REVTEX 4 Command and Options Summary

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This is the REVTEX 4 Command and Options Summary. It details usage for many of the new commands and options that are available in REVTEX 4. Please see the REVTEX 4 Author’s Guide for complete information on how to use REVTEX 4. Class options for the \documentclass line are marked with square brackets. Environments are indicated by \begin{<env>} and always require a matching \end{<env>}.∗Electronic address: revtex4@aps.org

<table>
<thead>
<tr>
<th>REVTEX 4/LaTEX 2ε Markup</th>
<th>Details and Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>[aps] [prl],[pra],[prb],[prc],[prd],[pre],[prstab]</td>
<td>American Physical Society styling. Default. Further customize [aps] styling for Physical Review journals.</td>
</tr>
<tr>
<td>[rmp] [twocolumn],[onecolumn],[preprint]</td>
<td>Further customize [aps] styling for Reviews of Modern Physics. Two column formatting. Single column formatting. Single column formatting with increased interline spacing.</td>
</tr>
<tr>
<td>[10pt],[11pt],[12pt] [groupedaddress],[superscriptaddress]</td>
<td>Set font size. [preprint] gives [12pt], [twocolumn] gives [10pt] by default. Group authors with same affiliations together. Default. Associate authors with affiliations via superscript numbers. Appropriate for collaborations or if several authors share some, but not all, affiliations.</td>
</tr>
<tr>
<td>[draft] [amssymb],[noamssymb],[amsmath],[noamsmath]</td>
<td>Mark overfull lines. Load (don’t load) \amssymb package. Adds additional AMS symbols. Load (don’t load) \amsmath package. Adds AMS-LaTEX features.</td>
</tr>
</tbody>
</table>

Other Class Options

\[preprintnumbers\],\[nopreprintnumbers\] Control display of preprint numbers given by \preprint command. \[preprintnumbers\] is default for \[preprint\]; otherwise \[nopreprintnumbers\] is default.

\[floatfix\] Invoke emergency processing to avoid the \LaTeX error ‘‘Too many unprocessed floats’’ or all subsequent floats being moved to the end of the job. REVTEX 4 will display a message recommending this option if warranted.

\[bibnotes\],\[mobibnotes\] Control location of author footnotes. Default varies with journal style.

\[footinbib\],\[nofootinbib\] Control location of footnotes. Default varies with journal style.
REVTEX 4 Command Summary continued...

REVTeX 4/PTeX 2ε Markup

[altaffilletter], [altaffillsymbol]

[unsortedaddress]

[ruminaddress]

[showpacs], [noshowpacs]

[showkeys], [noshowkeyws]

[tightenlines]

[floats]

[endfloats]

[endfloats*]

[titlepage], [notitlepage]

[final]

[letterpaper], [a4paper], [a5paper]

[oneside], [twoside]

[fleqn]

[eqsecnum]

[balancelastpage], [nobalancelastpage]

[raggedbottom], [flushbottom]

[raggedfooter], [noraggedfooter]

[byrevtex]

[citeautoscript]

[galley]

Frontmatter Commands

\title{<title>}
\author{One Author}
\surname{Llyod Weber}; \surname{Mao}
\email{<optional text>}{author@any.edu}
\homepage{<optional text>}{http://any.edu/homepage/}
\altaffiliation{<optional text>}{affiliation information}
\thanks{<text>}
\collaboration{<The Collaboration>}

\affiliation{<text>}
\noaffiliation
\date{<date>}
\begin{abstract}
\pacs{<pacs codes>}
\keywords{<keywords>}
\maketitle

The manuscript title.
Specify one author’s name.
Indicate which part of a name within \author should be used for alphabetizing and indexing.
Specify an e-mail address for an author.
Specify a URL for an author’s web site.
Specify an alternate or temporary address for an author.
Additional information about an author not covered by the more specific macros above.
Specify a collaboration name for a group of authors.
Requires \superscriptaddress and should be placed after the authors.
Specify a single affiliation. Applies to all previous authors without a specified affiliation.
For an author or collaboration without an affiliation, show the date on the manuscript. \today gives the current date.
Start the manuscript’s abstract. Must appear before \maketitle command.
PACS codes for manuscript. Multiple PACS codes should be specified together in a single \pacs macro.
Suggested keywords for indexing.
\textbf{REV\TeX} 4/\LaTeX{} 2ε Markup

