Chapter 1

Using World Scientific's Review Volume Document Style

First Author and Second Author*

World Scientific Publishing Co, Production Department,
5 Toh Tuck Link, Singapore 596224,
f_author@wspc.com.sg†

The abstract should summarize the context, content and conclusions of the paper in less than 200 words. It should not contain any references or displayed equations. Typeset the abstract in 9 pt Times roman with baselineskip of 11 pt, making an indentation of 1.5 pica on the left and right margins.

1. Using Other Packages

The WSPC class file has already loaded the packages `amsfonts`, `amsmath`, `amssymb`, `graphicx`, `rotating` and `url` at the startup. `Check.tex` is an utility to test for all the files required by World Scientific review volume project are available in your present LaTeX installation.

Usage: `latex check.tex`

Please try to limit your use of additional packages. They frequently introduce incompatibilities. This problem is not specific to the WSPC styles, it is a general LaTeX problem. Check this manual whether the required functionality is already provided by the WSPC class file. If you do need third-party packages, send them along with the paper. In general, you should use standard LaTeX commands as much as possible.

2. Layout

In order to facilitate our processing of your article, please give easily identifiable structure to the various parts of the text by making use

*Author footnote.
†Affiliation footnote.

of the usual LaTeX commands or by your own commands defined in the preamble, rather than by using explicit layout commands, such as `\hspace, \vspace, \large`, etc. Also, do not redefine the page-layout parameters. For more information on layout and font please refer `http://www.worldscientific.com/sda/1020/rv-instruction9x6_2e.pdf`.

2.1. *Input used to produce a chapter*

```
\documentclass{ws-rv9x6}
%\usepackage{subfigure}% to produce side-by-side / subfigures
\usepackage{ws-rv-thm}% comment when other thm package is used
\usepackage{ws-rv-van}% default - numbered citation/references
%\usepackage{ws-index}% to produce multiple indexes
\makeindex
%\newindex{aindx}{adx}{and}{Author Index}      % author index
%\renewindex{default}{idx}{ind}{Subject Index} % subject index
\begin{document}
\chapter[Short Title]{Full Title}
\author[F. Author]{First Author}
%\aindx{Author, F.}                        % author index entry
\address{World Scientific Publishing...}
\begin{abstract}
The abstract should ...
\end{abstract}
\body
\section{Using Other Packages}
The class file has...
\begin{appendix}[Optional Appendix Title]
\section{Sample Appendix}
Text...
\end{appendix}
%\begin{thebibliography}{9}        % for non BIBTeX users
%\bibitem{ams04} \AmS, \emph{\AmS-\LaTeX{} ...
%\end{thebibliography}
\bibliographystyle{ws-rv-van}
\bibliography{ws-rv-sample}
%\printindex[aindx]                % to print author index
\printindex
\end{document}
```

3. Using ws-rv9x6

You can obtain these files from our web pages at:

- `http://www.worldscientific.com/page/authors/review-style` and
- `http://www.icpress.co.uk/authors/stylefiles.shtml#review`.

3.1. *Class options and extra packages*

The class file, `ws-rv9x6.cls` provides the following options:

`wsdraft`	To draw border line around text area. Default: no border line around text area.
`addchapnum`	Appends chapter number, e.g. 1.1. Section, Theorem 1.1., Table 1.1., etc Default: 1. Section, Theorem 1., Table 1., etc.,
`onethmnum`	To number all theorem-like objects in a single sequence, e.g. Theorem 1., Definition 2., Lemma 3., etc. Default: individual numbering on different theorem-like objects, e.g. Theorem 1., Definition 1., Lemma 1., etc. `ws-rv-thm` package is required.

Apart from the packages mentioned in Sec 1, the WSPC class also requires the following in-house packages for customizing the theorems, citations and references.

Vancouver (numbered)

`\usepackage{ws-rv-van}`	– Superscript[1] (Default style)
`\usepackage[square]{ws-rv-van}`	– Bracketed [1]

Harvard (author-date)

`\usepackage{ws-rv-har}`	– (Author, 1994)

The contributors are advised to consult the managing editor for the chosen option (e.g., `ws-rv-har`, `addchapnum`, `onethmnum`).

4. User Defined Macros

User defined macros should be placed in the preamble of the article, and not at any other place in the document. Such private definitions, i.e. definitions made using the commands `\newcommand, \renewcommand`, `\newenvironment` or `\renewenvironment`, should be used with great care.

Sensible, restricted usage of private definitions is encouraged. Large macro packages and Definitions that are not used in the article should be avoided. Do not change existing environments, commands and other standard parts of LaTeX.

5. Running Head

The WSPC prefers "Author Name(s)" as even page header and "Chapter Title" as odd page header.

Table 1. This table shows how the author names should appear in the running head and TOC depending upon the number of authors contributing that paper.

No. of Authors	Author Names
1	L. Hatcher
2	I. A. Pedrosa & I. Guedes
3	B. Feng, X. Gong & X. Wang
4 and more	S. R. Choudhury *et al.*

For TOC and Running Heads, the author names should appear in initial and surname format, e.g. Lee Hatcher should be abbreviated as L. Hatcher.

