

Part I

basics

1. 基本环境 `\begin{environment}[contents]`

...your text...

`\end{environment}` for example `\begin{document}\end{document}`

二. 文字板式

1 center

2 `\flushleft&\flushright`

3 itemize usage: `\begin{itemize}`
`\item[label]description`(自动换行)
`\end{itemize}`

4 enumerate:label automatically ex.

1. item1

2. item2

(a) sub item 1

(b) sub item 2

i. subsub item 1

label sub sub item 2

(c) sub item 3

3. item 3

5 description use `\item[item]description` items are in **bold**
ex.

item1 describption1

abcdefghijklmn des2

123456789 3

*some flaw:align problem*solution: 见书

6 verbatim&verb print **exactly** \forall the words ex.

the laplacian is $\Delta = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2}$
 $\Delta = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2}$ verb 可以用 | 控制截断地方, 本编译器默认 verb
字体为 typewriter

the laplacian is $\nabla^2 = \frac{\partial^2}{\partial x^2} + \frac{\partial^2}{\partial y^2}$

微分形式的积分

$$\int_{\partial S} \omega = \int_S d\omega$$

7 minipage description:width is smaller

usage: `\begin{minipage}[pos]sizecontents\end{minipage}`

pos:t(top),b(bottom);size:width

8 quote,quotation similar to minipage 自动居中,quotation 产生首行退格

ex.

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Ut purus elit, vestibulum ut, placerat ac, adipiscing vitae, felis. Curabitur dictum gravida mauris. Nam arcu libero, nonummy eget, consectetur id, vulputate a, magna. Donec vehicula augue eu neque. Pellentesque habitant morbi tristique senectus et netus et malesuada fames ac turpis egestas. Mauris ut leo. Cras viverra metus rhoncus sem. Nulla et lectus vestibulum urna fringilla ultrices. Phasellus eu tellus sit amet tortor gravida placerat. Integer sapien est, iaculis in, pretium quis, viverra ac, nunc. Praesent eget sem vel leo ultrices bibendum. Aenean faucibus. Morbi dolor nulla, malesuada eu, pulvinar at, mollis ac, nulla. Curabitur auctor semper nulla. Donec varius orci eget risus. Duis nibh mi, congue eu, accumsan eleifend, sagittis quis, diam. Duis eget orci sit amet orci dignissim rutrum.

10 verse: 诗词排版

Lorem ipsum dolor sit amet, consectetur adipiscing elit.
Nunc ullamcorper ante nec risus efficitur semper.
Suspendisse id mauris non velit vulputate tincidunt a eu eros.
Morbi sodales lacus a justo lobortis, id viverra sem lacinia.
Donec at odio in ex maximus blandit id id lectus.
Fusce convallis nulla id sem porttitor aliquam.
Maecenas iaculis magna at enim pretium gravida.

二. 图表环境 1.tabbing 无框表格用法

命令	效果
\=	设置新表头
\>	次表头
\<	先前表头
\	靠右
/	右对齐
\\	换行

2.tabular 有框表格 \begin{tabular}{ccc|c}, 其中 c 表示列, 竖线

表示竖线位置, 换行用 \\, 下面加上横线用 \hline

3.table,figure,picture 环境

4. 数学环境 (1)math (begin math) \longleftrightarrow \$ 公式 \$ \longleftrightarrow \ (公式 \) 用于文字间的公式 (2)displaymath \longleftrightarrow \$\$ 公式 \$\$ \longleftrightarrow \[公式 \] 用于一整行的公式 (3)equation 用于一整行编号的公式

5.array 注使用\left[, \right] 或者\left{, \right} 即, \left, \right 配对, 后面加上 []{}|| 产生矩阵行列式张量。

省略号如\$\ddots\$, \$\ldots\$, \$\cdots\$, \$\vdots\$, \$\dots\$ 效果如下

`.,...,...,;,... 注意, \left 必须与 \right 配对, 没有就输入.,{就输入 \{.

6. 综合使用, 即 equarray 环境

$$x^2 + y^2 = 1 \tag{1}$$

$$ax^2 + by^2 = 2 \tag{2}$$

$$\int_1^2 \frac{\cos x dx}{\sqrt[3]{a^2 \sin^2 x + b^2 \cos x + c \sin x \cos x}} = f(a, b) \tag{3}$$

$$\oint_{\partial V} f \cdot dS = \iiint_V \nabla \cdot f dV \tag{4}$$

Part II

basics:commands

1.documentstyle

`\documentstyle[options]` 适用于本编译器 options=

$$\left\{ \begin{array}{l} 1pt, 12pt, \dots \\ twoside, twocolumn, titlepage, proc \\ leqno, fleqn \end{array} \right.$$

默认 10pt, 单面, 公式居中

2.fonts

`\rm` romanian abcdefgABCDEFG

`\bf` bold abcdefgABCDEFG (Chinese `\heiti` 黑体)

`\it` italic abcdefgABCDEFG

`\sl` italic? abcdefgABCDEFG

`\tt` typewriter abcdefgABCDEFG

`\Cal` *ABCDEF*G 花体: 不支持小写

`\songti` 宋体

`\kaishu` 楷书

`\fangsong` 仿宋

`\heiti` 黑体 (2) 字号 `\zihao` 3.header title,author{name\ address},date{md,y},maketitle 注释¹²

32

1 margins

1.0.1 多列: `\twocolumn{text: 单列文档}`

e.g.

