

運用LaTeX寫論文

圖書館學科服務組
物理系圖書室



SINCE 1928



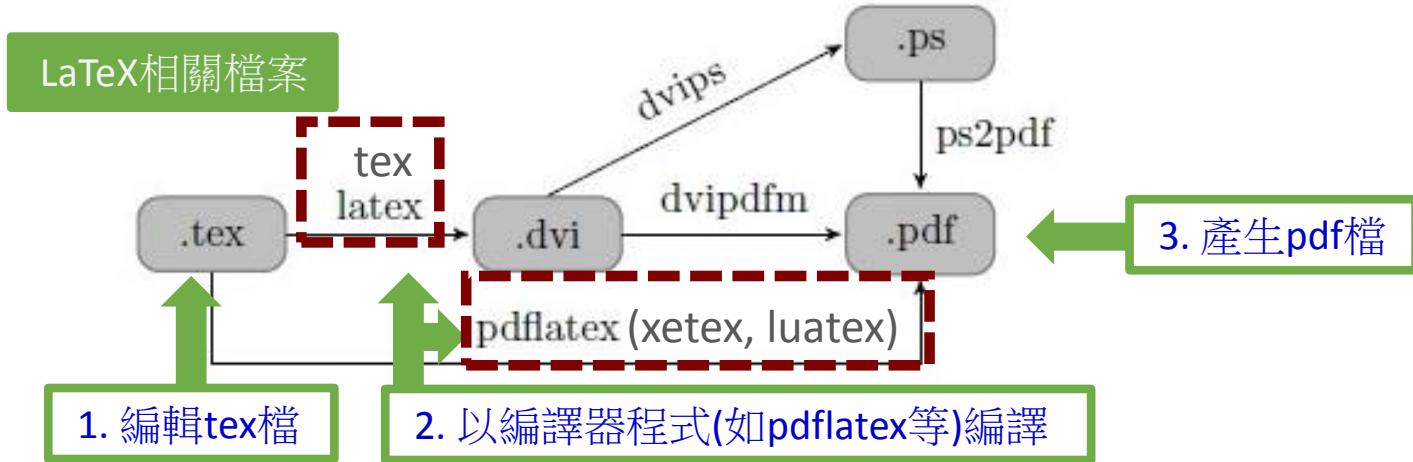
 國立臺灣大學圖書館

大綱

- 引言
- 軟體工具
- LaTeX語法
- 新增 package



LaTeX 檔案



文字內容

```
Cartesian closed categories and the price of eggs
Jane Doe
September 1994

Hello world!
```

.tex檔

```
\documentclass{article}
\title{Cartesian closed categories and the price of eggs}
\author{Jane Doe}
\date{September 1994}
\begin{document}
\maketitle
Hello world!
\end{document}
```



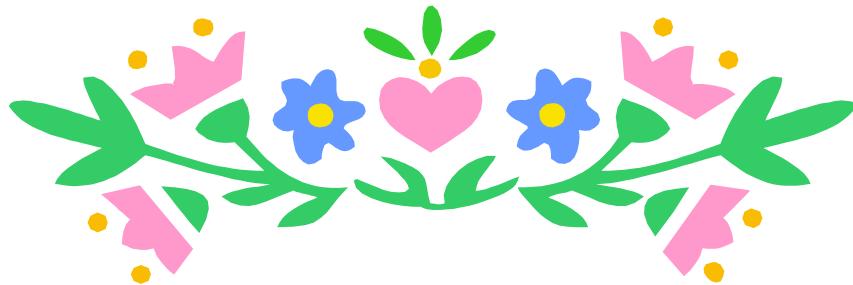
LaTeX 特點

LaTeX Features

- Typesetting **journal articles**, technical reports, books, and **slide presentations**.
- Control over **large documents** containing sectioning, cross-references, tables and figures.
- Typesetting of complex **mathematical formulas**.
- Advanced typesetting of mathematics with **AMS-LaTeX**.
- Automatic generation of **bibliographies** and indexes.
- **Multi-lingual typesetting**.

引自 LaTeX 網頁





LA_TE_X 軟體工具



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LaTeX – A document preparation system

下載

LaTeX is a high-quality typesetting system; it includes features designed for the production of technical and scientific documentation. LaTeX is the de facto standard for the communication and publication of scientific documents. LaTeX is available as free software.

You don't have to pay for using LaTeX, i.e., there are no licence fees, etc. You are, of course, invited to support the maintenance and development efforts through a donation to the TeX Users Group (choose LaTeX Project contribution) if you are satisfied with LaTeX.

The volunteer efforts that provide you with LaTeX need financial support, so thanks for any contribution you are willing to make.

Recent News

1 September, 2019

[Major news: LaTeX development formats are now available](#)

25 August, 2019

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23 April, 2019

[Two papers on the history of LaTeX](#)

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TeX Distributions

TeX Distributions

各類作業系統LaTeX套裝軟體

If you're new to TeX and LaTeX or just want an easy installation, get a full TeX distribution. The TeX Users Group (TUG) has a [list of notable distributions](#) that are entirely, or least primarily, free software.

Linux

Check your Linux distributions software source for a TeX distribution including LaTeX. You can also install the current [TeX Live distribution](#) directly---in fact this may be advisable as many Linux distributions only contain older versions of TeX Live, see [Linux TeX Live package status](#) for details.

Mac OS

The [MacTeX](#) distribution contains everything you need, including a complete TeX system with LaTeX itself and editors to write documents.

Windows

Check out the [MiKTeX](#) or [proTeXt](#) or [TeX Live](#) distributions; they contain a complete TeX system with LaTeX itself and editors to write documents.

Online

LaTeX online services like [Papeeria](#), [Overleaf](#), [ShareLaTeX](#), [Datazar](#), and [LaTeX base](#) offer the ability to edit, view and download LaTeX files and resulting PDFs.

TEXMAKER



MiKTeX



...types
ful documents...

下載

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Getting MiKTeX

MiKTeX is available for selected operating systems. Please check the [prerequisites](#) in order to find out whether your system is supported.

If your system is not (yet) supported: it is not too difficult to build MiKTeX.

Windows

Mac

Linux

Docker

All downloads

Install on Windows

Installer

Portable Edition

Command-line installer

Installer

To install a basic TeX/LaTeX system on Windows, download and run this installer.

Please read the [tutorial](#), if you want step-by-step guidance.

Date: 10/4/2018

File name: basic-miktex-2.9.6850-x64.exe

Size: 190.07 MB

SHA-256: 292d6eeced7e43c369af2a560e9628f4aa949b409ab82c39eaa019bcd1c7d4e13

Download

Windows 開始功能表

- MiKTeX console
- TeXworks

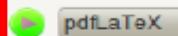
Download

TeXworks

選擇編譯程式

標題列

File Edit Search Format Typeset Scripts Window Help



```
34 %% HEADERS & FOOTERS
35 \usepackage{fancyhdr} % This should be set AFTER setting up the page
36 \pagestyle{fancy} % options: empty , plain , fancy
37 \renewcommand{\headrulewidth}{0pt} % customise the layout...
38 \lhead[]\chead[]\rhead[]
39 \lfoot[]\cfoot[\thepage]\rfoot[]
40
41 %% SECTION TITLE APPEARANCE
42 \usepackage[sectsty]
43 \allsectionsfont{\sffamily\mdseries\upshape} % (See the fntguide.pdf
44 % (This matches ConTeXt defaults)
45
46 %% TOC (table of contents) APPEARANCE
47 \usepackage[nottoc,notlof,notlot]{tocbibind} % Put the bibliography
48 % in the ToC
49 \usepackage[titles,subfigure]{tocloft} % Alter the style of the Table
50 % of Contents
51 \renewcommand{\cftsec}
52 % END Article customizations
53
54 %% The "real" document content comes below...
55
56 \title{Brief Article}
57 \author{The Author}
58 %\date{} % Activate to display a given date or no date (if empty),
59 % otherwise the current date is printed
60
61 \begin{document}
62 \maketitle
63
64 \section{First section}
65 Your text goes here.
66
67 \subsection{A subsection}
68 More text.
69
70 \end{document}
```

工具列

untitled-11.tex - TeXworks

File Edit Search View Typeset Scripts Window

選單列

Brief Article

The Author

July 3, 2010

1 First section

Your text goes here.

1.1 A subsection

More text.

預覽區

狀態列

LF UTF-8 Line 57 of 73; col 19

60.73% page 1 of 1

TeXMaker

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下載

TEXMAKER

Free cross-platform LaTeX editor since 2003
(Windows, MacOsX, Linux)

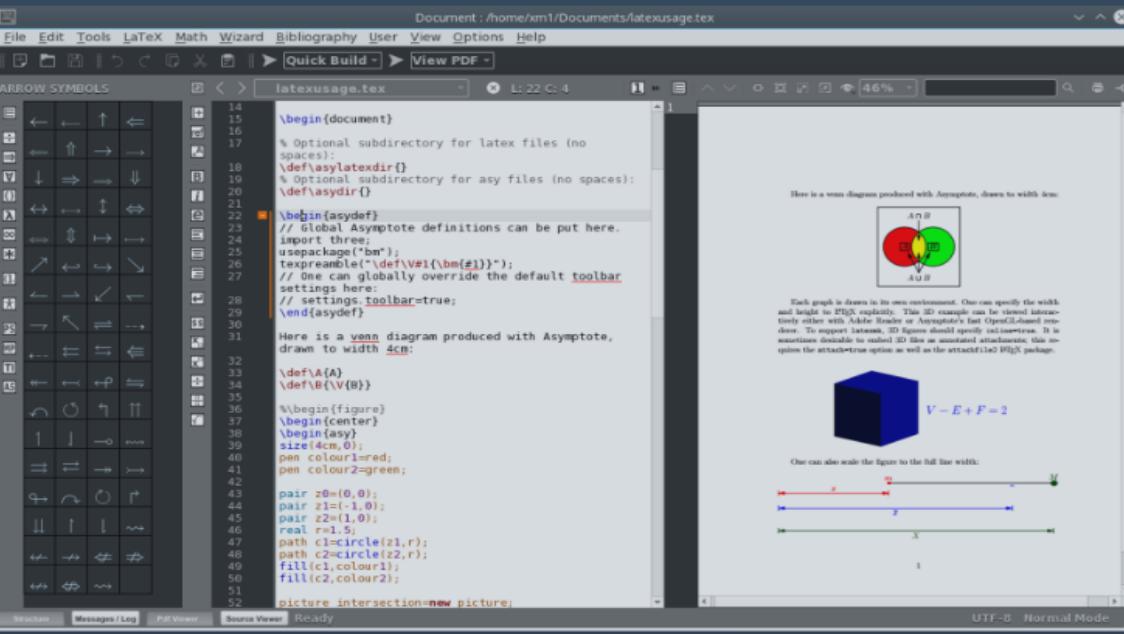
[DOWNLOAD version 5.0.3](#)

