Contents

1 General Guidance

1.1 Figure numbering

Tables, Figures and Captions (see Sec. 4 for formatting properly in LaTeX).

In Eq. (13), (14), and (16)

In Fig. 4(a)

In Ref. 5

Place the caption under figures and images and above tables.

1.2 Dates and numbers

02 February 2016 (no commas)

four or fewer numbers closed up:

1200

24.0032 cm

Five or more digits, spaces instead of commas:

12 000

24.077 89 cm

one throgh ten

11,12 and above

2x2 matrix (numerals)

0.03 and 106.0 (no "naked" decimal points

6 V (number before units are always numerals)

1D, 2D, 3D

1.3 Punctuation

en-dash: Paris–London train, (1950–), University of Wisconsin–Madison

serial commas (a, b, and c)

hyphenate multi-word modifiers: macro-time

parenthesis:

inserted into another sentence, no period (such as this).

isolated, period inside. (Such as this.)

pairs surrounded letters in innumerated list (a) and (b)

possessives: Smith and Green's theory

plurals:

1950s

x's, K's

quotation marks after commas and periods, before colons and semi-colons

in general, place "e.g." and "i.e." in parenthesis, not commas and include a comma after (e.g., like this).

1.4 Abbreviations

Plural add 's: LCAO's

2 Specific words and terms

A

α particle

ad hoc

à la

anti-compounds closed (antilogarithm)

B

burnup (n)

C

Cartesian

collision-flux estimator

cross-section (n)

cross term

D

delta-tracking

Doppler

downscatter

E

eigenfunction

eigenvalue

F

Fourier transform/analysis/spectra

G

Gauss-Seidel (adj)

H

half-compound hyphenated:

- half-life

halfway

I

indexes (to book)

indices (to variable)

in situ

J

K

L

Laplacian

l.h.s.

lifetime

M

Maxwell(ian)

midpoint

modeling

multigroup

multivarient

N

non-compound closed:

- nonelastic
- nonradioactive
- *but* proper noun, symbol, numeral:
- non-Fermi
- 12-fold

O

P

path length

Q

R

radioactive

ray tracing

r.h.s.

runtime

S

setup

self-compound hyphenated:

- self-shielded (adj)

semiempirical

semi-infinite

T

track length

track-length estimator

U

upscatter

uranium

V

W

waveheight

wavelength

X

x ray (n)

x-ray (adj)

Y

Z

3 Math and notation

3.1 Cross-sections

Macroscopic cross-sections are used so infrequently in neutronics that reserving the use of capital sigma, Σ, is inefficient. Use the following notation to differentiate between the two:

macroscopic: $\tilde{\sigma}$

microscopic: σ

3.2 Matrices

Bold capital letters, $\mathbf{A}$.

Use brackets (`bmatrix`) for normal matrix, pipes (`vmatrix`) for determinants, and double pipes (`Vmatrix`) for a matrix norm.

3.3 Vectors

Topped with an arrow, $\vec{\phi}$. Vector superscripts must be shifted slightly using `\vec{\phi}^{\,\ell}`. For comparison:

`\vec{\phi}^{\ell}`	:	$\vec{x}^{\ell}$
`\vec{x}^{\,\ell}`	:	$\vec{x}^{\,\ell}$

Use hats to denote unit vectors, $\hat{\Omega}$.

In general, if a vector is made up of other vectors, use a capital letter for the larger vector, and lowercase for the smaller vectors.

$$\vec{\Phi} = \begin{bmatrix} \vec{\phi}_0 \\ \vec{\phi}_1 \end{bmatrix}$$

4 Other LaTeX specific items

4.1 Figures

Place the `\label{}` for figures inside the caption to ensure correct references:

```
\caption{This is the caption.\label{fig:ref}}
```

4.2 Package settings

Always hide boxes from hyperref package:

```
  \usepackage[hidelinks]{hyperref}
```

4.3 Programming language names

For the C++ programming language use:

```
\newcommand{\Cpp}[1][]{\textrm{C\nolinebreak[4]\hspace{-.05em}\raisebox{.4ex}{\tiny\bf ++}#1}}
```

This greatly improves the look of the name:

`C++17`	C++
`\Cpp{17}`	C++17

4.4 References and citations

For equations, use the amsmath `\eqref{label}` function.

$$E = mc^2 \tag{1}$$

This correctly formats `Eq.~\eqref{eq:relativity}` as Eq. (1).

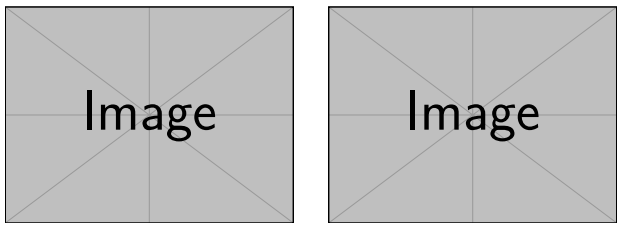
Use `Sec.~\ref{sec:latex}` for sections, which correctly formats as Sec. 4.

For figures, use `Fig.~\ref{fig:image}`, which correctly formats as Fig. 1.

For subfigures, include the packages and commands:

```
\usepackage{caption, subcaption}
\renewcommand\thesubfigure{(\alph{subfigure})}
\captionsetup[sub]{labelformat=simple}
```

and reference the subfigure itself, which will format correctly as Fig. 1(a). See documentation for these packages if needed.



(a) (b)

Figure 1: Subfigure with parts (a) and (b).

4.5 Spacing

For abbreviations use `.\` or `.~` if a tie is needed (titles or other words that should not be separated).

Normal	e.g. this example; seen in Fig. 1
Proper	e.g. this example; seen in Fig. 1

Note: the bibliography handles this correctly already.

Specify interspace spacing, `\@.` if a capital letter ends a sentence:

Normal	The code is called BART. As you can see.
Proper	The code is called BART. As you can see.