Running heads are obtained by the arguments supplied in the square brackets of `\chapter[#1]{#2}` and `\author[#1]{#2}` commands, e.g.,

```
\chapter[Short Title for Running Head]{Full title}
\author[F. Author and S. Author]
       {First Author and Second Author}
```

When more than one `\author` command is used, the names are combined and included as the last `\author`'s argument, e.g.,

```
\chapter[Short Title for Running Head]{Full title}
\author{First Author}
\address{First author's address}
\author[F. Author and S. Author]{Second Author}
\address{Second author's address}
```

6. Chapters

Each chapter should normally be in a separate file. The chapter title is typeset by using the `\chapter[#1]{#2}` command, where `[#1]` is an optional short title to be used as a running head if the title is too long and `#2` is the full title of the chapter. The short, edited version of the title appears in the table of contents and running head. The chapter title should be typed in a way such that only the initial character is in upper case and the rest is in lower case.

7. Sectional Units

Sectional units are obtained in the usual way, i.e. with the LaTeX instructions `\section`, `\subsection`, `\subsubsection`, and `\paragraph`.

8. Section

Text...

8.1. *Subsection*

Text...

8.1.1. *Subsubsection*

Text...

Paragraph Text...

Unnumbered Section

Unnumbered sections can be obtained by `\section*`.

9. Lists of Items

Lists are broadly classified into four major categories that can randomly be used as desired by the author:

(a) Numbered list.
(b) Lettered list.
(c) Unnumbered list.

(d) Bulleted list.

9.1. *Numbered and lettered list*

(1) The `\begin{arabiclist}[]` command is used for the arabic number list (arabic numbers appearing within or without parenthesis), e.g., (1), (2); 1., 2. etc.

(2) The `\begin{romanlist}[]` command is used for the roman number list (roman numbers appearing within parenthesis), e.g., (i), (ii), etc.

(3) The `\begin{Romanlist}[]` command is used for the capital roman number list (capital roman numbers appearing within parenthesis), e.g., (I), (II), etc.

(4) The `\begin{alphlist}[]` command is used for the alphabetical list (alphabetical characters appearing within parenthesis), e.g., (a), (b), etc.

(5) The `\begin{Alphlist}[]` command is used for the capital alphabetical list (capital alphabetical characters appearing within parenthesis), e.g., (A), (B), etc.

Note: For all the above mentioned lists, it is obligatory to enter the last entry's number in the list within the square bracket, to enable unit alignment.

Items numbered with lowercase Roman numerals:

(i) item one
(ii) item two
  (a) subitem one
  (b) lists within lists can be numbered with lowercase alphabets
(iii) item three.

9.2. *Bulleted and unnumbered list*

- The `\begin{itemlist}` command is used for the bulleted list.
- The `\begin{unnumlist}` command is used for creating the unnumbered list with the turnovers hangindent by 1 pica.

Lists may be laid out with each item marked by a dot:

- item one
- item two

(a) subitem one
(b) subitem two
(c) subitem three
(d) subitem four.

- item three
- item four
- item five.

10. Theorems and Definitions

The WSPC document styles contain a set of pre-defined environments for theorems, definitions, proofs, remarks etc.

All theorem-like objects use individual numbering scheme by default. To number them in a single sequence, load the option `onethmnum` in the preamble., e.g., `\usepackage[onethmnum]{ws-rv-thm}`.

```
\begin{theorem}
We have $\# H^2 (M \supset N) < \infty$ for an inclusion ...
\label{ra_thm1}
\end{theorem}
```

produces

Theorem 1. *We have $\#H^2(M \supset N) < \infty$ for an inclusion $M \supset N$ of factors of finite index.*

```
\begin{theorem}[Longo, 1998]
For a given $Q$-system...
\[
N = \{x \in N; T x = \gamma (x) T, T x^* = \gamma (x^*) T\}\,,
\]
and $E_\Xi (\cdot) = T^* \gamma (\cdot) T$ gives ...
\label{ra_thm2}
\end{theorem}
```

generates

Theorem 2 (Longo, 1998). *For a given Q-system...*

$$N = \{x \in N; Tx = \gamma(x)T, Tx^* = \gamma(x^*)T\}\,,$$

and $E_\Xi(\cdot) = T^*\gamma(\cdot)T$ gives a conditional expectation onto N.

The following environments are available by default with WSPC document styles:

Environment	Heading
`algorithm`	Algorithm
`answer`	Answer
`assertion`	Assertion
`assumption`	Assumption
`case`	Case
`claim`	Claim
`comment`	Comment
`condition`	Condition
`conjecture`	Conjecture
`convention`	Convention
`corollary`	Corollary
`criterion`	Criterion
`definition`	Definition
`example`	Example
`lemma`	Lemma
`notation`	Notation
`note`	Note
`observation`	Observation
`problem`	Problem
`proposition`	Proposition
`question`	Question
`remark`	Remark
`solution`	Solution
`step`	Step
`summary`	Summary
`theorem`	Theorem

LaTeX provides `\newtheorem` to create new theorem environments. To add a new theorem-type environments to a chapter, use

```
\newtheorem{example}{Example}[section]
\let\Examplefont\upshape
\def\Exampleheadfont{\bfseries}
```