★★★★★

"Powerful, easy to use and elegant"

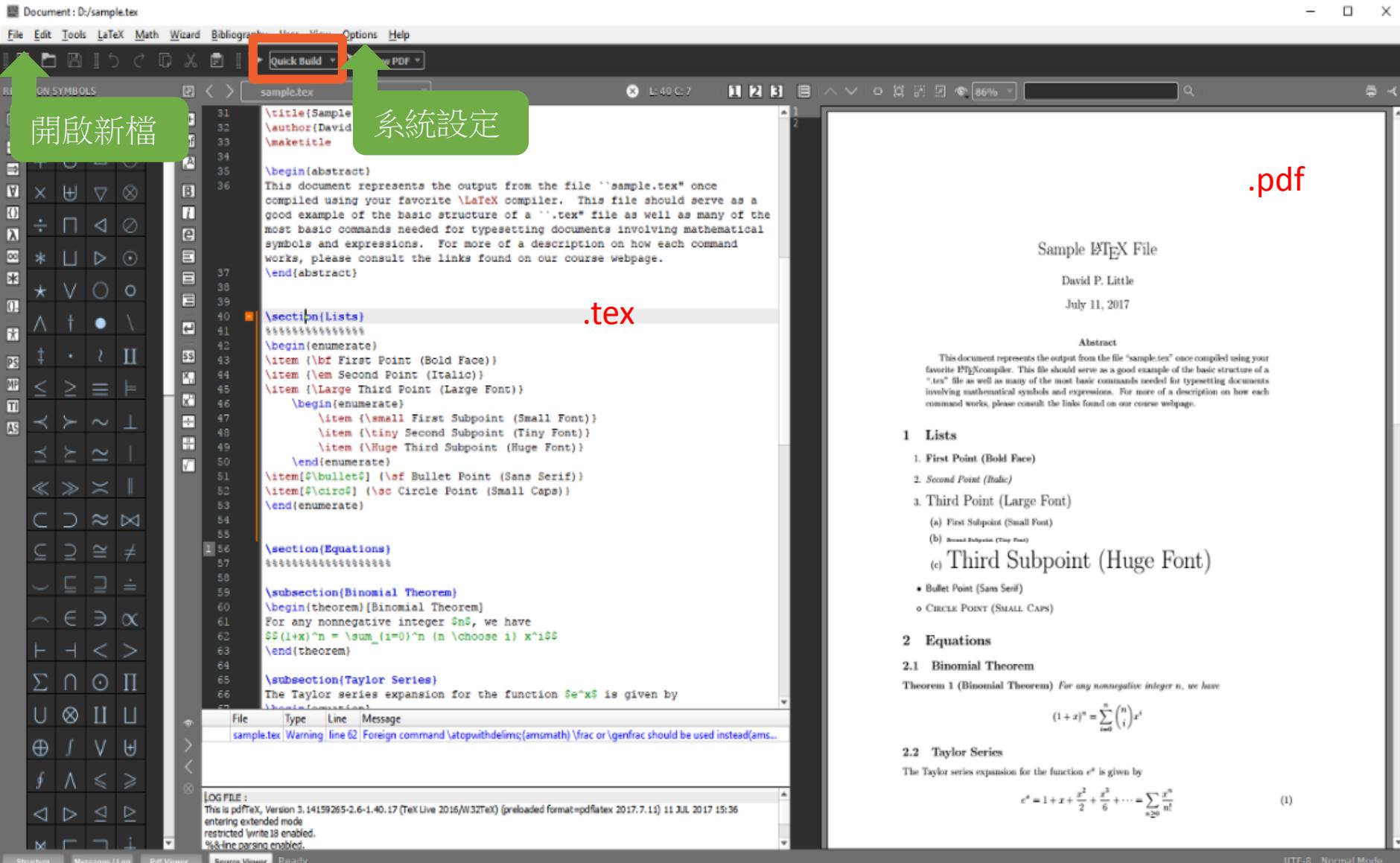
Powerful Editor
with unicode support, spell checking, auto-completion, code folding

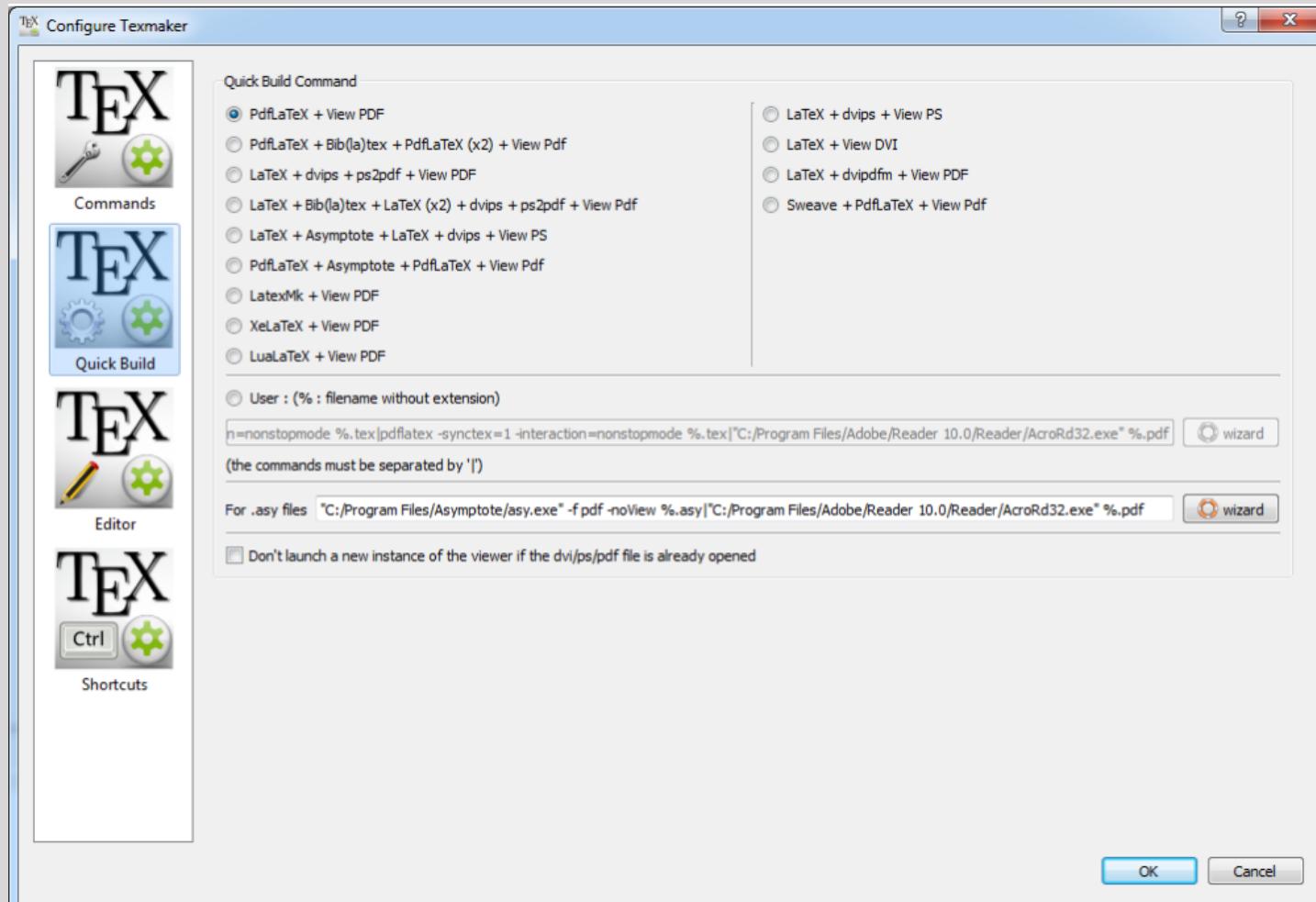
Integrated Pdf viewer
with synctex support and continuous view mode



The screenshot shows the TexMaker interface. On the left, there's a sidebar with a 'ARROW SYMBOLS' section containing various mathematical symbols like \leftarrow, \rightarrow, \uparrow, \downarrow, etc. The main window displays a LaTeX document named 'latexusage.tex'. The code includes sections for document class, preamble, and a Venn diagram example. To the right of the code, there are two diagrams: one showing overlapping sets A and B, and another showing a 3D cube with vertices labeled A, B, C, D, E, F, G, H. Below the diagrams, there's a note about Asymptote settings and a formula $V - E + F = 2$.

