MS-DOS routine (*?*) that converts the TeX source into HTML. The routine is generally robust, but it works best if the source document is clean LaTeX without a

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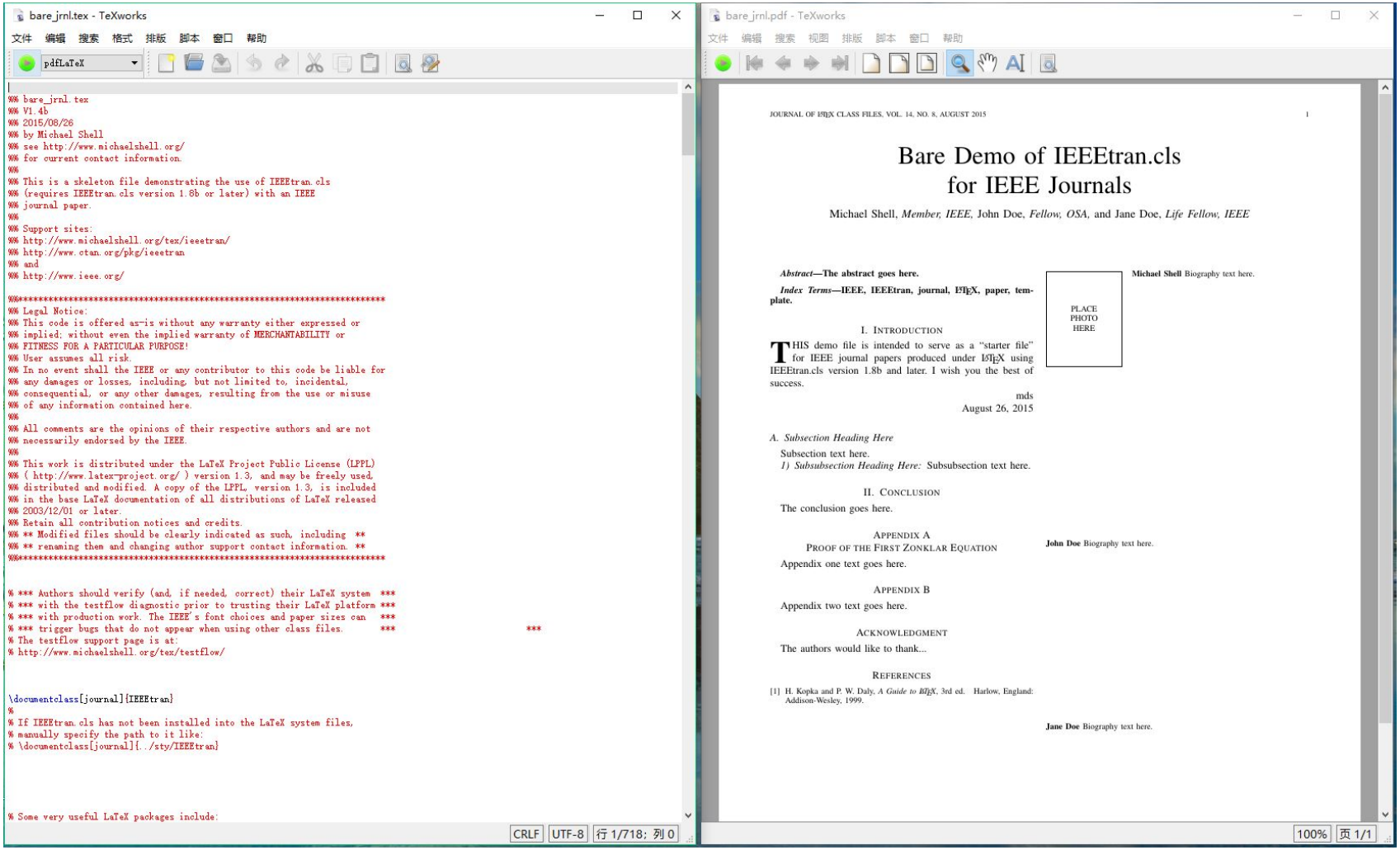
bare_jrnl.tex - TeXworks
文件 编辑 搜索 格式 排版 脚本 窗口 帮助
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%% V1.4b
%% 2015/08/26
%% by Michael Shell
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%% for current contact information.
%%
%% This is a skeleton file demonstrating the use of IEEEtran.cls
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%% journal paper.
%%
%% Support sites:
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%% http://www.ctan.org/pkg/ieeetran
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%% ** Modified files should be clearly indicated as such, including **
%% ** renaming them and changing author support contact information. **
% *** Authors should verify (and, if needed, correct) their LaTeX system ***
% *** with the testflow diagnostic prior to trusting their LaTeX platform ***
% *** with production work. The IEEE's font choices and paper sizes can ***
% *** trigger bugs that do not appear when using other class files. ***
% The testflow support page is at:
% http://www.michaelshell.org/tex/testflow/
\documentclass[journal]{IEEEtran}
%
% If IEEEtran.cls has not been installed into the LaTeX system files,
% manually specify the path to it like:
% \documentclass[journal]{../sty/IEEEtran}
% Some very useful LaTeX packages include:
CRLF UTF-8 行 1/718; 列 0
bare_jrnl.pdf - TeXworks
文件 编辑 搜索 视图 排版 脚本 窗口 帮助
JOURNAL OF LATEX CLASS FILES, VOL. 14, NO. 8, AUGUST 2015 1
Bare Demo of IEEEtran.cls for IEEE Journals
Michael Shell, Member, IEEE, John Doe, Fellow, OSA, and Jane Doe, Life Fellow, IEEE
Abstract—The abstract goes here.
Index Terms—IEEE, IEEEtran, journal, LaTeX, paper, template.
I. Introduction
THIS demo file is intended to serve as a "starter file" for IEEE journal papers produced under LaTeX using IEEEtran.cls version 1.8b and later. I wish you the best of success.
mds
August 26, 2015
A. Subsection Heading Here
Subsection text here.
1) Subsubsection Heading Here: Subsubsection text here.
II. Conclusion
The conclusion goes here.
Appendix A
Proof of the First Zonklar Equation
Appendix one text goes here.
Appendix B
Appendix two text goes here.
Acknowledgment
The authors would like to thank...
References
[1] H. Kopka and P. W. Daly, A Guide to LaTeX, 3rd ed. Harlow, England: Addison-Wesley, 1999.
PLACE PHOTO HERE
Michael Shell Biography text here.
John Doe Biography text here.
Jane Doe Biography text here.
100% 页 1/1

