

REVTeX 4.1 Command and Options Summary

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This is the *REVTeX 4.1 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 4.1 Author's Guide* for complete informa-

tion on how to use REVTeX 4.1. Class options for the `\documentclass` line are marked with square brackets. Environments are indicated by `\begin{<env>}` and always require a matching `\end{<env>}`.

TABLE I: REVTeX 4.1 Command Summary

REVTeX 4/L ^A T _E X 2 _ε Markup	Details and Usage
	FREQUENTLY USED CLASS OPTIONS
[aps]	<i>American Physical Society</i> styling. Default.
[aip]	<i>American Institute of Physics</i> styling.
[prl], [pra], [prb], [prc], [prd], [pre], [prstab], [prstper], [rmp]	Further customize [aps] styling for APS journals.
[apl], [bmf], [cha], [jap], [jcp], [jmp], [rse], [pof], [pop], [rsi]	Further customize [aip] styling for AIP journals.
[twocolumn]	Two-column formatting.
[onecolumn]	Single-column formatting.
[preprint]	Single-column formatting with increased interline spacing.
[reprint]	Closely approximate a given journal's style. Can be either single or two-column formatting depending on the journal.
[10pt], [11pt], [12pt]	Set font size. [preprint] gives [12pt], [twocolumn] gives [10pt] by default.
[groupedaddress]	Group authors with same affiliations together. Default.
[superscriptaddress]	Associate authors with affiliations via superscript numbers. Appropriate for collaborations or if several authors share some, but not all, affiliations.
[draft]	Mark overfull lines.
[linenumbers]	Number lines (requires <code>lineno.sty</code>).
[longbibliography]	Use alternative BibTeX style files that show journal article titles in the bibliography.
[amsfonts], [noamsfonts]	Load (don't load) <code>amsfonts</code> package. Adds AMS font support.
[amssymb], [noamssymb]	Load (don't load) <code>amssymb</code> package. Adds additional AMS symbols.
[amsmath], [noamsmath]	Load (don't load) <code>amsmath</code> package. Adds AMS-L ^A T _E X features.
	OTHER CLASS OPTIONS
[preprintnumbers], [nopreprintnumbers]	Control display of preprint numbers given by <code>\preprint</code> command. [preprintnumbers] is default for [preprint]; otherwise [nopreprintnumbers] is default.
[floatfix]	Invoke emergency processing to avoid the L ^A T _E X 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], [nobibnotes]	Control location of author footnotes. Default varies with journal style.
[footinbib], [nofootinbib]	Control location of footnotes. Default varies with journal style.
[altaffilletter], [altaffillsymbol]	Use letters or symbols for <code>\altaffiliation</code> superscripts. [altaffillsymbol] is default.
[unsortedaddress]	Like [groupedaddress], but doesn't combine authors together who share the same affiliations.

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TABLE I (continued): REVTeX 4.1 Command Summary