TeXMaker





Overleaf

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升級付費服務



Features & Benefits ▾

Templates

Plans & Pricing

Help ▾

Register

Log In

LaTeX, Evolved

The easy to use, online, collaborative LaTeX editor

The Universe

Review Share Submit History Chat

Recompile

Source Rich Text

Get started now

email@example.com ***** Register

***** or *****

G Register using Google ID Register using ORCID

1 \documentclass{article}

2 \usepackage[utf8]{inputenc}

3

4 \title{The Universe}

5 \author{}

6 \date{September 2018}

7

8 \usepackage[natbib]

9 \usepackage{graphicx}

10

11 \begin{document}

12

13 \maketitle

14

15 \section{Introduction}

16 There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable.

17 There is another theory which states that this has already happened.

18

19 \begin{figure}[h]

20 \centering

21 \includegraphics[scale=1.7]{figures/universe.jpg}

22 \caption{The Universe}

23 \label{fig:universe}

24 \end{figure}

25

26 \section{Conclusion}

27 I always thou

28 \bibliographystyle{plain}

29 I'd like emails about product offers and company news and events.

30 \bibliography{references}

31 \end{document}

32

The Universe

September 2018

1 Introduction

There is a theory which states that if ever anyone discovers exactly what the Universe is for and why it is here, it will instantly disappear and be replaced by something even more bizarre and inexplicable. There is another theory which states that this has already happened.

Figure 1: The Universe

2 Conclusion

3 References

Overleaf

The screenshot shows the Overleaf dashboard. At the top, there's a navigation bar with links for 'Features & Benefits', 'Templates', 'Plans & Pricing', 'Help', 'Projects', and 'Account'. A green button labeled 'New Project' is on the left. A blue banner at the top says 'We're celebrating the new school year! For a limited time, receive 15% off the first year of any new annual plan.' An 'Upgrade' button is in the top right. On the left, a sidebar lists project categories: 'All Projects', 'Your Projects', 'Shared with you', 'Archived', 'Trashed', 'TAGS/FC', '+ New', 'Are you working on a thesis?', and 'Add a collaborator'. The main area shows a table of projects. A red box highlights the 'Templates' section in the sidebar, and two green arrows point from this box to specific template cards: 'Blank Project' and 'Academic Journal'.

		Owner	Last Modified	Actions
Blank Project	Blank Project	You	a day ago by You	
Example Project	Example Project	You	a day ago by You	
Upload Project	Upload Project	You	a day ago by You	
Import from GitHub	Import from GitHub	You	7 months ago by You	
Templates	Templates	You	2 years ago by You	
Academic Journal	Academic Journal	You	3 years ago by You	
Book	Book	You	3 years ago by You	
Formal Letter	Formal Letter	You	3 years ago by You	
Homework Assignment	Homework Assignment	You	3 years ago by You	
Poster	Poster	You	3 years ago by You	
Presentation	Presentation	You	3 years ago by You	
Project / Lab Report	Project / Lab Report	You	3 years ago by You	
Résumé / CV	Résumé / CV	You	3 years ago by You	
Thesis	Thesis	You	3 years ago by You	
View All	X 4.2 Template and Sample	You	3 years ago	
<input type="checkbox"/> Hello		You	3 years ago by You	
<input type="checkbox"/> TikZ-Feynman		You	3 years ago	

Overleaf - Templates

[Features & Benefits](#)[Templates](#)[Plans & Pricing](#)[Help](#)[Projects](#)[Account](#)

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Templates

Start your projects with quality LaTeX templates for journals, CVs, resumes, papers, presentations, assignments, letters, project reports, and more. Search or browse below.

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Overleaf

Features & Benefits

Templates

Plans & Pricing

Help

Register

Log In

RevTeX 4.2 Template and Sample

[Open as Template](#) [View Source](#) [Download PDF](#)

Author
License
Abstract
The American Physical Society
Other (as stated in the work)

開啟專案模版

RevTeX 4.2 (and $\mathrm{\LaTeX} 2_{\mathrm{e}}$) in manuscripts prepared for submission to APS journals, including Physical Review Letters, Physical Review A-E, Physical Review X, Reviews of Modern Physics, Applied Physics Letters, using the RevTeX 4.2 document class.

Tags: Physics, Academic Journal, REVTeX, American Physical Society (APS)

Find More Templates

Manuscript Title:
with Forced Linebreak¹
Authors' institution and/or address
*This line break forced with *
(MUSO Collaboration)

Charlie Author¹
Second institution and/or address
*This line break forced with *
Third institution, the second for Charlie Author

Delta Author¹
Authors' institution and/or address
*This line break forced with *
(CLEO Collaboration)
(Dated: June 18, 2019)

An article usually includes an abstract, a concise summary of the work covered at length in the main body of the article.
Usage: Secondary publications and information retrieval purposes.
Structure: You may use the environment to structure your abstract; use the optional argument of the \item command to give the category of each item.

**L. FIRST-LEVEL HEADING:
THE LINE BREAK WAS FORCED via **
This sample document demonstrates proper use of REVTeX 4.2 (and $\mathrm{\LaTeX} 2_{\mathrm{e}}$) in manuscripts prepared for submission to APS journals. Further information can be found in the REVTeX 4.2 documentation located in the distribution or available at <http://journals.aps.org/revtex/>.

A. Second-level heading: Formatting
This file may be formatted in either the `preprint` or `reprint` style. `reprint` format mimics final journal output. `preprint` may be used for typesetting purposes. `letter` size paper should be used when submitting to APS journals.

I. Wide text (A level-3 head)
The `widetext` environment will make the text the width of the full page, as on page 4. (Note the use of the `\pagestyle{fancy}` command to refer to the page number.)
a. Note (*Fifth-level head is run in*) The width-changing commands only take effect in two-column formatting. There is no effect if text is in a single column.

B. Citations and References
A citation in text uses the command `\cite{#1}` or

Overleaf - Templates

[Features & Benefits](#)[Templates](#)[Plans & Pricing](#)[Help](#)[Projects](#)[Account](#)

Filters: All / Templates / Examples / Articles

Templates

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台大工學院碩博士論文模板 (National Taiwan University Master and Doctor Thesis Template)

Revision of "National Taiwan University Thesis Template" <https://www.overleaf.com/latex/templates/national-taiwan-university-thesis-template/hvfybyfxgzt>

[International Languages](#) [University](#) [Thesis](#) [XeLaTeX](#) [Chinese](#) [National Taiwan University](#)



National Taiwan University Thesis Template

🎓 Unofficial LaTeX template for your master/doctor thesis at National Taiwan University. 📚 國立臺灣大學碩博士學位論文 LaTeX 模板 Check GitHub | Hsins/NTU-Thesis for more information.

[International Languages](#) [Thesis](#) [XeLaTeX](#) [Chinese](#) [National Taiwan University](#)

Overleaf – Blank project

選單

編譯

The screenshot shows the Overleaf web interface for a blank project. The main area displays the LaTeX code for a document titled "First Document". The sidebar on the left, highlighted by a red box, contains the "File outline" section with the following content:

- Download**: Options for "Source" and "PDF".
- Actions**: Buttons for "Copy Project" and "Word Count".
- Sync**: Options for "Dropbox", "Git", and "GitHub".
- Settings**: A "Compiler" dropdown set to "pdfLaTeX", a "TeX Live version" dropdown set to "2022", and sections for "Main document" (set to "main.tex") and "Spell check" (set to "English").

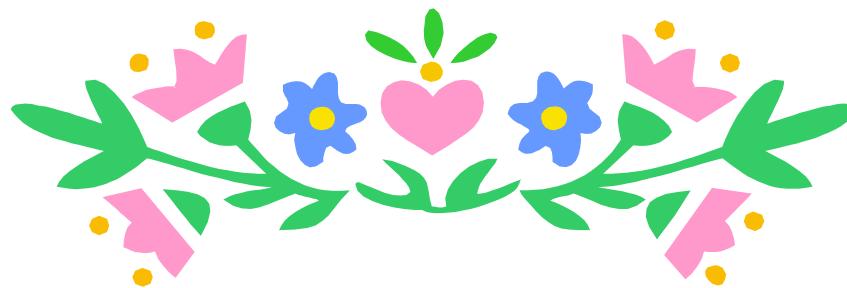
At the top of the interface, there is a navigation bar with the following items from left to right: "Menu" (highlighted with a green arrow), "回到專案列表" (Return to Project List), "First Document", "Review", "Share", "Submit", "History", "Layout", and "Chat". On the far right, there is a "Recompile" button (highlighted with a red box and a green arrow).

Overleaf - Documentation

The screenshot shows the Overleaf Documentation website. At the top is a dark navigation bar with the Overleaf logo, a "Features & Benefits" dropdown, a "Templates" link, a red-bordered "Help" dropdown (which is currently active), a "Projects" link, and an "Account" link. Below the navigation bar is a white header area with a green button labeled "線上教學文件" (Online Teaching Materials) and a search bar. A large green arrow points from this button to a green box containing the word "Documentation". The main content area is divided into four columns:

- LaTeX Basics**
 - Creating your first LaTeX document
 - Choosing a LaTeX Compiler
 - Paragraphs and new lines
 - Bold, italics and underlining
 - Lists
 - Errors
- References and Citations**
 - Bibliography management in LaTeX
 - Bibliography management with biblatex
 - Biblatex bibliography styles
 - Biblatex citation styles
 - Bibliography management with natbib
 - Natbib bibliography styles
 - Natbib citation styles
 - Bibliography management with bibtex
 - Bibtex bibliography styles
- Document structure**
 - Sections and chapters
 - Table of contents
 - Cross referencing sections and equations
 - Indices
 - Glossaries
 - Nomenclatures
 - Management in a large project
 - Multi-file LaTeX projects
 - Hyperlinks
- Formatting**
 - Lengths in \LaTeX
 - Headers and footers
 - Page numbering
 - Paragraph formatting
 - Line breaks and blank spaces
 - Text alignment
 - Page size and margins
 - Single sided and double sided documents
 - Multiple columns
 - Counters
 - Code listing
 - Code Highlighting with minted
 - Using colours in LaTeX

At the bottom right is a small red square icon with a white building graphic.