10.1. *Proofs*

The WSPC document styles also provide a predefined proof environment for proofs. The proof environment produces the heading 'Proof' with appropriate spacing and punctuation. A 'Q.E.D.' symbol, □, can be appended at the end of a proof with the command `\qed`, e.g.,

```
\begin{proof}
This is to test.
\end{proof}
```

produces

Proof. This is to test. □

The proof environment takes an argument in curly braces, which allows you to substitute a different name for the standard 'Proof'. If you want to display, 'Proof of Lemma', then write

```
\begin{proof}[Proof of Lemma]
This is to test.
\end{proof}
```

produces

Proof of Lemma. This is to test. □

11. Mathematical Formulas

Inline: For in-line formulas use `\( ... \) or $ ... $`. Avoid built-up constructions, for example fractions and matrices, in in-line formulas. Fractions in inline can be typed with a solidus e.g. `x+y/z=0`.

Display: For numbered display formulas use the displaymath environment `\begin{equation} ... \end{equation}`.

And for unnumbered display formula use `\[ ... \]`. For numbered displayed one line formulas always use the equation environment. Do not use `$$ ... $$`. For example, the input for:

$$\mu(n,t)=\frac{\sum\limits^\infty_{i=1}1(d_i<t,N(d_i)=n)}{\int\limits^t_{\sigma=0}1(N(\sigma)=n)d\sigma}\,. \tag{1}$$

is:

```
\begin{equation}
\mu(n, t)=\frac{\sum\limits^\infty_{i=1}1(d_i < t, N(d_i)=n)}
{\int\limits^t_{\sigma=0}1(N(\sigma)=n)d\sigma}\,.\label{ra_eq1}
\end{equation}
```

For displayed multi-line formulas use the eqnarray environment.

```
\begin{eqnarray}
\zeta\mapsto\hat{\zeta}&=&a\zeta+b\eta\label{ra_eq2}\\
\eta\mapsto\hat{\eta}&=&c\zeta+d\eta\label{ra_eq3}
\end{eqnarray}
```

$$\zeta \mapsto \hat{\zeta} = a\zeta + b\eta \tag{2}$$

$$\eta \mapsto \hat{\eta} = c\zeta + d\eta \tag{3}$$

Superscripts and subscripts that are words or abbreviations, as in π_{low}, should be typed as roman letters; this is done as `\( \pi_{\mathrm{low}} \)` instead of π_{low} done by `\( \pi_{low} \)`.

For geometric functions, e.g. exp, sin, cos, tan, etc. please use the macros `\sin, \cos, \tan`. These macros gives proper spacing in mathematical formulas.

It is also possible to use the $\mathcal{AMS}$-LaTeX package,[1] which can be obtained from the $\mathcal{AMS}$, from various TeX archives.

12. Floats

12.1. *Tables*

Put the tables and figures in the text with the table and figure environments, and position them near the first reference of the table or figure in the text. Please avoid long caption texts in figures and tables. Do not put them at the end of the article.

```
\begin{table}[ht]
\tbl{Sample table caption.}
{\begin{tabular}{@{}cccc@{}} \toprule
Piston mass$^{\text a}$ & Analytical ...\\
& (Rad/s) & (Rad/s) \\ \colrule
1.0... \\
0.001...\\ \botrule
\end{tabular}}
\begin{tabnote}
$^{\text a}$Sample table footnote.
\end{tabnote}
\label{ra_tbl2}
\end{table}
```

Table 2. Sample table caption.

Piston mass[a]	Analytical frequency (Rad/s)	TRIA6-S_1 model (Rad/s)	% Error
1.000	281.0	280.81	0.07
0.010	2441.0	2441.00	0.00
0.001	4130.0	4129.30	0.16

[a]Sample table footnote.

For most tables, the horizontal rules are obtained by:

toprule one rule at the top
colrule one rule separating column heads from data cells
botrule one bottom rule
Hline one thick rule at the top and bottom of the tables with multiple column heads

To avoid the rules sticking out at either end of the table add `@{}` before the first and after the last descriptors, e.g. @llll@. Please avoid vertical rules in tables. But if you think the vertical rule is must, you can use the standard LaTeX `tabular` environment.

By using `\tbl` command in table environment, long captions will be justified to the table width while the short or single line captions are centered. `\tbl{table caption}{tabular environment}`. If we need the fixed width for the tables, the command is `\begin{tabular*}{#1}{@{}ll@{}}` and `\end{tabular*}`. In the argument `#1` the width of the table has to be given. For example if we need the table to be of 25pc width, then the command is `\begin{tabular*}{25pc}{@{\extracolsep{fill}}ll@{}}`.

Headings which span for more than one column should be set using `\multicolumn{#1}{#2}{#3}` where `#1` is the number of columns to be spanned, `#2` is the argument for the alignment of the column head which may be either c — for center alignment; l — for left alignment; or r — for right alignment, as desired by the users. Use c for column heads as this is the WS style and `#3` is the heading. A simplified alternative version is `\centre{#1}{#2}` where `#1` is the number of columns to be spanned and `#2` the heading. There should be a rule spanning the same columns below the heading. Termed as spanner or bridge rule, it is generated using the command `\cline{n-m}` where `n` is the number of the first spanned column and `m` that of the last spanned column. `\cline` should not be part of a row but follow immediately after a `\\`.