²注释 footnote

²Lorem ipsum

Lorem ipsum dolor sit amet, consectetur adipiscing elit. Integer aliquet metus quis turpis vestibulum, vitae tincidunt enim consectetur. Aliquam nec porttitor neque. Maecenas in quam augue. Nunc eleifend porta neque. Morbi sed turpis eget enim luctus ultricies ut et urna. Ut mattis consectetur duis mattis molestie. Nullam ullamcorper libero justo, a consequat eros rutrum vitae. Duis fermentum velit sem, eget faucibus leo molestie et. Quisque est erat, tristique ut semper sed, egestas ac urna. Vestibulum nec feugiat orci. Vestibulum sapien enim, placerat vel enim vel, mattis congue felis. Etiam dapibus erat id semper hendrerit. Duis iaculis blandit feugiat. Mauris non velit nisl. Duis dictum rutrum mi, quis interdum felis vehicula at. Donec hendrerit metus lorem, accumsan lacinia felis ultricies vel. Ut volutpat enim id ipsum vulputate semper. Integer dignissim auctor placerat. Mauris imperdiet dictum diam, vitae luctus est dignissim sit amet. Vestibulum sed imperdiet ex, non elementum neque. Curabitur malesuada leo sit amet erat sagittis, ut euismod nisl mollis. Cras sed augue elit. Suspendisse convallis efficitur scelerisque. Pellentesque interdum tellus risus, maximus rhoncus mauris condimentum ac. Aenean non augue sapien. Curabitur tempus congue metus eu consectetur. Pellentesque at finibus mi, quis euismod libero. Pellentesque dictum finibus lorem at sagittis. Nam quis ornare urna, ut hendrerit augue. Integer pulvinar, lacus nec ultricies tristique, lectus ipsum facilisis enim, in egestas libero orci ac lacus. Vestibulum lacus augue, mollis non tincidunt id, posuere sagittis risus. In hac habitasse platea dictumst. Sed condimentum felis convallis sapien dictum elementum. In ultrices sem quis dolor elementum ultricies. Sed mollis finibus neque, vel luctus ante feugiat malesuada. Etiam ac nibh semper, accumsan tortor quis, bibendum magna. Morbi vitae condimentum ipsum, nec lacinia nisi. Duis fringilla diam at laoreet vehicula. Vivamus arcu nibh, tempus eget dignissim nec, ultrices a augue. Maecenas ac neque a lectus malesuada ultrices. Ut nisl massa, sollicitudin ut tristique non, congue vitae orci.

1.0.2 onecolumn

e.g.

a1	a2	a3
b1	b2	b3
c1	c2	c3

Table 1: table 1

Duis sed leo quis enim viverra sodales. Aliquam venenatis nibh eu massa semper faucibus. Quisque placerat, dui at porta maximus, tellus tellus rutrum diam, vitae finibus eros lectus vitae turpis. Nulla orci lorem, molestie non hendrerit eu, semper non neque. Integer id facilisis lorem. Nulla consequat ex neque, ac interdum mi mollis euismod. Cras a lectus tincidunt, hendrerit tortor non, pharetra ex. Etiam aliquet nulla a augue ornare efficitur. Vestibulum est arcu, dignissim et malesuada eget, faucibus id nisl. Vestibulum id vehicula mi, sed cursus mi.

1.0.3 文字居中 \centerline

1.0.4 编号

1.1 summary

chapter	part	section	subsection	subsubsection
---------	------	---------	------------	---------------

2 equations

frac	sqrt			
ldots	cdots	vdots	ddots	
!	,	:	;	over
underline	overline	overbrace	underbrace	
left	right			
partial	times			

3 figures

command:\arraycolsep change column space. e.g

$$\left(\begin{array}{cc} a & b \\ c & d \end{array} \right)$$

identically,tabcolsep;

to change the width of line in a table \arrayrulewidth e.g.

a1	a2	a3
b1	b2	b3
c1	c2	c3

double line command:\doublerulesep;

to add comments use \caption:used in a table e.g. line commands:cline : from num1 to num 2 e.g.