LaTeX 語法

學位、期刊論文格式

學位論文

- 封面（標題、作者）
- 致謝
- 摘要
- 目錄（含圖、表）
- 本文（章節）
- 附錄
- 參考文獻

期刊論文

- 標題、作者
- 摘要
- 本文（章節）
- 附錄
- 參考文獻

相關規定請參考

(1) 圖書館論文繳交及離校手續

<https://www.lib.ntu.edu.tw/node/103>

(2) 電子學位論文服務

<https://etds.lib.ntu.edu.tw/ETDS/?SchoolID=U0001>



.tex 檔案 - 基本架構

設定文件資訊

```
\documentclass{article} ← book, report...
```

% 宣告文件類型

```
\usepackage[utf8]{inputenc}
```

```
\title{First Document} 宣告區  
\author{ntuphyslib }  
\date{September 2022}
```

編輯文件

```
\begin{document}
```

```
\maketitle
```

```
\section{Introduction} 本文區
```

```
\end{document}
```

First Document
ntuphyslib
September 2022

1 Introduction



範例

```
\documentclass[reprint,amsmath,amssymb,  
aps]{revtex4-2}
```

Physical Review 期刊 宣告範例

Manuscript Title:
with Forced Linebreak*

Ann Author¹ and Second Author²
Authors' institution and/or address
*This line break forced with *

Charlie Author³
Second institution and/or address
*This line break forced with *
Third institution, the second for Charlie Author

Delta Author
Authors' institution and/or address
*This line break forced with *
(CLEO Collaboration)
(Dated: September 23, 2022)

An article usually includes an abstract, a concise summary of the work covered at length in the main body of the article.

Usage: Secondary publications and information retrieval purposes.

Structure: You may use the `description` environment to structure your abstract; use the optional argument of the `\item` command to give the category of each item.

I. FIRST-LEVEL HEADING:
THE LINE BREAK WAS FORCED via \\

This sample document demonstrates proper use of REVTeX 4.2 (and L^AT_EX 2_e) in manuscripts prepared for submission to APS journals. Further information can be found in the REVTeX 4.2 documentation included in the distribution or available at <http://journals.aps.org/revtex/>.

When commands are referred to in this example file, they are always shown with their required arguments, using normal L^AT_EX font and format, #1, #2, etc. stand for parameters and/or arguments of the command. For example, in `\Section{#1}`, the #1 stands for the title text of the author's section heading, and in `\Title{#1}` the #1 stands for the title text of the paper.

Line breaks in section headings at all levels can be introduced using \\ . A blank input line tells TeX that the paragraph is finished. Note that if a section heading appears automatically, you must escape the \\ or word should appear in lowercase instead; you must escape it using `\lowercase{#1}` as in the word "via" above.

I. Wide text (A level-3 head)

The `\widetext` environment will make the text the width of the full page, as on page 4. (Note the use of the `\pagemerger{#1}` command to refer to the page number.)

a. Note (Fourth-level head is run in) The width-changing commands only take effect in two columns for formatting. There is no effect if text is in a single column.

II. Citations and References

A citation in text uses the command `\cite{#1}` or `\AndListcite{#1}` and refers to an entry in the bibliography. An entry in the bibliography is a reference to another document.

I. Citations

Because REVTeX uses the natbib package of Patrick Daly, the entire repertoire of commands in that package

* A footnote to the article title.
† Also at Physics Department, XYZ University.
‡ Second Author@Institution.edu
§ <http://www.Second.institution.edu/~Charlie.Author>

```
\documentclass[a4paper,12pt]{article}  
\pdfoutput=1  
\usepackage{jheppub}
```

JHEP 期刊 宣告範例

PREPARED FOR SUBMISSION TO JHEP

Manuscript Title:
with Forced Linebreak

Ann Author¹ Second Author¹² Charlie Author³ Delta A¹³
Authors' institution and/or address
*This line break forced with *
Second institution and/or address
This line break forced
Third institution, the second for Charlie Author
Authors' institution and/or address
*This line break forced with *

Contents

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An article usually includes an abstract, a concise summary of the work covered at length in the main body of the article.

Usage: Secondary publications and information retrieval purposes.

Structure: You may use the `description` environment to structure your abstract; use the optional argument of the `\item` command to give the category of each item.

I. First-level heading:
The line break was forced via \\

This sample document demonstrates proper use of REVTeX 4.2 (and L^AT_EX 2_e) in manuscripts prepared for submission to APS journals. Further information can be

NATIONAL TAIWAN UNIVERSITY LIBRARIES

Titles

```
\title{ 標題名稱}  
\author{ 作者名稱}  
\affil{ 研究單位名稱}  
\date{ \today}  
\maketitle
```

```
\begin{abstract}  
.....  
\end{abstract}
```

範例

```
\documentclass[a4paper,12pt]{article}  
\usepackage[utf8]{inputenc}
```

```
\title{First Document}  
\author{Hubert Farnsworth}  
\affil{Department of Biology, University X}  
\date{\today}  
\begin{document}
```

設定標題、作者等

```
\maketitle
```

設定摘要

```
\begin{abstract}  
This is a simple paragraph at the begining of the  
document. A brief introduction to the main subject.  
\end{abstract}
```

```
\end{document}
```

First Document

Hubert Farnsworth

Department of Biology, University X

September 20, 2022

Abstract

This is a simple paragraph at the begining of the document. A brief
introduction to the main subject.



範例

```
\documentclass[a4paper,12pt]{article}
\usepackage[utf8]{inputenc}
\usepackage{authblk} ← 設定作者編號
\title{First Document}
%\author{Hu} 設定作者編號
\author [1]{Alice Smith \thanks{smith@gmail.com}}
\author [2]{Hubert Farnsworth}
\affil [1,2]{Department of Mathematics, University X}
\affil [2]{Department of Biology, University X}
\date{\today} ← 對應作者編號
\begin{document}
\maketitle
\begin{abstract}
This is a simple paragraph at the begining of the document. A brief introduction to the main subject.
\end{abstract}
\end{document}
```

First Document

Alice Smith¹ and Hubert Farnsworth²

^{1,2}Department of Mathematics, University X

²Department of Biology, University X

September 20, 2022

Abstract

This is a simple paragraph at the beginning of the document. A brief introduction to the main subject.

範例

編譯程式改用 XeLaTeX

```
\documentclass[a4paper,12pt,twoside]{book}
\usepackage{xecjk}
\begin{document}
\begin{titlepage}
\begin{center}
\vspace{0.5cm}
\LARGE
Department Name\\
University Name\\
Master Thesis/Doctoral Dissertation\\
\vspace{1.5cm}
\textbf{Thesis Title} \\
\vspace{1.5cm}
\textbf{Author Name} \\
\vfill
\textbf{Advisor: Prof. Name} \\
\vspace{0.8cm}
Date
\end{center}
\end{titlepage}
\end{document}
```

設定使用 Times New Roman 及標楷體字體

```
\usepackage{xecjk}
\usepackage{fontspec}
\setmainfont{Times New Roman}
\setCJKmainfont{kaiu.ttf}
```

國立臺灣大學 ○○ 學院 ○○ 系 (所)
碩 (博) 士論文
Department or Graduate Institute of
College of
National Taiwan University
Master Thesis/Doctoral Dissertation

論文中文題目
Thesis Title

撰者中文姓名
Author Name

Advisor: Prof. Name

中華民國 年 月

Sections

\chapter{ 名稱 }

\section{名稱 }

範例

```
\documentclass[a4paper,12pt]{article}
\title{.....}
\author{.....}
\date{.....}
\begin{document}
\maketitle
\begin{abstract}
.....
\end{abstract}
\section{Introduction}
This is the first section.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortisfacilisis sem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdietmi nec ante. Donec ullamcorper, felis non sodales...
\section{Second Section}
Lorem ipsum dolor sit amet, consectetuer adipiscing e
Etiam lobortis facilisissem. Nullam nec mi et neque
sollicitudin. Praesent imperdiet mi necante...
\end{document}
```

設定章節

First Document

Hubert Farnsworth

September 20, 2022

Abstract

This is a simple paragraph at the begining of the document. A brief introduction to the main subject.

1 Introduction

This is the first section.

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortisfacilisis sem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdietmi nec ante. Donec ullamcorper, felis non sodales...

2 Second Section

Lorem ipsum dolor sit amet, consectetuer adipiscing elit. Etiam lobortis facilisissem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi necante...



範例

```
\documentclass[a4paper,12pt]{book}  
\title{.....}  
\author{.....}  
\date{.....}
```

```
\begin{document}
```

```
\chapter{Chapter 1}  
.....
```

```
\chapter{Chapter 2}  
.....
```

設定章節

```
\end{document}
```

frontmatter

```
\chapter*{Abstract}  
Abstract goes here  
  
\chapter*{Dedication}  
To mum and dad  
  
\chapter*{Declaration}  
I declare that..  
  
\chapter*{Acknowledgements}  
I want to thank...
```

-1 \part{part}

0 \chapter{chapter}

1 \section{section}

2 \subsection{subsection}

3 \subsubsection{subsubsection}

4 \paragraph{paragraph}

5 \ subparagraph{subparagraph}



Appendix

```
\appendix  
\section{名稱} or \chapter{名稱}
```

範例

```
\documentclass[a4paper,12pt]{article}
\title{.....}
\author{.....}
\date{.....}
\usepackage{appendix}

\begin{document}

\section{Introduction}
.....
\begin{subappendices}
\subsection{ How I became inspired}
\end{subappendices}

\section{Second Section}
.....
\appendixpage

\appendix
\section{Section A}
.....
\end{document}
```

製作章節附錄

製作附錄

First Document

Hubert Farnsworth

September 20, 2022

Abstract

This is a simple paragraph at the beginning of the document. A brief introduction to the main subject.

1 Introduction

This is the first section.

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam lobortis facilisis sem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi nec ante. Donec ullamcorper, felis non sodales...

1.A How I became inspired

2 Second Section

 Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam lobortis facilisissem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi necante...