REVTeX 4/L ^A T _E X 2 _ε Markup	Details and Usage
[runinaddress]	Like [groupedaddress], but joins multiple affiliations together into a single sequence separated by commas.
[showpacs], [noshowpacs]	Control display of PACS: line.
[showkeys], [noshowkeys]	Control display of Keywords: line.
[tightenlines]	Single space manuscript (for use with [preprint]).
[floats]	Position floats near call outs. Default.
[endfloats]	Move all floats to the end of the document.
[endfloats*]	Move all floats to the end of the document and put each on a separate page.
[titlepage], [notitlepage]	Control appearance of title page.
[final]	Don't mark overfull lines. Default.
[letterpaper], [a4paper], [a5paper]	Select paper size. [letterpaper] is default.
[oneside], [twoside]	Control book syle layout. [oneside] is default.
[fleqn]	Flush displayed equations left.
[eqsecnum]	Number equations by section.
[balancelastpage], [nobalancelastpage]	Control [twocolumn] balancing on last page. [balancelastpage] is default.
[raggedbottom], [flushbottom]	Control [twocolumn] balancing. [flushbottom] is default.
[raggedfooter], [noraggedfooter]	Control positioning of footer. [noraggedfooter] is default.
[byrevtex]	Display "Typeset by REVTeX 4".
[citeautoscript]	Fix up spacing and punctuation when switching from non-superscript style citations to superscript citation styles. \cite commands and associated spacing and punctuation should be as for the non-superscript style.
[galley]	Typeset in a single narrow column.
[nomerge]	Allows processing of legacy documents that use square brackets as part of the key in a cite command.
FRONTMATTER COMMANDS	
\title{<title>}	The manuscript title.
\author{One Author}	Specify one author's name.
\surname{Lloyd Weber}, \surname{Mao}	Indicate which part of a name within \author should be used for alphabetizing and indexing.
\email[<optional text>]{author@any.edu}	Specify an e-mail address for an author.
\homepage[<optional text>] {http://any.edu/homepage/}	Specify a URL for an author's web site.
\altaffiliation[optional text] {affiliation information}	Specify an alternate or temporary address for an author.
\thanks{text}	Additional information about an author not covered by the more specific macros above.
\collaboration{<The Collaboration>}	Specify a collaboration name for a group of authors. Should be placed after the authors.
\affiliation{text}	Specify a single affiliation. Applies to all previous authors without a specified affiliation.
\noaffiliation	For an author or collaboration without an affiliation.
\date{<date>}	Show the date on the manuscript. \date{\today} gives the current date.
\begin{abstract}	Start the manuscript's abstract. Must appear before \maketitle command.
\pacs{<pacs codes>}	PACS codes for manuscript. Multiple PACS codes should be specified together in a single \pacs macro.
\keywords{<keywords>}	Suggested keywords for indexing.
\preprint{<report number>}	Specify an institutional report number to appear in the upper-righthand corner of the first page. Multiple \preprint macros may be supplied, but space may limit how many can appear.
\maketitle	Typeset the title/author/abstract block.
SECTIONING COMMANDS	
\section{<heading>}, \subsection{<heading>}, \subsubsection{<heading>}	Start a new section or subsection.