\makeatletter
\begin{itemize}
\item \texttt{\preprint{<report number>}}
\item \texttt{\maketitle}
\item \texttt{\section{<heading>}}, \texttt{\subsection{<heading>}}, \texttt{\subsubsection{<heading>}}
\item \texttt{\section*{<heading>}}
\item \texttt{\appendix}
\item \texttt{\appendix*}
\item \texttt{\begin{acknowledgments}}
\item \texttt{\lowercase{<text>}}
\end{itemize}

\textbf{Citation, Footnote, and Cross-referencing Commands}

\begin{itemize}
\item \texttt{\bibliography{<bib file basename>}}
\item \texttt{\bibliographystyle{<bst stylefile>}}
\item \texttt{\begin{thebibliography}}
\item \texttt{\bibitem[<optional text>]{<key>}}
\item \texttt{\cite{<list of keys>}}
\item \texttt{\onlinecite{<key>}}
\item \texttt{\bibinfo[<tag>]{<text>}}
\item \texttt{\url{<url>}}
\item \texttt{\eprint{<e-print id>}}
\item \texttt{\footnote{<text>}}
\item \texttt{\footnotemark[<key>], \footnotetext[<key>]{<text>}}
\item \texttt{\label{<key>}}
\item \texttt{\ref{<key>}}
\item \texttt{\pageref{<key>}}
\end{itemize}

\textbf{Math and Equation Commands}

\begin{itemize}
\item $\\$\begin{itemize}
\item \texttt{\begin{equation}}
\item \texttt{\[ \]}\end{itemize}
\end{itemize}
\begin{eqnarray}
\nonumber
&
\\
\\$
\label{<key>}
\ref{<key>}
\tag{<key>}
\text{<text>}
\begin{eqnarray*}
Display multiple equations together or a long equation that requires multiple lines. Use \texttt{widetext} environment for an equation that must span the page in two-column formatting.
\begin{eqnarray}

\texttt{\nonumber}
Suppress numbering of an equation with \texttt{eqnarray}.
\begin{eqnarray*}
Display multiple equations with no equation numbering at all.
&
\\
\\$
Alignment character for equations within \texttt{eqnarray}.
\\$
Prevent a page break at this point in an \texttt{eqnarray}.
\\$
Label an equation or group of equations for cross-referencing.
\\$
Refer to an equation by its label (e.g., Eq\textsuperscript{\texttt{\ref{<key>}}}).
\\$
Specify an alternative labeling separate from the automatic numbering of equations. Requires \texttt{[amsmath]}.
\\$
Non-italicized text within a math context. Requires \texttt{[amsmath]}. Do not use \texttt{\rm}, \texttt{\textrm}, or \texttt{\mbox}.
\begin{split}
Split equations with alignment.
\begin{multline}
Split equations without alignment.
\begin{align}
Equation groups with alignment.
\begin{gather}
Equation groups without alignment.
\begin{subequations}
Create an equation array in which each equation is individually numbered (4a, 4b, 4c, etc.) as part of a single group of equations that can be referenced as a whole.
\\$
Textual interjections within a display equation.
\\$
Create commutative diagrams.
\\$
Matrices with parentheses as delimiters.
\\$
Matrices with square brackets as delimiters.
\\$
Matrices with curly braces as delimiters.
\\$
Matrices with vertical bars as delimiters.
\\$
Matrices with double vertical bars as delimiters.
\\$
Row of dots in a matrix.
\\$
Alternative \texttt{\hat} accent for stacking.
\\$
Alternative \texttt{\check} accent for stacking.
\\$
Alternative \texttt{\tilde} accent for stacking.
\\$
Alternative \texttt{\acute} accent for stacking.
\\$
Alternative \texttt{\grave} accent for stacking.
\\$
Alternative \texttt{\dot} accent for stacking.
\\$
Alternative \texttt{\ddot} accent for stacking.
\\$
Alternative \texttt{\breve} accent for stacking.
\\$
Alternative \texttt{\vec} accent for stacking.
\\$
Extensible left arrow.
\\$
Extensible right arrow.
\\$
Place a symbol over another.
\\$
Place a symbol under another.
\\$
Vertical bar with spacing rules appropriate for use as a left delimiter.
\\$
Vertical bar with spacing rules appropriate for use as a right delimiter.
\\$
Double vertical bar with spacing rules appropriate for use as a left delimiter.
\\$
Double vertical bar with spacing rules appropriate for use as a right delimiter.
REVTEX 4/L2 Markup