Appendices

A Section A

Table of Contents

\tableofcontents

範例

```
\documentclass[a4paper,12pt]{article}
```

.....

```
\begin{document}
```

```
\maketitle
```

```
\tableofcontents
```

← 設定目錄

```
\section{Introduction}
```

....

```
\end{document}
```

設定超連結

```
\usepackage{hyperref}
```

First Document

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September 20, 2022

Abstract

This is a simple paragraph at the beginning of the document. A brief introduction to the main subject.

Contents

1	Introduction	1
1.A	How I became inspired	1
2	Second Section	1
A	Section A	1

1 Introduction

This is the first section.

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam lobortis facilisis sem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi nec ante. Donec ullamcorper, felis non sodales...

1.A How I became inspired

2 Second Section

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Etiam lobortis facilisis sem. Nullam nec mi et neque pharetra sollicitudin. Praesent imperdiet mi necante...

Appendices

A Section A



範例

```
\documentclass[a4paper,12pt]{book}

\begin{document}

    \frontmatter 宣告前頁章節
    \chapter*{Abstract}
    \addcontentsline{toc}{chapter}{Abstract}
    Abstract goes here

    \chapter*{Acknowledgements}
    \addcontentsline{toc}{chapter}{Acknowledgements}
    I want to thank...

    \tableofcontents

    \mainmatter 宣告正文章節
    \chapter{First Chapter}

\end{document}
```

Contents

Abstract	i
Acknowledgements	iii
1 First Chapter	1
2 Second Chapter	3
A Appendix A	5



Bibliography

```
\begin{thebibliography}{99}
```

文獻筆數，上限為99

```
\bibitem {名稱}
```

文獻書目資料

.....

```
\end {thebibliography}
```

```
\cite{名稱}
```

範例 - 步驟1

```
\documentclass[a4paper,12pt]{article}
```

```
\begin{document}
```

設定文獻目錄

```
\begin{thebibliography}{99}
```

```
\bibitem{latexcompanion}
```

```
Michel Goossens, .....
```

```
\bibitem{einstein}
```

```
Albert Einstein. .....
```

```
\bibitem{knuthwebsite}
```

```
Knuth. .....
```

```
\end{thebibliography}
```

```
\end{document}
```

1 First section

This document is an example of `thebibliography` environment using in bibliography management. Three items are cited: *The L^AT_EX Companion* book [1], the Einstein journal paper [2], and the Donald Knuth's website [3]. The L^AT_EX related items are [1, 3].

References

- [1] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The L^AT_EX Companion*. Addison-Wesley, Reading, Massachusetts, 1993.
- [2] Albert Einstein. *Zur Elektrodynamik bewegter Körper*. (German) [*On the electrodynamics of moving bodies*]. Annalen der Physik, 322(10):891–921, 1905.
- [3] Knuth: Computers and Typesetting,
<http://www-cs-faculty.stanford.edu/~uno/abcde.html>



範例 - 步驟2

```
\documentclass[a4paper,12pt]{article}
```

```
\begin{document}
```

設定引用文獻

This document is an example of thebibliography environment using in bibliography management. Three items are cited: The LaTeX Companion book `\cite{ latexcompanion }`, the Einstein paper `\cite{einstein}`, and the Donald Knuth's website `\cite{knuthwebsite}`. The LaTeX related items are `\cite{latexcompanion,knuthwebsite}`.

文獻目錄指令

```
\end{document}
```

1 First section

This document is an example of `thebibliography` environment using in bibliography management. Three items are cited: *The L^AT_EX Companion* book [1], the Einstein journal paper [2], and the Donald Knuth's website [3]. The L^AT_EX related items are [1, 3].

References

- [1] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The L^AT_EX Companion*. Addison-Wesley, Reading, Massachusetts, 1993.
- [2] Albert Einstein. *Zur Elektrodynamik bewegter Körper*. (German) [*On the electrodynamics of moving bodies*]. Annalen der Physik, 322(10):891–921, 1905.
- [3] Knuth: Computers and Typesetting, <http://www-cs-faculty.stanford.edu/~uno/abcde.html>



範例：.bib 檔案

filename.bib

bib檔案範例

```
@article{einstein,
    author      = {Albert Einstein},
    title       = {Zur Elektrodynamik bewegter Körpere. (German) [On the electrodynamics of moving bodies]},
    journaltitle = {Annalen der Physik},
    year        = {1905},
    volume      = {322},
    number      = {10},
    pages       = {891-921},
    doi         = {http://dx.doi.org/10.1002/andp.19053221004}
}

@online{knuethwebsite,
    author      = {Donald Knuth},
    title       = {Knuth: Computers and Typesetting},
    year        = {1984},
    url         = {http://www-cs-faculty.stanford.edu/~uno/abcde.html}
}

@book{latexcompanion,
    author      = {Michel Goossens and Frank Mittelbach and Alexander Samarin},
    title       = {The \LaTeX\ Companion},
    year        = {1993},
    publisher   = {Addison-Wesley},
    location    = {Reading, Massachusetts}
}
```

設定文獻名稱

bib檔案欄位

Most common fields used in BibTeX

address	annotate	author
booktitle	chapter	crossref
edition	editor	institution
journal	key	month
note	number	organization
pages	publisher	school
series	title	type
volume	year	URL
ISBN	ISSN	LCCN
abstract	keywords	price
copyright	language	contents



範例：.bib 檔案

```
\documentclass[a4paper,12pt]{article}
```

```
\begin{document}
```

.....

```
\bibliographystyle{plain}  
\bibliography{sample.bib}
```

```
\end{document}
```

設定引用
檔案製作文獻
目錄

bibliographystyle

plain, abrv, acm, alpha,
apalike, ieeetr, siam, unsrt

文獻目錄格式選項

TeXMaker編譯注意事項

pdflatex filename.tex

bibtex filename.tex

pdflatex filename.tex

TEXMAKER

"Tools" menu :

- Quick build : F1
- Latex : F2
- View dvi : F3
- Dvi->PS : F4
- View PS : F5
- Pdflatex : F6
- View Pdf : F7
- PS->Pdf : F8
- Dvi->Pdf : F9
- View log : F10
- Bibtex : F11
- Make index : F12



Figures

```
\usepackage{graphicx}  
\graphicspath{ ./images/ } }
```

設定檔案路徑

```
\begin{figure}[ht]  
    \centering  
    \includegraphics [width=8cm] {檔案名稱}  
    \caption{說明文字}  
    \label{名稱}  
\end{figure}
```

height : 設定高度
scale : 設定比例

範例

```
\documentclass[a4paper,12pt]{article}
```

```
.....
```

```
\usepackage{graphicx}
```

```
\begin{document}
```

```
.....
```

設定插入圖片

```
\begin{figure}[ht]
\centering
\includegraphics[width=4cm]{Image}
\caption{An image of a flower}
\label{fig:flower}
\end{figure}
```

```
\end{document}
```

First Document

Hubert Farnsworth

September 20, 2022

Abstract

This is a simple paragraph at the beginning of the document. A brief introduction to the main subject.

Contents

1	Introduction	1
1.A	How I became inspired	2
2	Second Section	2
A	Section A	2

1 Introduction

In this example we generate several keywords which are important and deserve to appear in the Index.

This document is an example of BibTeX using in bibliography management. Three items are cited: *The L^AT_EX Companion* book [1], the Einstein journal paper [2], and the Donald Knuth's website [3]. The L^AT_EX related items are [1, 3].



Figure 1: An image of a flower



範例

! \usepackage{sidecap}

圖片文字置右

```
\begin{SCfigure}[0.5][h]
\caption{Using again the picture of the universe.  
This caption will be on the right}
\includegraphics[width=0.6\textwidth]{universe}
\end{SCfigure}
```



Figure 2: Using again the picture of the universe. This caption will be on the right

! \usepackage{wrapfig}

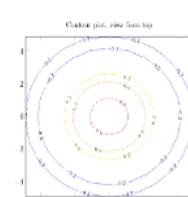
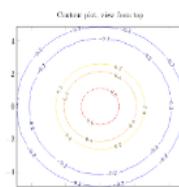
設定文繞圖效果

```
\begin{wrapfigure}{r}{0.25\textwidth}
\centering
\includegraphics[width=0.25\textwidth]{mesh}
\end{wrapfigure}
```

```
\begin{wrapfigure}{l}{0.25\textwidth}
\centering
\includegraphics[width=0.25\textwidth]{contour}
\end{wrapfigure}
```

There are several ways to plot a function of two variables, depending on the information you are interested in. For instance, if you want to see the mesh of a function so it easier to see the derivative you can use a plot like the one on the left.

On the other side, if you are only interested on certain values you can use the contour plot, like the one on the left.



On the other side, if you are only interested on certain values you can use the contour plot, like the one on the left.