TABLE I (continued): REV_TE_X 4.1 Command Summary

REV _T E _X 4/L ^A T _E X 2 _ε Markup	Details and Usage
<code>\section*{<heading>}</code>	Start a new section without a number.
<code>\appendix</code>	Makes all following sections appendices.
<code>\appendix*</code>	Signifies there is a single appendix section to follow.
<code>\begin{acknowledgments}</code>	Start an Acknowledgments section. Note spelling.
<code>\lowercase{<text>}</code>	Escape a letter or word from being uppercased in a top-level <code>\section</code> heading.
CITATION, FOOTNOTE, AND CROSS-REFERENCING COMMANDS	
<code>\bibliography{<bib file basename>}</code>	Specify a list of .bib files in which to find references. Read in the resulting .bbl file. For use with Bib _T E _X .
<code>\bibliographystyle{<bst stylefile>}</code>	Specify a Bib _T E _X (.bst) style file to use. APS journal options select the proper default (<code>apsrev</code> or <code>apsrmp</code>).
<code>\begin{thebibliography}</code>	Start the reference section (when not using Bib _T E _X).
<code>\bibitem[<optional text>]{<key>}</code>	Specify a single reference.
<code>\cite{<list of keys>}</code>	Cite one or more references. <code><key></code> is same as that of <code>\bibitem</code> . Prepend a * in front of a key to merge the reference with the previous one in the bibliography.
<code>\cite*{[<prepended>] [<appended>] {<keys>}}</code>	Prepend and/or append text to a bibliography entry. Note use of curly braces within the square brackets.
<code>\onlinecite{<key>}</code>	For superscript style citations, place the corresponding number on the baseline rather than as a superscript.
<code>\bibinfo[<tag>]{<text>}</code>	A pure markup macro that adds tagging information to the components of a reference. REV _T E _X 4 Bib _T E _X style files automatically add them appropriately. Doesn't affect the typesetting.
<code>\url{<url>}</code>	Typeset a URL (REV _T E _X 4 automatically loads <code>url.sty</code>). Bib _T E _X styles automatically add this markup.
<code>\eprint{<e-print id>}</code>	Typeset an e-print identifier. Bib _T E _X styles automatically add this markup.
<code>\footnote{<text>}</code>	Create a footnote or endnote in bibliography depending on class options. <code>\footnote</code> within a table will create a footnote attached to the table.
<code>\footnotemark{<key>},</code> <code>\footnotetext[<key>]{<text>}</code>	In a table, allows for multiple items to share the note.
<code>\label{<key>}</code>	Label an item for cross-referencing. <code>\label</code> should appear within the argument of the cross-referenced item (e.g., <code>\section{\label{<key>}...}</code> or <code>\caption{\label{<key>}...}</code>).
<code>\ref{<key>}</code>	Refer to an item labeled by <code>\label{<key>}</code> .
<code>\pageref{<key>}</code>	Refer to the page on which an item labeled by <code>\label{<key>}</code> appears.
MATH AND EQUATION COMMANDS	
<code>\$</code>	Inline math delimiter.
<code>\begin{equation}</code>	Display numbered one-line equation.
<code>\[, \]</code>	Display unnumbered one-line equation.
<code>\begin{eqnarray}</code>	Display multiple equations together or a long equation that requires multiple lines. Use <code>widetext</code> environment for an equation that must span the page in two-column formatting.
<code>\nonumber</code>	Suppress numbering of an equation with <code>eqnarray</code> .
<code>\begin{eqnarray*}</code>	Display multiple equations with no equation numbering at all.
<code>&</code>	Alignment character for equations within <code>eqnarray</code> .
<code>\\</code>	End a row in <code>eqnarray</code> .
<code>*</code>	Prevent a page break at this point in an <code>eqnarray</code> .
<code>\label{<key>}</code>	Label an equation or group of equations for cross-referencing.
<code>\ref{<key>}</code>	Refer to an equation by its label (e.g., <code>Eq~(\ref{<key>})</code>).
<code>\tag{<key>}</code>	Specify an alternative labeling separate from the automatic numbering of equations. Requires <code>[amsmath]</code> .
<code>\text{<text>}</code>	Non-italicized text within a math context. Requires <code>[amsmath]</code> . Do not use <code>\rm</code> , <code>\textrm</code> , or <code>\mbox</code> .
SOME AMS-L ^A T _E X COMMANDS	
<code>\begin{split}</code>	Split equations with alignment.
<code>\begin{multline}</code>	Split equations without alignment.