Table 3. Positive values of X_0 by eliminating Q_0 from Eqs. (15) and (16) for different values of the parameters f_0, λ_0 and α_0 in various dimension.

f_0	λ_0	α_0	Positive roots (X_0)							
			4D	5D	6D	7D	8D	10D	12D	16D
−0.033	0.034	0.1	6.75507, 1.14476	4.32936, 1.16321	3.15991, 1.1879	2.44524, 1.22434	1.92883, 1.29065	0.669541, 0.415056	—	—
−0.1	0.333	0.2	3.15662, 1.24003	1.72737, 1.48602	—	—	—	—	—	—
−0.301	0.302	0.001	2.07773, 1.65625	—	—	—	—	—	—	—
−0.5	0.51	0.001	—	—	—	—	—	—	—	—
0.1	0.1	2	1.667, 0.806578	1.1946 0.858211	—	—	—	—	—	—
0.1	0.1	10	0.463679	0.465426	0.466489	0.466499	0.464947	0.45438	0.429651	0.35278
0.1	1	0.2	—	—	—	—	—	—	—	—
1	0.001	2	0.996033, 0.414324	0.968869, 0.41436	0.91379, 0.414412	0.848544, 0.414489	0.783787, 0.414605	0.669541, 0.415056	0.577489, 0.416214	—
	0.001	0.2	0.316014, 0.275327	0.309739, 0.275856	—	—	—	—	—	—
	0.1	5	0.089435	0.089441	0.089435	0.089409	0.08935	0.089061	0.088347	0.084352
	1	3	0.128192	0.128966	0.19718, 0.41436	0.169063, 0.414412	0.142103, 0.414489	—	—	—

If a table contains note(s), as a universal thumb-rule they should appear beneath the table set to its width and seldom at the foot of the page. For the footnotes in the table environment the command is `{\begin{tabnote}<text>\end{tabnote}}`. Appropriate symbols should be included in the body of the table matching their corresponding symbols in the footnotes where the footnotes are to be placed immediately after the `{\begin{tabnote}` command and terminated before `\end{tabnote}}\end{table}` command.

Landscape tables and figures can be typeset with following environments:

- `sidewaystable` and
- `sidewaysfigure`.

Example:

```
\begin{sidewaystable}
\tbl{Positive values of ...}
{\begin{tabular}{@{}ccccccccccc@{}}
...
\end{tabular}} \label{ra_tbl3}
\end{sidewaystable}
```

12.2. *Figures*

The preferred graphics are tiff and Encapsulated PostScript, eps in short, for any type of graphic. Our TEX installation requires eps, but we can easily convert tiff to eps. Many other formats, e.g. pict (Macintosh), wmf (Windows) and various proprietary formats, are not suitable. Even if we can read such files, there is no guarantee that they will look the same on our systems as on yours.

Next adjust the scaling of the figure until it's correctly positioned, and remove the declarations of the lines and any anomalous spacing. If instead you wish to use some other method, then it's most important to leave the right amount of vertical space in the figure declaration to accommodate your figure. A figure is obtained with the following commands

```
\begin{figure}
\centerline{\includegraphics[width=3.8cm]{rv-fig1}}
\caption{Sample figure caption.} \label{ra_fig1}
\end{figure}
```

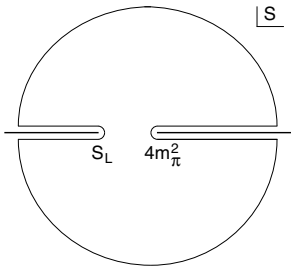
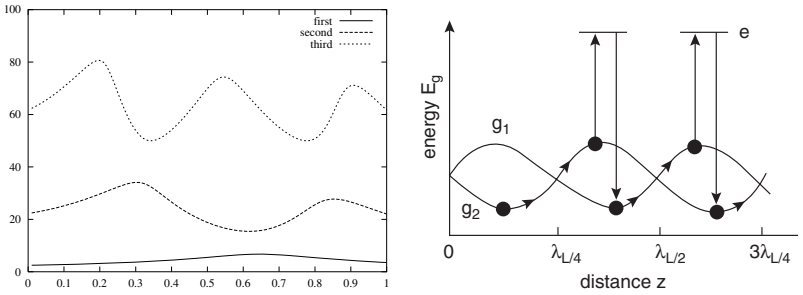


Fig. 1. Sample figure caption.

Sub-figures are obtained with the following commands

```
\begin{figure}[ht]
\centerline{
  \subfigure[]
     {\includegraphics[width=2in]{rv-fig2a}\label{ra_fig2a}}
  \hspace*{4pt}
  \subfigure[Optional subcaption]
     {\includegraphics[width=2in]{rv-fig2b}\label{ra_fig2b}}
}
\caption{Common caption here.} \label{ra_fig2} % common label
\end{figure}
```



(a) (b) Optional subcaption.

Fig. 2. Common caption here.

Sub-figures Fig. 2(a) and Fig. 2(b) are referred with `\fref{ra_fig2a}` and `Fig.~\ref{ra_fig2b}` commands.