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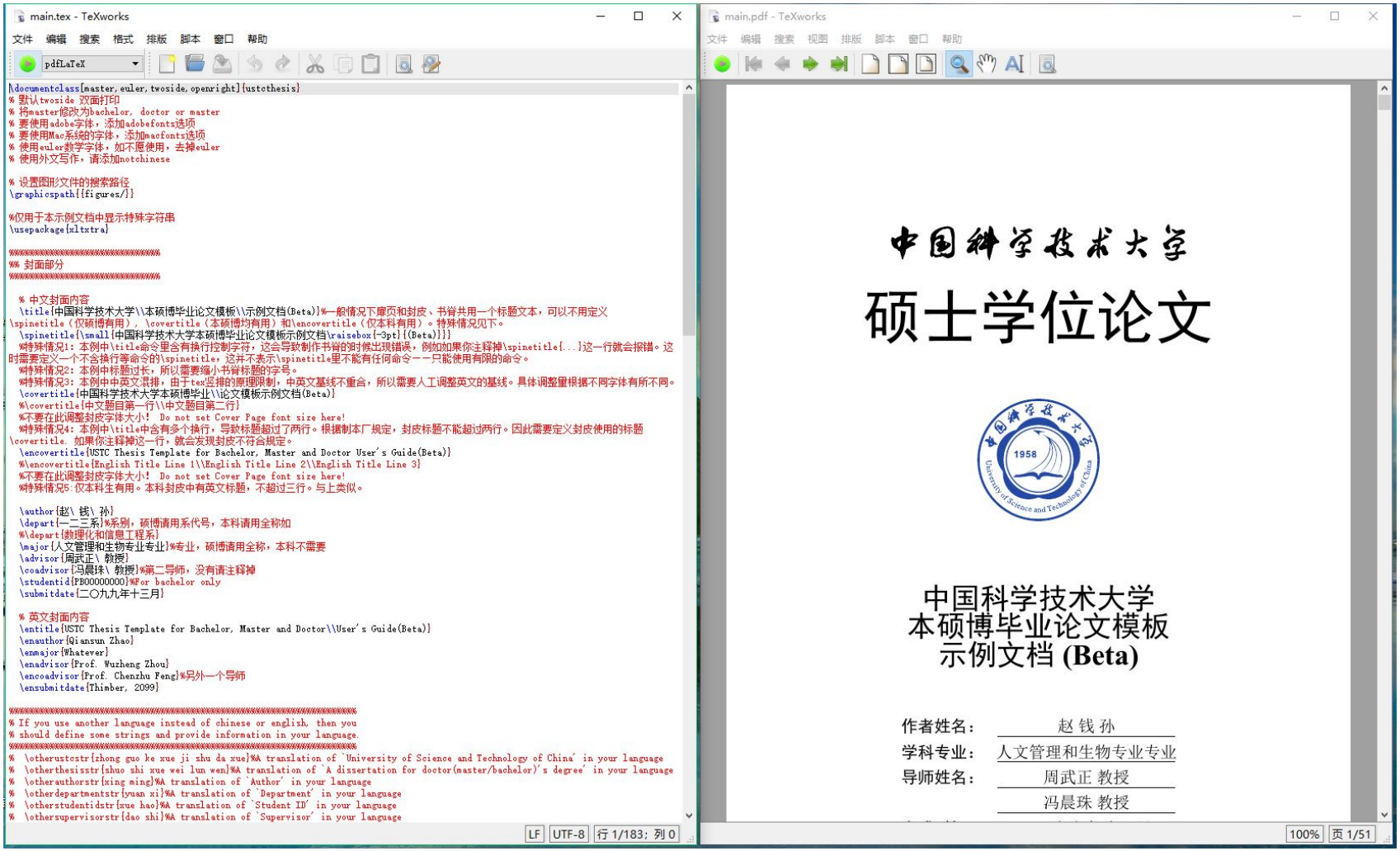