範例

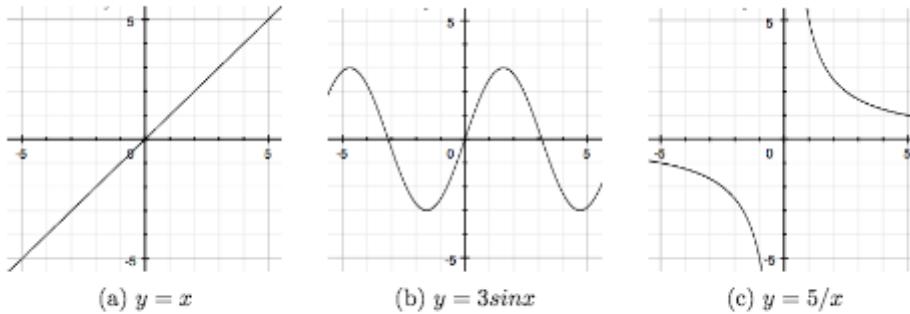


Figure 3.1: Three simple graphs

```
\usepackage{subcaption}
```

```
\begin{figure}
    \centering
    \begin{subfigure}[b]{0.3\textwidth}
        \centering
        \includegraphics[width=\textwidth]{graph1}
        \caption{$y=x$}
        \label{fig:y equals x}
    \end{subfigure}
    \hfill
    \begin{subfigure}[b]{0.3\textwidth}
        \centering
        \includegraphics[width=\textwidth]{graph2}
        \caption{$y=3\sin x$}
        \label{fig:three sin x}
    \end{subfigure}
    \hfill
    \begin{subfigure}[b]{0.3\textwidth}
        \centering
        \includegraphics[width=\textwidth]{graph3}
        \caption{$y=5/x$}
        \label{fig:five over x}
    \end{subfigure}
\end{figure}
```

設定插入子圖片 (a)

設定插入子圖片 (b)

```
\begin{subfigure}[b]{0.3\textwidth}
    \centering
    \includegraphics[width=\textwidth]{graph3}
    \caption{$y=5/x$}
    \label{fig:five over x}
\end{subfigure}
\hfill
\begin{subfigure}[b]{0.3\textwidth}
    \centering
    \includegraphics[width=\textwidth]{graph1}
    \caption{$y=x$}
    \label{fig:y equals x}
\end{subfigure}
\hfill
\begin{subfigure}[b]{0.3\textwidth}
    \centering
    \includegraphics[width=\textwidth]{graph2}
    \caption{$y=3\sin x$}
    \label{fig:three sin x}
\end{subfigure}
\end{figure}
```

設定插入子圖片 (c)



List of Figures

\listoffigures

範例

```
\documentclass{article}  
\usepackage[utf8]{inputenc}  
  
\begin{document}  
\tableofcontents  
\\listoffigures  
...  
\end{document}
```

設定圖片目錄

About image types in L^AT_EX

latex

When compiling with *latex*, we can only use EPS images, which is a vector format.

pdflatex

If we are compiling using "pdflatex" to produce a PDF, then we can use a number of image formats -

JPG: Best choice if we want to insert photos

PNG: Best choice if we want to insert diagrams (if a vector version could not be generated)

PDF: Even though we are used to seeing PDF documents, a PDF can also store images

EPS: EPS images can be included using the *epstopdf* package (we just need to install the package and don't need to use *\usepackage{}* to include it in our document.)

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Contents

1	Introduction	1
1.A	How I became inspired	1
2	Second Section	1
A	Section A	2
List of Figures		2
1	A simple list of figures	2

圖片格式注意事項

important and deserve
iography management.
], the Einstein journal
TeX related items are

Tables

表格環境

\begin{table}[]

表格內容

\begin{tabular}{|c|c|}

\hline 列邊線

內容 & 內容 \\

\hline

內容 & 內容 \\

\hline

\end{tabular}

\caption{說明文字}

\label{標籤}

\end{table}

| : 欄邊線
c : 置中

& : 分隔不同欄位
\\ : 換行

範例

```
\begin{center}
\begin{tabular}{ c c c }
cell1 & cell2 & cell3 \\
cell4 & cell5 & cell6 \\
cell7 & cell8 & cell9
\end{tabular}
\end{center}
```

設定無邊線表格

cell1	cell2	cell3
cell4	cell5	cell6
cell7	cell8	cell9

```
\begin{center}
\begin{tabular}{ |c|c|c| }
\hline
cell1 & cell2 & cell3 \\
cell4 & cell5 & cell6 \\
cell7 & cell8 & cell9 \\
\hline
\end{tabular}
\end{center}
```

部分含邊線表格

cell1	cell2	cell3
cell4	cell5	cell6
cell7	cell8	cell9

```
\begin{tabular}{ |l|c|r| }
\hline
item11 & item12 & item13 \\
\hline
item21 & item22 & item23 \\
\hline
\end{tabular}
```

全部有邊線表格

item 11	item 12	item 13
item 21	item 22	item 23



範例

Day	Max Temp	Min Temp
Mon	20	13
Tue	22	14
Wed	23	12
Thurs	25	13
Fri	18	7
Sat	15	13
Sun	20	13

(a) First Week

Day	Max Temp	Min Temp
Mon	17	11
Tue	16	10
Wed	14	8
Thurs	12	5
Fri	15	7
Sat	16	12
Sun	15	9

(b) Second Week

Table 4.2: Max and min temps recorded in the first two weeks of July

```
\begin{table}[h]
  \begin{subtable}[h]{0.45\textwidth}
    \centering
    \begin{tabular}{l | l | l}
      Day & Max Temp & Min Temp \\
      \hline
      Mon & 20 & 13 \\
      Tue & 22 & 14 \\
      Wed & 23 & 12 \\
      Thurs & 25 & 13 \\
      Fri & 18 & 7 \\
      Sat & 15 & 13 \\
      Sun & 20 & 13
    \end{tabular}
    \caption{First Week}
    \label{tab:week1}
  \end{subtable}
  \hfill
  \begin{subtable}[h]{0.45\textwidth}
    \centering
    \begin{tabular}{l | l | l}
      Day & Max Temp & Min Temp \\
      \hline
      Mon & 17 & 11 \\
      Tue & 16 & 10 \\
      Wed & 14 & 8 \\
      Thurs & 12 & 5 \\
      Fri & 15 & 7 \\
      Sat & 16 & 12 \\
      Sun & 15 & 9
    \end{tabular}
    \caption{Second Week}
    \label{tab:week2}
  \end{subtable}
\end{table}
```

設定插入子表格

```
\begin{subtable}[h]{0.45\textwidth}
  \centering
  \begin{tabular}{l | l | l}
    Day & Max Temp & Min Temp \\
    \hline
    Mon & 17 & 11 \\
    Tue & 16 & 10 \\
    Wed & 14 & 8 \\
    Thurs & 12 & 5 \\
    Fri & 15 & 7 \\
    Sat & 16 & 12 \\
    Sun & 15 & 9
  \end{tabular}
  \caption{Second Week}
  \label{tab:week2}
\end{subtable}
\caption{Max and min temps recorded in the first two weeks of July}
\label{tab:temps}
```

設定插入子表格



List of Tables

\listoftables

範例

```
\documentclass{article}  
\usepackage[utf8]{inputenc}  
  
\begin{document}  
[-----]  
|\listoftables  
[-----]  
  
...  
\end{document}
```

設定表格目錄

List of Tables

1	Table to test captions and labels	4
2	Table to test wrapping text around a table	4



Mathematical Expressions

- Math modes
- Symbols
- Equations
- Matrix

Math modes

inline mode

- $\text{\(x}^2 + y^2 = z^2 \)}$
- $\$ x^2 + y^2 = z^2 \$$

display mode

- $\text{\[x}^n + y^n = z^n \]}$
- $\text{\$\$ x}^n + y^n = z^n \$\$}$
- $\begin{equation} x^n + y^n &= & z^n \end{equation}$
- $\begin{eqnarray*} 2x - 5y &=& 8 \\ 3x + 9y &=& -12 \end{eqnarray*}$

可編號引用

可編號引用

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2	Second Section	2
A	Section A	2

1 Introduction

In this example we generate several keywords which are important and deserve to appear in the Index.

Here is the equation $x^2 + y^2 = z^2$ in the inline mode. The followings are in the display mode:

Ex1:

$$x^n + y^n = z^n$$

Ex2:

$$x^n + y^n = z^n$$

Ex3:

$$x^n + y^n = z^n$$

(1)

Ex4:

$$\begin{aligned} 2x - 5y &= 8 \\ 3x + 9y &= -12 \end{aligned}$$



Symbols

數學符號語法

αA	<code>\alpha</code>	νN	<code>\nu</code>
βB	<code>\beta</code>	$\xi \Xi$	<code>\xi \Xi</code>
$\gamma \Gamma$	<code>\gamma</code>	$\circ O$	<code>\circ</code>
$\delta \Delta$	<code>\delta</code>	$\pi \Pi$	<code>\pi</code>
$\epsilon \varepsilon E$	<code>\epsilon</code>	$\rho \varrho P$	<code>\rho</code>
ζZ	<code>\zeta</code>	$\sigma \Sigma$	<code>\sigma</code>
ηH	<code>\eta</code>	τT	<code>\tau</code>
$\theta \vartheta \Theta$	<code>\theta</code>	$\upsilon \Upsilon$	<code>\upsilon</code>
ιI	<code>\iota</code>	$\phi \varphi \Phi$	<code>\phi \varphi</code>
κK	<code>\kappa</code>	χX	<code>\chi</code>
$\lambda \Lambda$	<code>\lambda</code>	$\psi \Psi$	<code>\psi</code>
μM	<code>\mu</code>	$\omega \Omega$	<code>\omega</code>

∞	<code>\infty</code>	\forall	<code>\forall</code>
\Re	<code>\Re</code>	\Im	<code>\Im</code>
∇	<code>\nabla</code>	\exists	<code>\exists</code>
∂	<code>\partial</code>	\nexists	<code>\nexists</code>
\emptyset	<code>\emptyset</code>	\varnothing	<code>\varnothing</code>
\wp	<code>\wp</code>	\complement	<code>\complement</code>
\neg	<code>\neg</code>	\cdots	<code>\cdots</code>
\square	<code>\square</code>	$\sqrt{\quad}$	<code>\sqrt</code>
\blacksquare	<code>\blacksquare</code>	\triangle	<code>\triangle</code>

<code>\log</code>	\log
<code>\sec</code>	\sec
<code>\tan</code>	\tan
<code>\arg</code>	\arg
<code>\coth</code>	\coth
<code>\dim</code>	\dim
<code>\liminf</code>	\liminf
<code>\max</code>	\max
<code>\sin</code>	\sin
<code>\tanh</code>	\tanh

<code>\gcd</code>	\gcd
<code>\lg</code>	\lg
<code>\ln</code>	\ln
<code>\Pr</code>	\Pr
<code>\sup</code>	\sup
<code>\arctan</code>	\arctan
<code>\cot</code>	\cot
<code>\det</code>	\det
<code>\hom</code>	\hom
<code>\lim</code>	\lim