Large figures and tables should be placed on a page by themselves, e.g.,

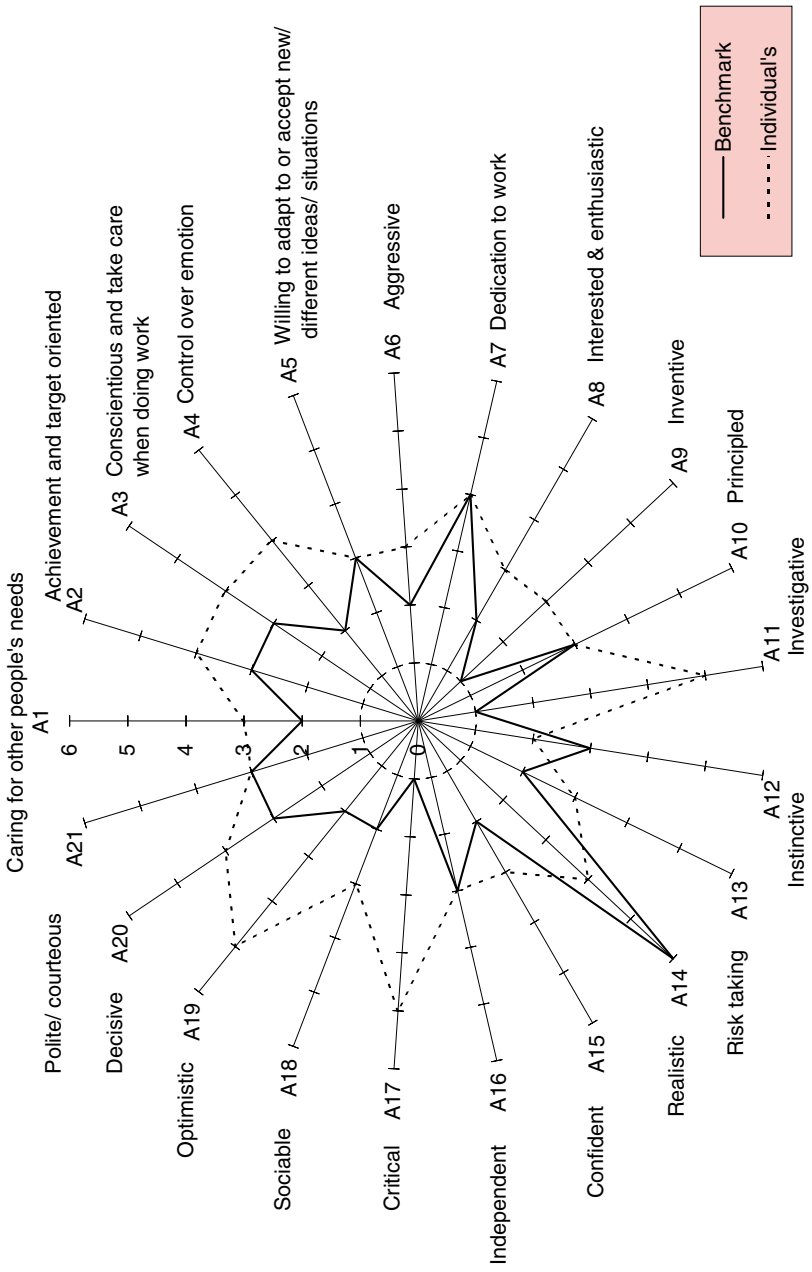


Fig. 3. The bifurcating response curves of system $\alpha = 0.5$, $\beta = 1.8$; $\delta = 0.2$, $\gamma = 0$: (a) $\mu = -1.3$; and (b) $\mu = 0.3$.

```
\begin{sidewaysfigure}
\centerline{\includegraphics[width=6.6in]{rv-fig3}}
\caption{Sample figure caption.} \label{ra_fig3}
\end{sidewaysfigure}
```

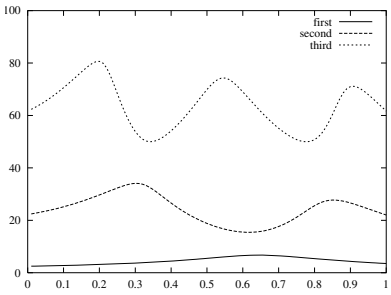


Fig. 4. Sample caption.

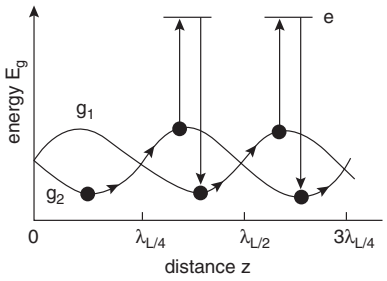


Fig. 5. Sample caption.

Side-by-side figures Fig. 4 and Fig. 5 are obtained with `\minifigure` commands.

```
\begin{figure}[ht]
\centerline{
  \minifigure[Sample caption.]
     {\includegraphics[width=2in]{rv-fig2a}\label{ra_fig4}}
  \hspace*{4pt}
  \minifigure[Sample caption.]
     {\includegraphics[width=2in]{rv-fig2b}\label{ra_fig5}}
}
\end{figure}
```

13. Cross-references

Use `\label` and `\ref` for cross-references to equations, figures, tables, sections, etc., instead of plain numbers. Every numbered part to which one wants to refer, should be labelled with the instruction `\label`, for e.g.,

```
\begin{equation}
\mu(n, t)=\frac{\sum\limits^\infty_{i=1}1(d_i < t, N(d_i)=n)}
{\int\limits^t_{\sigma=0}1(N(\sigma)=n)d\sigma}. \label{ra_eq1}
\end{equation}
```

With the instruction `\ref` one can refer to a numbered part that has been labelled, e.g., `..., see also Eq. (\ref{ra_eq1})`.