TABLE I (continued): REVTeX 4.1 Command Summary

REVTeX 4/L ^A T _E X 2 _ε Markup	Details and Usage
<code>\begin{align}</code>	Equation groups with alignment.
<code>\begin{gather}</code>	Equation groups without alignment.
<code>\begin{subequations}</code>	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.
<code>\intertext</code>	Textual interjections within a display equation.
<code>\usepackage{amscd}</code>	Create commutative diagrams.
<code>\begin{pmatrix}</code>	Matrices with parentheses as delimiters.
<code>\begin{bmatrix}</code>	Matrices with square brackets as delimiters.
<code>\begin{Bmatrix}</code>	Matrices with curly braces as delimiters.
<code>\begin{vmatrix}</code>	Matrices with vertical bars as delimiters.
<code>\begin{Vmatrix}</code>	Matrices with double vertical bars as delimiters.
<code>\hdotsfor</code>	Row of dots in a matrix.
<code>\Hat</code>	Alternative <code>\hat</code> accent for stacking.
<code>\Check</code>	Alternative <code>\check</code> accent for stacking.
<code>\Tilde</code>	Alternative <code>\tilde</code> accent for stacking.
<code>\Acute</code>	Alternative <code>\acute</code> accent for stacking.
<code>\Grave</code>	Alternative <code>\grave</code> accent for stacking.
<code>\Dot</code>	Alternative <code>\dot</code> accent for stacking.
<code>\Ddot</code>	Alternative <code>\ddot</code> accent for stacking.
<code>\Breve</code>	Alternative <code>\breve</code> accent for stacking.
<code>\Vec</code>	Alternative <code>\vec</code> accent for stacking.
<code>\xleftarrow</code>	Extensible left arrow.
<code>\xrightarrow</code>	Extensible right arrow.
<code>\overset</code>	Place a symbol over another.
<code>\underset</code>	Place a symbol under another.
<code>\lvert</code>	Vertical bar with spacing rules appropriate for use as a left delimiter.
<code>\rvert</code>	Vertical bar with spacing rules appropriate for use as a right delimiter.
<code>\lVert</code>	Double vertical bar with spacing rules appropriate for use as a left delimiter.
<code>\rVert</code>	Double vertical bar with spacing rules appropriate for use as a right delimiter.
<code>\DeclareMathOperator</code>	Declare a new math operator so that spacing and font is correct.
<code>\text</code>	Words and phrases in display math.
<code>\boldsymbol</code>	Make symbol bold. Also available in <code>bm.sty</code> .
<code>\sideset</code>	Sets subscripts and superscripts at the corners of a summation or product.
<code>\substack</code>	Create a stack of subexpressions (for example, stacked summation limits).
<code>\begin{subarray}</code>	Like <code>\substack</code> , but allows finer control of subexpression alignment.
<code>\mathfrak</code>	Replaces <code>\frak</code> .
<code>\mathbb</code>	Replaces <code>\Bbb</code> .
FONT COMMANDS	
<code>\textbf{<text>}</code>	Text boldface font.
<code>\textit{<text>}</code>	Text italicized font.
<code>\textrm{<text>}</code>	Text Roman font.
<code>\textsl{<text>}</code>	Text Slanted font.
<code>\textsc{<text>}</code>	Text Small Caps font.
<code>\textsf{<text>}</code>	Text Sans Serif font.
<code>\textmd{<text>}</code>	Text Medium Series font.
<code>\textnormal{<text>}</code>	Text Normal Series font.
<code>\textup{<text>}</code>	Text Upright Series font.
<code>\texttt{<text>}</code>	Text Typewriter font.
<code>\mathit{<text>}</code>	Math italics font.
<code>\mathbf{<text>}</code>	Math boldface font.
<code>\mathtt{<text>}</code>	Math typewriter font.
<code>\mathsf{<text>}</code>	Math sans serif font.
<code>\mathcal{<text>}</code>	Math calligraphic font.