餘弦函數語法

<code>\cos</code>	\cos
<code>\csc</code>	\csc
<code>\exp</code>	\exp
<code>\ker</code>	\ker
<code>\limsup</code>	\limsup
<code>\min</code>	\min
<code>\sinh</code>	\sinh
<code>\arcsin</code>	\arcsin
<code>\cosh</code>	\cosh
<code>\deg</code>	\deg

\leftarrow	<code>\leftarrow</code>	\Leftarrow	<code>\Leftarrow</code>
\rightarrow	<code>\rightarrow</code>	\Rightarrow	<code>\Rightarrow</code>
\leftrightarrow	<code>\leftrightarrow</code>	\rightleftharpoons	<code>\rightleftharpoons</code>
\uparrow	<code>\uparrow</code>	\downarrow	<code>\downarrow</code>
$\uparrow\!\uparrow$	<code>\uparrow\!\uparrow</code>	\Downarrow	<code>\Downarrow</code>
\Leftrightarrow	<code>\Leftrightarrow</code>	\Updownarrow	<code>\Updownarrow</code>
\mapsto	<code>\mapsto</code>	\longmapsto	<code>\longmapsto</code>
\nearrow	<code>\nearrow</code>	\searrow	<code>\searrow</code>
\swarrow	<code>\swarrow</code>	\nwarrow	<code>\nwarrow</code>
\leftharpoonup	<code>\leftharpoonup</code>	\rightharpoonup	<code>\rightharpoonup</code>
\leftharpoondown	<code>\leftharpoondown</code>	\rightharpoondown	<code>\rightharpoondown</code>

\times	<code>\times</code>	\times	<code>\times</code>
\div	<code>\div</code>	\cap	<code>\cap</code>
\cup	<code>\cup</code>	\neq	<code>\neq</code>
\leq	<code>\leq</code>	\geq	<code>\geq</code>
\in	<code>\in</code>	\perp	<code>\perp</code>
\notin	<code>\notin</code>	\subset	<code>\subset</code>
\simeq	<code>\simeq</code>	\approx	<code>\approx</code>
\wedge	<code>\wedge</code>	\vee	<code>\vee</code>
\oplus	<code>\oplus</code>	\otimes	<code>\otimes</code>
\Box	<code>\Box</code>	\boxtimes	<code>\boxtimes</code>
\equiv	<code>\equiv</code>	\cong	<code>\cong</code>



Equations

數學表示式語法

$\frac{1}{2}$

$\sum_{n=1}^{\infty} 2^{-n} = 1$

$$\sum_{n=1}^{\infty} 2^{-n} = 1$$

$\int_a^b x^2 dx$

$$\int_a^b x^2 dx$$

$\oint_V f(s) ds$

$$\oint_V f(s) ds$$

$\iint_V \mu(u,v) du dv$

$$\iint_V \mu(u,v) du dv$$

$\dots \int_V \dots \int \mu(u_1, \dots, u_k) du_1 \dots du_k$



Matrix

設定矩陣

```
\begin{equation}
\left( \begin{array}{ccc}
1 & 5 & 8 \\
0 & 2 & 4 \\
3 & 3 & -8
\end{array} \right)
\end{equation}
```

大括弧

$$\left\{ \begin{array}{ccc}
1 & 5 & 8 \\
0 & 2 & 4 \\
3 & 3 & -8
\end{array} \right\}$$

矩陣元素

```
\begin{equation}
\left( \begin{array}{ccc}
1 & 5 & 8 \\
0 & 2 & 4 \\
3 & 3 & -8
\end{array} \right)
\end{equation}
```

小括弧

$$\left(\begin{array}{ccc}
1 & 5 & 8 \\
0 & 2 & 4 \\
3 & 3 & -8
\end{array} \right)$$



Cross references

Figures, Tables, Equations

\label{名稱}

\ref{名稱}

範例

```
\begin{figure}[h]
  \centering
  \includegraphics[width=0.25\textwidth]{mesh}
  \caption{a nice plot}
  \label{fig:mesh1}
\end{figure}
```

As you can see in the figure `\ref{fig:mesh1}`, the function grows near 0. Also, in the page `\pageref{fig:mesh1}` is the same example.

設定引用圖表

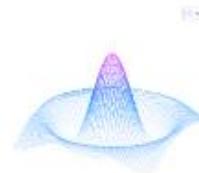


Figure 3: a nice plot

As you can see in the figure 3, the function grows near 0. Also, in the page 7 is the same example.

$$e^{\pi i} + 1 = 0 \quad (1)$$

The beautiful equation 1 is known as the Euler equation

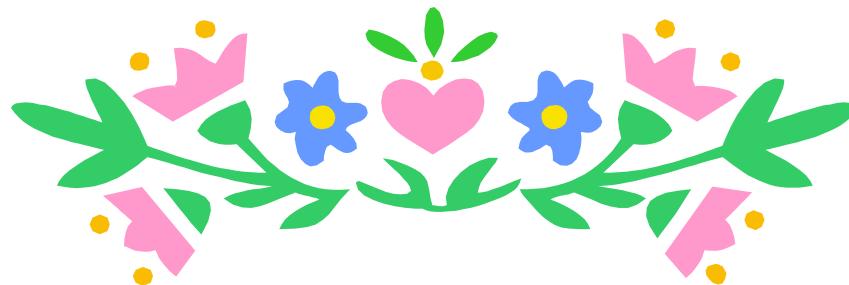
```
\begin{equation}\label{eu_eqn}
e^{\{\pi i\}} + 1 = 0
\end{equation}
```

The beautiful equation `\ref{eu_eqn}` is known as the Euler equation

設定引用數學式

LATEX

增加Package

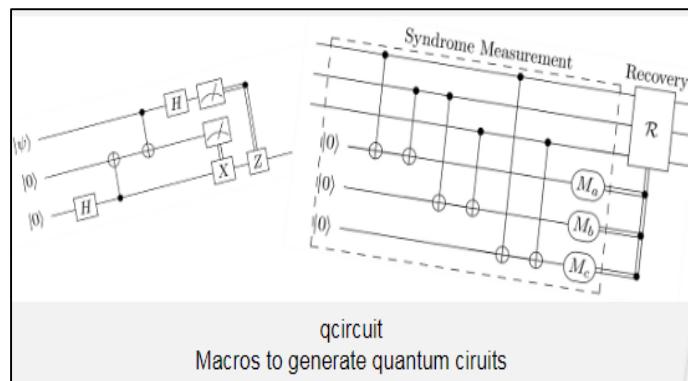


CTAN

CTAN Comprehensive TeX Archive Network

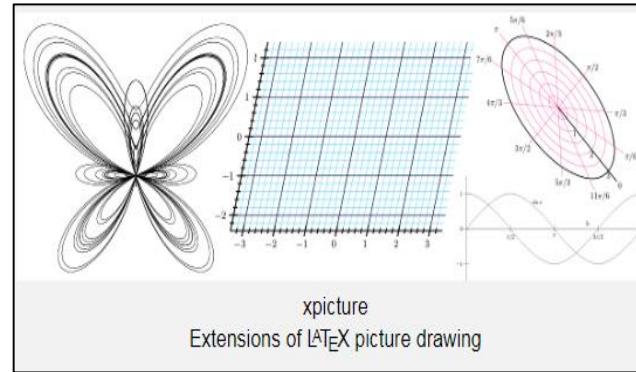
The screenshot shows the CTAN website interface. At the top, there are navigation links: 'Cover', 'Upload', 'Browse' (which is highlighted with a red box), 'Search', 'Login', 'Join', 'Settings', and 'Help'. Below this, a cartoon rabbit is reading a book. A green button on the right says '查詢套件' (Search packages). On the left, under 'Location: CTAN Packages', there's a red arrow pointing to the 'Browse' dropdown menu. The 'Browse' menu has several options: 'TeX Archive', 'Packages' (which is selected and highlighted in black), 'Topics', 'Contributors', and 'Announcements'. Below the menu is a banner with letters A through Z.

Packages



qcircuit

Macros to generate quantum circuits



xpicture
Extensions of L^AT_EX picture drawing



費曼圖

tikz-feynman – Feynman diagrams with TikZ

This is a \LaTeX package allowing Feynman diagrams to be easily generated within \LaTeX with minimal user instructions and without the need of external programs. It builds upon the [TikZ](#) package and leverages the graph placement algorithms from [TikZ](#) in order to automate the placement of many vertices. `tikz-feynman` allows fine-tuned placement of vertices so that even complex diagrams can still be generated with ease.

Sources	/graphics/pgf/contrib/tikz-feynman
Documentation	 README.md  Package documentation
Home page	http://www.jpellis.me/projects/tikz-feynman
Version	1.1.0 2016-02-05
Licenses	The \LaTeX Project Public License 1.3
Copyright	2015–2016 Joshua Ellis
Maintainer	Joshua Ellis
Contained in	TeX Live as tikz-feynman MiK\TeX as tikz-feynman
Topics	Use luatex Physics PGF/TikZ
See also	TikZ-FeynHand



下載套件

Download the package in one zip archive (343.3k).

Community Comments

No comments on this package are available yet. You can be the first to [rate](#) this package!

Announcements



- » [2016-02-06 CTAN update: tikz-feynman](#)
- » [2016-01-21 New on CTAN: tikz-feynman](#)

[more ↗](#)

Suggestions

Maybe you are interested in the following packages as well.

- » [feynman: Feynman diagrams in \$\text{\LaTeX}\$ 2.09](#)
- » [tikz-feynhand: Feynman diagrams with TikZ](#)
- » [pgf-spectra: Draw continuous or discrete spectra using PGF/TikZ](#)
- » [callouts: Put simple annotations and notes inside a picture](#)

[more ↗](#)

Rating Summary



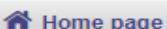
0 0 [No votes]

This package has not been rated yet. You can be the first one to [rate](#) it.

My Rating

Only [registered](#) and authenticated members may vote. Please [Login](#) to vote.