Some useful shortcut commands.

Shortcut command	Equivalent TEX command	Output
In the middle of a sentence:		
`\eref{ra_eq1}`	Eq. (`\ref{ra_eq1}`)	Eq. (1)
`\sref{ra_sec1}`	Sec. `\ref{ra_sec1}`	Sec. 1
`\cref{ra_ch1}`	Chap. `\ref{ra_ch1}`	Chap. 1
`\fref{ra_fig1}`	Fig. `\ref{ra_fig1}`	Fig. 1
`\tref{ra_tbl1}`	Table `\ref{ra_tbl1}`	Table 1
At the starting of a sentence:		
`\Eref{ra_eq1}`	Equation (`\ref{ra_eq1}`)	Equation (1)
`\Sref{ra_sec1}`	Section `\ref{ra_sec1}`	Section 1
`\Cref{ra_ch1}`	Chapter `\ref{ra_ch1}`	Chapter 1
`\Fref{ra_fig1}`	Figure `\ref{ra_fig1}`	Figure 1
`\Tref{ra_tbl1}`	Table `\ref{ra_tbl1}`	Table 1

- The `\label` instruction should be typed immediately after (or one line below), e.g., `\caption{ ... caption ... }\label{ra_fig2}`. Labels should not be typed inside the argument of a number-generating instruction such as `\section` or `\caption`.
- labels should not be repeated.

14. Citations

World Scientific's preferred style for Review Volume is the Vancouver (numbered) system, unless if the text is not very heavily referenced in which case the Harvard (author-date) system may be used.

System	Package
Vancouver (numbered)	
• Bracketed [1]	`\usepackage[square]{ws-rv-van}`
• Superscript[1]	`\usepackage{ws-rv-van}` (Default style)
Harvard (author-date)	`\usepackage{ws-rv-har}`

Citations in the text use the labels defined in the bibitem declaration, for example, the first paper by Jarlskog[2] is cited using the command `\cite{jarl88}`. The bibitem labels should not be repeated.

For multiple citations do not use `\cite{1}\cite{2}`, but use `\cite{1,2}` instead.

When superscripted citations are used, there should not be a space before `\cite{key}`, e.g.,

citation: `see\cite{zipf}`
↑
no character space here

14.1. *Vancouver Style*

Reference citations in the text are to be numbered consecutively in Arabic numerals, in the order of first appearance. The numbered citations can appear in two ways:

(i) bracketed
(ii) superscript (default style)

14.1.1. *Bracketed*

References cited in the text are within square brackets, e.g.,

(1) ``` ``One can deduce from Ref.~\cite{benh93} that...'' ```
"One can deduce from Ref. [3] that..."

(2) ``` ``See Refs.~\cite{ams04,bake72,benh93,brow88} and \cite{davi93} for more details.'' ```
"See Refs. [1–3, 5] and [7] for more details."

14.1.2. *Superscript*

References cited in the text appear as superscripts, e.g.,

(1) ``` ``...in the statement.\cite{ams04}'' ```
"...in the statement.[1]"

(2) ``` ``...have proven\cite{bake72} that this equation...'' ```
"...have proven[2] that this equation..."

When the reference forms part of the sentence, it should appear with "Reference" or "Ref.", e.g.,

(1) ``` ``One can deduce from Ref.~\refcite{benh93} that...'' ```
"One can deduce from Ref. 3 that..."

(2) ``See Refs.~\citen{ams04,bake72,benh93,brow88} \citen{davi93} for more details.''
"See Refs. 1–3, 5 and 7 for more details."

14.2. *Harvard Style*

Citations in the text use the labels defined in the `bibitem` declaration, for example, [Jarlskog (1988)] is cited using the command `\cite{jarl88}`. While `\citet {jarl88}` produces Jarlskog (1988). See Sec. 19 for more details on coding references in Vancouver and Harvard styles.

15. Footnote

Footnotes are denoted by a Roman letter superscript in the text. Footnotes can be used as

```
... total.\footnote{Sample footnote text.}
```

Output:
... in total.[a]

16. Miscellaneous

16.1. *Quote*

Here is an example for the `quote` environment.

> This is an example for the `quote` environment. Quote text is indented by 1pc on the left and right sides. The point size for the quote text is 9/11pt.

16.2. *Boxed text*

Here is an example for the `boxedtxt` environment.

This is an example for the `boxedtxt` environment. The text will be placed inside a box with 6pt space on all sides. The box rule thickness is 0.5pt.

[a]Sample footnote text.

17. Acknowledgments

Acknowledgments to funding bodies etc. may be placed in a separate section at the end of the text, before the Appendices. This should not be numbered so use `\section*{Acknowledgements}`.