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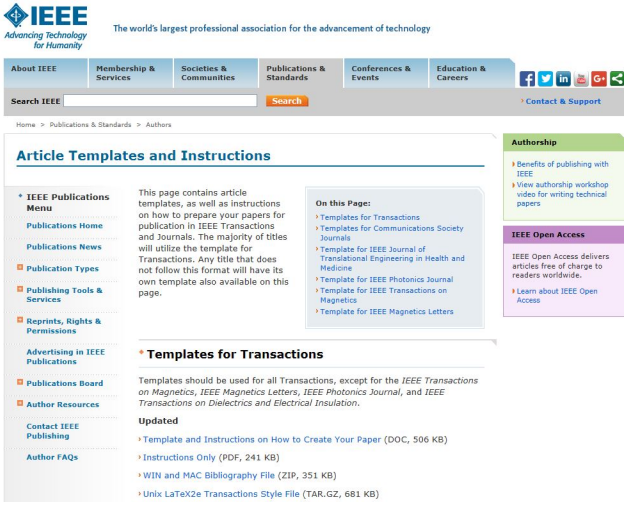

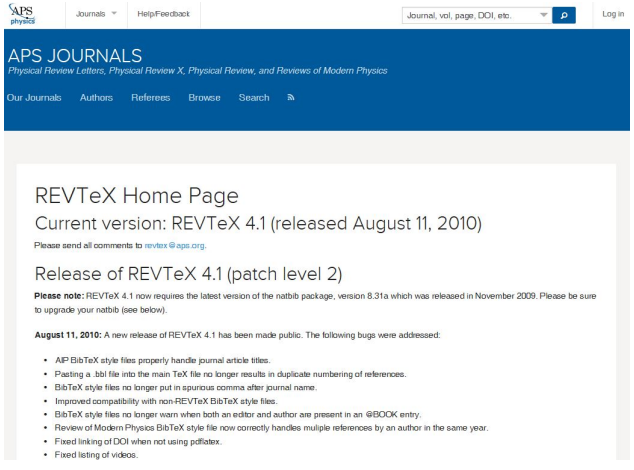

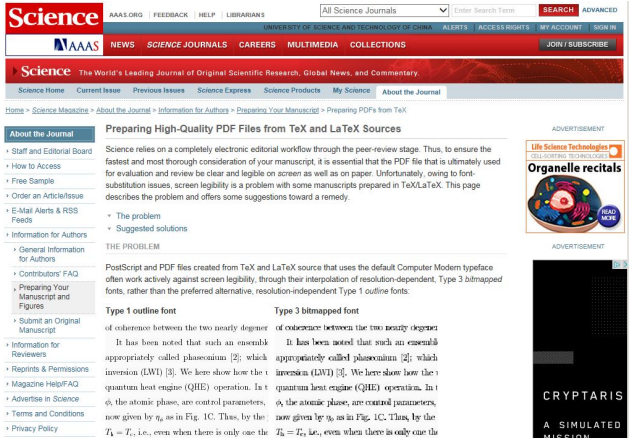

总结

- .tex文件名不能有中文字符
- 内容是否放入相应环境中
- 编译所需宏包是否调用
- 有交叉引用内容的至少连续编译两次
- 及时编译，及时发现问题，及时修改错误

学习资源

- https://ctan.org/ "Comprehensive TeX Archive Network"为世界上最主要的TeX资源集散网站, 搜集了关于TeX的各种文件与软件等等.
- http://www.tug.org/ "TeX User Group" 是1980年成立的TEX用户组织,可以下载软件,寻求帮助, 参加讨论等.
- http://www.ctex.org/ 可以下载CTEX中文套装,WinEdt编辑器.
- 书籍: 《LATEX入门》刘海洋著.

感谢聆听