Package Links



Home page

Chemfig
Ochem
Streetex
xymtex

化學元素符號

chemfig – Draw molecules with easy syntax

The package provides the command `\chemfig{<code>}`, which draws molecules using the [tikz](#) package. The `<code>` argument provides instructions for the drawing operation.

While the diagrams produced are essentially 2-dimensional, the package supports many of the conventional notations for illustrating the 3-dimensional layout of a molecule.

The package uses [TikZ](#) for its actual drawing operations.

Sources	/macros/generic/chemfig
Documentation	 README  Package documentation (English)   Package documentation (French) 
Bug tracker	https://framagit.org/unbonpetit/chemfig/bug-tracker
Repository	https://framagit.org/unbonpetit/chemfig/texlive
Version	1.33
Licenses	The \LaTeX Project Public License 1.3c
Copyright	2010–2018 Christian Tellechea
Maintainer	Christian Tellechea
Contained in	TeX Live as chemfig MiK\TeX as chemfig
Topics	Diagrams Chemistry PGF/TikZ



下載套件

This package in one zip archive

Community Comments

★★★★★ Héctor Armando Esquinca Avilés 2017-07-27

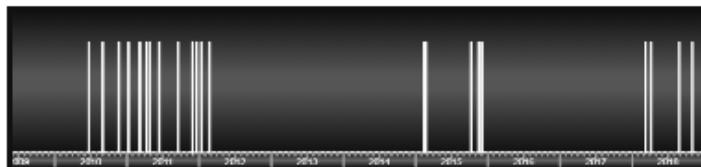
★★★★★ Clemens Niederberger 2017-03-03

★★★★★ Denis Bitouzé 2016-12-19

★★★★★ matmay 2016-12-18

Bond types		
Bond type	code	output
single	<code>\chemfig{O - H}</code>	O — H
double	<code>\chemfig{O = H}</code>	O == H
triple	<code>\chemfig{O ~ H}</code>	O ≡ H
plain right cram	<code>\chemfig{O > H}</code>	O ► H
plain left cram	<code>\chemfig{O < H}</code>	O ◀ H
dashed right cram	<code>\chemfig{O >: H}</code>	O ⓘ H
dashed left cram	<code>\chemfig{O <: H}</code>	O ⓘ H
hollow right cram	<code>\chemfig{O > H}</code>	O ▷ H
hollow left cram	<code>\chemfig{O < H}</code>	O ◁ H

Announcements



2019-11-02 CTAN update: chemfig

2019-07 CTAN update: chemfig

2019-09 CTAN Update: chemfig

more ↗

Related packages

If you are interested in the following packages as well.

[bondgraphs](#): Draws bond graphs in \LaTeX , using PGF/TikZ

[dashedline](#): Augmenting directed graphs

[graphwork](#): Draw networks with TikZ

[ladderr](#): Draw ladder diagrams using TikZ

more ↗

Summary

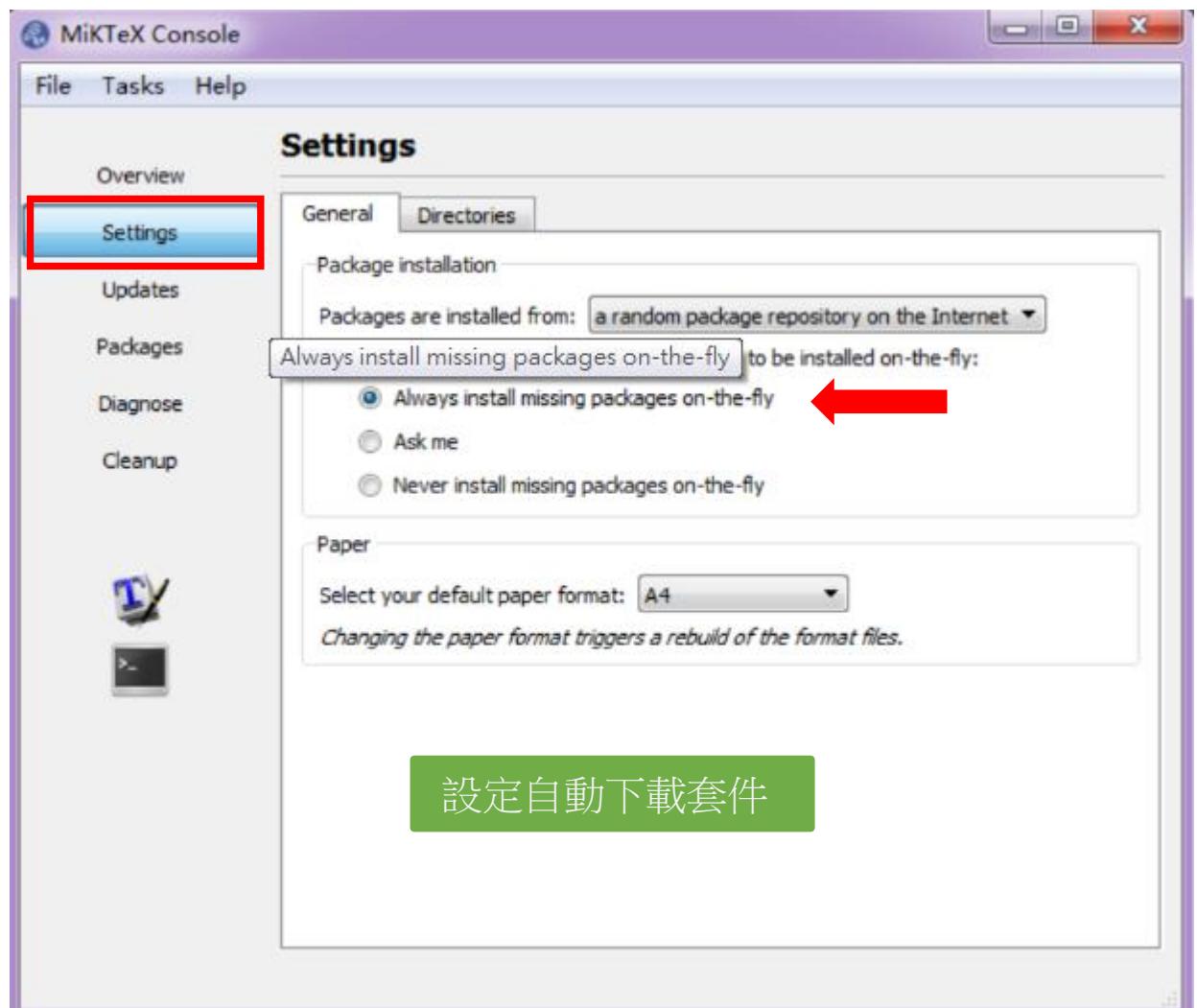
4
0
0
0
0
0

MiKTeX – Packages management

MiKTeX has the ability to automatically install missing packages. You can turn this feature on or off. And you can let MiKTeX ask you each time a package has to be installed:

1. Click **Settings** to navigate to the settings page.
2. Click the **General** tab.
3. Click one of the radio buttons:

- Ask me
- Always install missing packages on-the-fly
- Never install missing packages on-the-fly



Overleaf - Packages upload

The screenshot shows the Overleaf LaTeX editor interface. On the left, there's a file tree with files: Image.jpg, jheppub.sty, main.tex (selected), and sample.bib. A red arrow points down to the upload icon in the toolbar above the file tree. A green box highlights the 'Source' tab. The code editor displays the LaTeX source code for a document titled 'First Document'. A green box highlights the word 'jheppub' in the code. The preview area on the right shows the rendered document with author information: Alice Smith¹ and Hubert Farnsworth², both from University X. The status bar at the bottom says 'PREPARED FOR SUBMISSION TO JHEP'.

直接上傳
套件至
Overleaf
即可

引用套件

```
1 \documentclass{article}
2 \usepackage[utf8]{inputenc}
3 \pdfoutput=1
4 \usepackage{jheppub}
5 %\usepackage{authblk}
6 \usepackage{appendix}
7 \usepackage{imakeidx}
8 \makeindex
9 \usepackage[english]{babel}
10 \usepackage{amsthm}
11 \newtheorem{lemma}{Lemma}
12 \usepackage{graphicx}
13 \usepackage{sidecap}
14 \usepackage{subcaption}
15 \graphicspath{ ./images/ }
16 \usepackage{hyperref}
17 \usepackage{amsmath}
18
19 \begin{document}
20
21 \title{First Document}
22 %\author{Hubert Farnsworth and Alice Smith}
23 \author [1]{Alice Smith}
24 \thanks{ahmad01.shah@gmail.com}
25 \author [2]{Hubert Farnsworth}
26 \affiliation [1,2]{Department of Mathematics,
27 University X}
28 \affiliation [2]{Department of Biology, University
29 X}
30 \date{\today}
31 \maketitle
```

PREPARED FOR SUBMISSION TO JHEP

First Document

Alice Smith¹ Hubert Farnsworth²
^{1,2}Department of Mathematics, University X
²Department of Biology, University X

參考資源



<https://www.overleaf.com/learn>

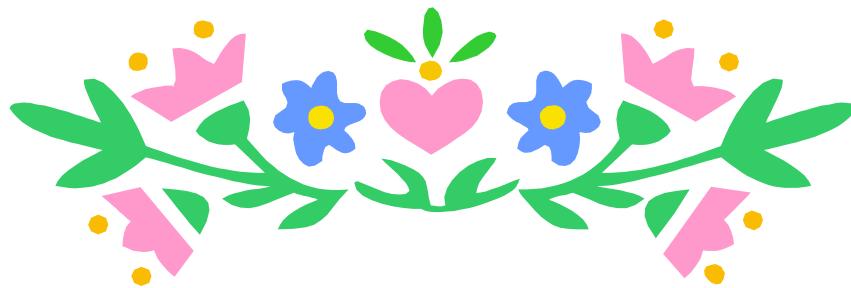


Frequently Asked Question List for TeX



<https://tug.org/>





謝謝聆聽