18. Appendix

Appendices should be used only when absolutely necessary. They should come before the References.

```
\begin{appendix}[Optional Appendix Title]
\section{Sample Appendix}
Text...
\begin{equation}
\mu(n, t) = ...\label{ra_appen1}
\end{equation}
\subsection{Sample Subsection}
Text...
\begin{equation}
\zeta\mapsto...\label{ra_appen2}
\end{equation}
\end{appendix}
```

19. Bibliography

Use `\bibitem` to produce the bibliography. The bibitem labels should not be repeated.

19.1. *BIBTEX users*

BIBTEX users should use our bibliography style file `ws-rv-van.bst` or `ws-rv-har.bst`.

If you use the BIBTEX program to maintain your bibliography, you don't use the `thebibliography` environment. Instead, you include the lines

```
\usepackage{ws-rv-van}
...
\bibliographystyle{ws-rv-van}
\bibliography{bibfile}
```

where `ws-rv-van` refers to a file `ws-rv-van.bst`, which defines how your references will look. The argument to `\bibliography` refers to the file `bibfile.bib`, which should contain your database in BIBTEX format. Only the entries referred to via `\cite` will be listed in the bibliography.

To complete the job, compile your file as follows:

(1) latex ws-rv9x6
(2) latex ws-rv9x6
(3) bibtex ws-rv9x6
(4) latex ws-rv9x6
(5) latex ws-rv9x6

BIBTEX Database entry type	Sample citation
article	... text.[3,4]
proceedings	... text.[5]
inproceedings	... text.[6]
book	... text.[2,7]
edition	... text.[8]
editor	... text.[9]
series	... text.[10]
tech report	... text.[11,12]
unpublished	... text.[13]
phd thesis	... text.[14]
masters thesis	... text.[15]
incollection	... text.[16]
misc	... Ref. 17 ...

To use Harvard (author-date) system `ws-rv-har.bst` is used with `\usepackage{ws-rv-har}`.

19.2. *Non-BIBTEX users*

For Vancouver (numbered) style users, references are to be listed in the order cited in the text.

Use the style shown in the following examples.

```
\begin{thebibliography}{9}
\bibitem{ams04}
   \AmS, \emph{\AmS-\LaTeX{} Version 2 User's Guide},
   American Mathematical Society, Providence (2004).
   \url{http://www.ams.org/tex/amslatex.html}.
```

```
\bibitem{jarl88}
   C.~Jarlskog, \emph{CP Violation}. World Scientific,
   Singapore (1988).

\bibitem{best03}
   B.~W. Bestbury, {$R$}-matrices and the magic square,
   \emph{J. Phys. A}. {\bf 36}(7), 1947--1959 (2003).

\bibitem{pier02}
   P.~X. Deligne and B.~H. Gross, On the exceptional series,
   and its descendants, \emph{C. R. Math. Acad. Sci. Paris}.
   {\bf 335}(11), 877--881 (2002).
\end{thebibliography}
```

For Harvard (author-date) style users, the references are to be listed in alphabetical order according to the surname of the first author.

Use the style shown in the following examples.

```
\begin{thebibliography}{9}
\bibitem[{Baker and Carter(1972)}]{bake72}
   Baker, D.~W. and Carter, N.~L. (1972). \emph{Seismic
   Velocity Anisotropy Calculated for Ultramafic Minerals
   and Aggregates}, \emph{Geophys. Mono.}, Vol.~16,
   Am. Geophys. Union, pp. 157--166.

\bibitem[{Benhamou and Colmerauer(1993)}]{benh93}
   Benhamou, F. and Colmerauer, A. eds. (1993).
   \emph{Constraint Logic Programming, Selected Research},
   MIT Press.

\bibitem[{Bestbury(2003)}]{best03}
   Bestbury, B.~W. (2003). {$R$}-matrices and the magic
   square, \emph{J. Phys. A} \textbf{36}, 7, pp. 1947--1959.

\bibitem[{Brown(1988)}]{brow88}
   Brown, M.~E. (1988). \emph{An Interactive Environment for
   Literate Programming}, Ph.D. thesis, Texas A\&M University,
   TX, USA.
```

```
\bibitem[{Churchill and Brown(1990)}]{chur90}
   Churchill, R.~V. and Brown, J.~W. (1990). \emph{Complex
   Variables and Applications}, 5th edn., McGraw-Hill.
\end{thebibliography}
```

20. Single Indexing

The first step in producing the index is to put the necessary `\index` commands in your document. The following example shows some simple `\index` commands and the index entries that they produce.