TABLE I (continued): REVTeX 4.1 Command Summary

REVTeX 4/L ^A T _E X 2 _ε Markup	Details and Usage
<code>\mathfrak{<text>}</code>	Math fraktur font. Requires <code>[amssymb]</code> or <code>[amsfonts]</code> .
<code>\mathbb{<text>}</code>	Math blackboard bold font. Requires <code>[amssymb]</code> or <code>[amsfonts]</code> .
<code>\bm{<text>}</code>	Bold math symbols (Greek and other symbols). Requires <code>\usepackage{bm}</code> .
TABLE COMMANDS	
<code>\begin{table}[<placement>]</code>	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. L ^A T _E X may not be able to honor placement requests.
<code>\begin{table*}</code>	Start a non-floating table environment set to the current page width. Will be deferred to the following page.
<code>\begin{ruledtabular}</code>	Adds <i>Physical Review</i> style double (Scotch) rules around a table and adjusts the intercolumn spacing.
<code>\begin{tabular}[<position>]{<column specs>}</code>	The <code>\tabular</code> environment sets the positions and the number of columns (as well as alignment) in the table.
<code>\begin{tabular*}[<width>][<pos>]{<col specs>}</code>	Like <code>tabular</code> , but with a set width.
<code>\squeezeable</code>	Set table in a smaller font smaller. Place this macro before the <code>\begin{table}</code> line and sandwich everything between <code>\begingroup</code> and <code>\endgroup</code> .
<code>\begin{longtable}{<column specs>}</code>	Create a table set to the current column width that spans more than one page or column. <code>\usepackage{longtable}</code> required.
<code>\begin{longtable*}{<column specs>}</code>	Create a table set to the current page width that spans more than one page. <code>\usepackage{longtable}</code> required.
<code>\caption{<text>}</code>	Adds a caption for the table.
<code>\printables</code>	With <code>[endfloats]</code> , control where the held back tables actually appear.
<code>\begin{turnpage}</code>	Rotate a table or figure by 90 degrees (landscape mode). Will put figure or table on a page by itself. Requires <code>\graphics</code> package.
GRAPHICS COMMANDS	
<code>\begin{figure}[<placement>]</code>	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. L ^A T _E X may not be able to honor placement requests.
<code>\begin{figure*}</code>	Start a non-floating figure environment set to the current page width. Will be deferred to the following page.
<code>\includegraphics[<scale,rotation>]{fig file}</code>	Defined by invoking either <code>\usepackage{graphics}</code> or <code>\usepackage{graphicx}</code> , the standard L ^A T _E X 2 _ε packages for calling in figures. <code>graphicx</code> is the same as <code>graphics</code> , but uses key-value pairs for optional arguments.
<code>\usepackage{epsfig}</code>	Provides an alternative interface to the <code>graphics</code> package similar to the <code>epsf</code> class option in REVTeX 3.
<code>\printfigures</code>	With <code>[endfloats]</code> , control where the held back figures actually appear.
MISCELLANEOUS COMMANDS	
<code>\begin{widetext}</code>	Change column width to be the page width. Will add guiding rules.
<code>\twocolumngrid</code>	Low-level switch to a two column layout.
<code>\onecolumngrid</code>	Low-level switch to a single page-wide column layout.
<code>\protect</code>	Protect a fragile command within a macro with a “moving” argument. <code>\caption</code> and <code>\footnote</code> are common macros that have moving arguments.
<code>\frac{numerator}{denominator}</code>	Create a fraction. Use in place of <code>\over</code> .
REVTeX 4 AND MISCELLANEOUS SYMBOLS	
<code>\textemdash</code>	—
<code>\textendash</code>	–
<code>\textexclamdown</code>	¡
<code>\textquestiondown</code>	¿

TABLE I (continued): REVTeX 4.1 Command Summary

REVTeX 4/L ^A T _E X 2 _ε Markup	Details and Usage
<code>\textquotedblleft</code>	“
<code>\textquotedblright</code>	”
<code>\textquoteleft</code>	‘
<code>\textquoteright</code>	’
<code>\textbullet</code>	•
<code>\textperiodcentered</code>	·
<code>\textvisiblespace</code>	␣
<code>\textcompworkmark</code>	Break a ligature.
<code>\textcircled{<char>}</code>	Circle a character. ©.
<code>\lambdabar</code>	λ̄
<code>\openone</code>	∥
<code>\altsuccsim</code>	≈
<code>\altprecsim</code>	≈
<code>\alt</code>	∧/∨/∩/∪
<code>\agt</code>	⋗
<code>\tensor x</code>	$\overset{\otimes}{x}$
<code>\overstar x</code>	$\overset{*}{x}$
<code>\loarrow x</code>	$\overset{\leftarrow}{x}$
<code>\roarrow x</code>	\vec{x}
<code>\mathring{x}</code>	$\overset{\circ}{x}$ (Replaces <code>\overcir</code>). Standard L ^A T _E X 2 _ε .
<code>\ddot{x}</code>	$\overset{\cdot\cdot}{x}$ (Replaces <code>\overdots</code>). Requires [amsmath].
<code>\triangleq</code>	≐ (Replaces <code>\corresponds</code>). Requires [amssymb].
<code>\biglb (\bigrb)</code>	\bigcirc
<code>\Biglb (\Bigrb)</code>	\bigcirc
<code>\bigglb (\biggrb)</code>	\bigcirc
<code>\Bigglb (\Biggrb)</code>	\bigcirc