a1	a2	a3
b1	b2	b3
c1	c2	c3

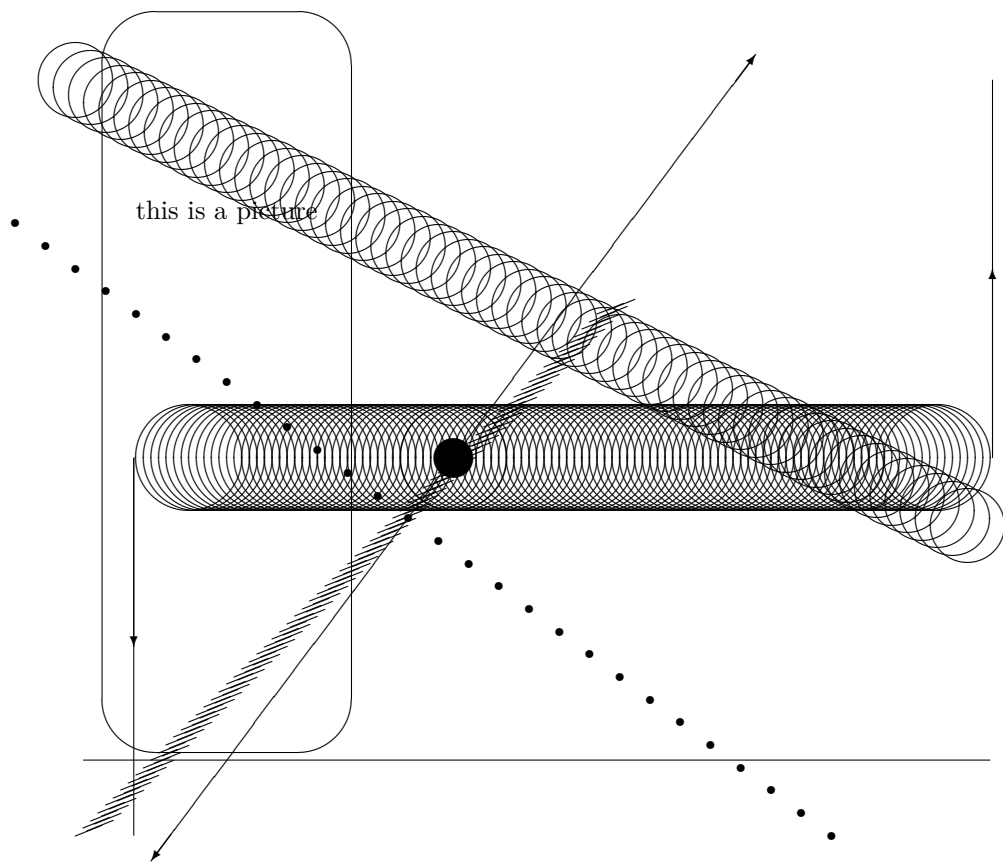


Table 2: a sample of picture

a1	a2	a3
b1	b2	b3
c1	c2	c3

对于列的处理，使用 multicolumn, e.g.

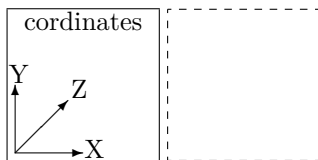
A1			A2		
b1	b2	B3			
c1	c2	c3	c4	c5	

vertical line command \vline(a single

vertical line)e.g

a1		a2			
b11	b12	b21	b22	b23	b3b4
c1	c21		c22		

3.0.1 plots



3.0.2 summary:picture

basic command	put		
lines	line	vector	
circles	circle	circle*	
oval	l	r	t b
commands	setlength	addtolength	multiput
frames	makebox	framebox	dashbox

$\widehat{abcabc} \quad \overbrace{abcdef}^{some\ variables}$

wide hat \widehat{strings}
wide tilde \widetilde{strings}
string above other strings \stackrel{str1}{str2}
characters using ASCII code \symbol{'oct} \symbol{"hex} or char'oct , char"hex

3.1 letters

3.2 other commands

- 1.\verb/your text/\begin{Huge}内容...\end{Huge}
- 2.
- \newpage start a new page or start a new column
- \eject start a new page to make the previous page full
- 3.\vspace and \vskip 留出空白版面
- 4.hfill and vfill 左侧左对齐，右侧右对齐，中间留白
- 5.\dotfill table of contents dotfill
- 6.\mbox{string}the string can be null
- 7.\hbox \vbox 不会断行
- 8.\raisebox{height}{contents}

4 basics:equations

$$\lim_{\substack{x \rightarrow 0 \\ y \rightarrow 0}} (\sin x)' \geq \leq (\sin x)'$$
$$\|x\|\nabla = \nabla \cdot \nabla = \Delta \overbrace{\int \cdots \int}^n = \underbrace{\int \cdots \int}_n \int_{-\infty}^{+\infty} = \int_{-\infty}^{+\infty}$$
$$\hat{L}_x^2 = -\hbar \tag{5}$$

Part III

macros

[?]



Figure 1: c'est un affiche



Figure 2

a1	a2	a3	a4	a5
$\frac{1}{2}\sum_{n=0}^{\infty}a_n^2+b_n^2=\frac{1}{\pi}\int_{-\pi}^{\pi}f^2(x)\mathrm{d}x$				b2

hello world

ç c a isjoia

$$\oint\oint\int_{\Omega}f(x)\cdot\mathrm{d} s$$

$$(n+1)^{\alpha-1}+n^{\alpha}\geq (n+1)^{\alpha}\leftrightarrow (n+1)(n^{\alpha-1})\geq (n+1)^{\alpha}\leftrightarrow n^{\alpha-1}+1\geq (n+a)^{\alpha-1}$$

(6)

当 \mathbf{n} 足够大, $(n+a)^{\alpha-1}\leq 1$, 即证