\DeclareMathOperator
\text
\boldsymbol
\sideset
\substack
\begin{subarray}
\mathfrak
\mathbb
\textbf{<text>}
\textit{<text>}
\texttt{<text>}
\mathit{<text>}
\textsf{<text>}
\textmd{<text>}
\textnormal{<text>}
\textup{<text>}
\mathfrak{<text>}
\mathbb{<text>}
\bm{<text>}

Font Commands

\textbf{<text>}
\textit{<text>}
\texttt{<text>}
\textmd{<text>}
\textnormal{<text>}
\textup{<text>}
\mathit{<text>}
\textsf{<text>}

Details and Usage

Declare a new math operator so that spacing and font is correct.
Words and phrases in display math.
Make symbol bold. Also available in bm.sty.
Sets subscripts and superscripts at the corners of a summation or product.
Create a stack of subexpressions (for example, stacked summation limits).
Like \substack, but allows finer control of subexpression alignment.
Replaces \frak.
Replaces \Bbb.

Table Commands

\begin{table}<placement>
Start a table float environment set to the current column width. The placement options may be any combination of h, t, b, p, or ! signifying here, top, bottom, page, and “as soon as possible”, respectively. A placement option of H will allow a long table to break across pages. \LaTeX may not be able to honor placement requests.

\begin{table*}
Start a non-floating table environment set to the current page width. Will be deferred to the following page.

\begin{ruledtabular}
Adds Physical Review style double (Scotch) rules around a table and adjusts the intercolumn spacing.

\begin{tabular}<position>{<column specs>}
The \tabular environment sets the positions and the number of columns (as well as alignment) in the table.
Like tabular, but with a set width.
Set table in a smaller font smaller. Place this macro before the \begin{table} line and sandwich everything between \begingroup and \endgroup.

\squeezetable

REVTEX 4/LATEX 2ε Markup

\begin{longtable}{<column specs>}
Create a table set to the current column width that spans more than one page or column. \usepackage{longtable} required.
\begin{longtable*}{<column specs>}
Create a table set to the current page width that spans more than one page. \usepackage{longtable} required.
\caption{<text>}
Adds a caption for the table.
\printtables
With \[endfloats\], control where the held back tables actually appear.
\begin{turnpage}
Rotate a table or figure by 90 degrees (landscape mode). Will put figure or table on a page by itself. Requires \package{graphics} package.

\section*{Graphics Commands}

\begin{figure}[<placement>]
Start a figure float environment set to the current column width. The placement options may be any combination of h, t, b, p, or ! signifying here, top, bottom, page, and “as soon as possible”, respectively. A placement option of H will allow a long table to break across pages. LATEX may not be able to honor placement requests.
\begin{figure*}
Start a non-floating figure environment set to the current page width. Will be deferred to the following page.
\includegraphics[<scale,rotation>]{figure file}
Defined by invoking either \usepackage{graphics} or \usepackage{graphicx}, the standard LATEX 2ε packages for calling in figures. graphicx is the same as graphics, but uses key-value pairs for optional arguments.
\usepackage{epsfig}
Provides an alternative interface to the graphics package similar to the epsf class option in REVTEX 3. With \[endfloats\], control where the held back figures actually appear.

\section*{Miscellaneous Commands}

\begin{widetext}
Change column width to be the page width. Will add guiding rules.
\twocolumngrid
Low-level switch to a two column layout.
\onecolumngrid
Low-level switch to a single page-wide column layout.
\protect
Protect a fragile command within a macro with a “moving” argument. \caption and \footnote are common macros that have moving arguments.
\frac{numerator}{denominator}
Create a fraction. Use in place of \over.

\section*{REVTEX 4 and Miscellaneous Symbols}

\textemdash
\textendash
\textexclamdown
\textquestiondown
\textquotedblleft
\textquotedblright
\textquoteleft
\textquoteright
\textbullet
\textperiodcentered
\textvisiblespace
<table>
<thead>
<tr>
<th>REVTEX 4/LATEX 2ε Markup</th>
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</thead>
<tbody>
<tr>
<td>\textcompworkmark</td>
<td>Break a ligature.</td>
</tr>
<tr>
<td>\textcircled{&lt;char&gt;}</td>
<td>Circle a character. ☺.</td>
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<td>\lambdabar</td>
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<td>\openone</td>
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