Page ii:	`\index{Alpha}`
Page viii:	`\index{alpha}`
Page ix:	`\index{alpha}`
Page 7:	`\index{gnat!size of}`
Page 8:	`\index{bites!animal!gnats}`
Page 10:	`\index{bites!animal!gnats}`
Page 10:	`\index{bites!animal!gnus}`
Page 12:	`\index{bites!vegetable}`
Page 22:	`\index{alpha}`
Page 32:	`\index{gnat}`
Page 35:	`\index{gnat!anatomy}`
	`\index{gnus!good}`
Page 38:	`\index{gnus!bad}`

Alpha, ii
alpha, viii, ix, 22
bites
  animal
    gnats, 8, 10
    gnus, 10
  vegetable, 12
gnat, 32
  anatomy, 35
  size of, 7
gnus
  bad, 38
  good, 35

You then run LaTeX on your entire document, causing it to generate the file `ws-rv9x6.idx`. Next, run the `MakeIndex` program by typing the command, `makeindex ws-rv9x6`. This produces the file `ws-rv9x6.ind`. If `MakeIndex` generated no error messages, you can now rerun LaTeX on your document and the index will appear. Compile your file as follows:

(1) latex ws-rv9x6
(2) latex ws-rv9x6
(3) bibtex ws-rv9x6 `% when bibtex is used`
(4) makeindex ws-rv9x6
(5) latex ws-rv9x6
(6) latex ws-rv9x6

Reading the index, you may discover mistakes, which should be corrected by changing the appropriate `\index` commands in the document and regenerating the `ind` file. If there are problems that cannot be corrected in this way, you can edit the `ind` file directly. However, such editing

is to be avoided because it must be repeated every time you generate a new version of the index.

If you are making changes in the .toc or .ind files directly, then include `\nofiles` before `\begin{document}` to avoid overwriting. However, the command `\nofiles` should be used as the last option.

21. Multiple Indexes

To create a "subject" and an "author" index, the following packages and declarations should be included in the TEX file:

```
...
\usepackage{ws-index}
\makeindex
\newindex{aindx}{adx}{and}{Author Index}       % author index
\renewindex{default}{idx}{ind}{Subject Index}  % subject index
...
\printindex[aindx]                    % to print author index
\printindex                           % to print subject index
```

In text, the subject or default index entries are tagged with `\index{entry}`, and the author index entries are marked with `\index[aindx]{entry}` or `\aindx{entry}`.

```
\index[aindx]{Author, F.}  % or \aindx{Author, F.}
\index{FAQ}
```

To complete the job, compile your file as follows:

(1) latex ws-rv9x6
(2) latex ws-rv9x6
(3) bibtex ws-rv9x6
(4) makeindex ws-rv9x6
(5) makeindex -o ws-rv9x6.and ws-rv9x6.adx
(6) latex ws-rv9x6
(7) latex ws-rv9x6

Appendix A. Appendix Title

Appendices should be used only when absolutely necessary. They should come before the References.

Table A.1. Commonly used macros.

Macro name	Purpose
`\chapter[#1]{#2}`	Chapter title
`\author[#1]{#2}`	Author Name(S)
`\address{#1}`	Address
`\begin{abstract}`	Start Abstract
`\end{abstract}`	End Abstract
`\bigtoc`	For longer TOCs (e.g. 1.99. Section Title)
`\smalltoc`	For smaller TOCs (e.g. 1.9. Section Title)
`\tableofcontents`	Table of Contents
`\body`	Start Body Text
`\section{#1}`	Section heading
`\subsection{#1}`	Subsection heading
`\subsubsection{#1}`	Subsubsection heading
`\section*{#1}`	Unnumbered Section head
`\begin{itemlist}`	Start bulleted lists
`\end{itemlist}`	End bulleted lists
`\begin{arabiclist}`	Start arabic lists (1, 2, 3...)
`\end{arabiclist}`	End arabic lists
`\begin{romanlist}`	Start roman lists (i, ii, iii...)
`\end{romanlist}`	End roman lists
`\begin{Romanlist}`	Start roman lists (I, II, III...)
`\end{Romanlist}`	End roman lists
`\begin{alphlist}`	Start alpha lists (a, b, c...)
`\end{alphlist}`	End alpha lists
`\begin{Alphlist}`	Start alpha lists (A, B, C...)
`\end{Alphlist}`	End alpha lists
`\begin{proof}`	Start of Proof
`\end{proof}`	End of Proof
`\begin{theorem}`	Start of Theorem
`\end{theorem}`	End of Theorem (see Page 8 for detailed list)
`\begin{appendix}[#1]`	Start Appendix
`\end{appendix}`	End Appendix
`\begin{thebibliography}{#1}`	Start of reference list
`\end{thebibliography}`	End of reference list
`\bibitem[{#1}]{#2}`	reference item in author-date style
`\bibitem{#1}`	reference item in numbered style
`\bibliographystyle{#1}`	To include BIBTEX style file
`\bibliography{#1}`	To include BIBTEX database

A.1. Appendices

If there is more than one appendix, number them alphabetically. Sectional units are obtained with the LATEX instructions `\section`, `\subsection`. Number displayed equations occurring in the Appendix in this way, e.g. (A.1), (A.2), etc.

$$\zeta \mapsto \hat{\zeta} = a\zeta + b\eta \tag{A.1}$$

$$\eta \mapsto \hat{\eta} = c\zeta + d\eta \tag{A.2}$$

Table A.2. Macros available for Tables/Figures.

Environment name	Purpose
`figure`	figures
`sidewaysfigure`	landscape figures
`table`	tables
`sidewaystable`	landscape tables
`\tbl{#1}{#2}`	#1 - table caption; #2 - tabular environment
Horizantal Rules for tables	
`\toprule`	one rule at the top
`\colrule`	one rule separating column heads from data cells
`\botrule`	one bottom rule
`\Hline`	one thick rule at the top and bottom of the tables with multiple column heads

References

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