

# The cite package: well formed numeric citations

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## Abstract

The cite package modifies L<sup>A</sup>T<sub>E</sub>X's normal citation mechanism for improved handling of numeric citations. It provides compressed, sorted lists of numerical or partly-numerical citations, as regular text or as superscripts. Generally, no changes to the usage of `\cite` commands in the input are required.

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## Normal Use

Insert `\usepackage{cite}` in the document's preamble for improved handling of numeric citations, behaving as follows:

**Spacing** A small space is typeset after commas in the citation list. The option `[nospace]` removes that space, and the option `[space]` replaces it with an ordinary inter-word space.

**Sorting** Citations in a list are sorted into ascending order. The `[nosort]` package option turns off sorting. Sortable citations must be numeric or mostly-numeric (see below). Non-sortable entries are printed before all sortable ones.

**Compression** Groups of three or more consecutive numbers are compressed into a range using an en-dash. For example, the (poor) list [7,5,6,?,4,9,8,Einstein,6] would display as [?,Einstein,4–6,6–9]. Compression of ranges is disabled by the [nocompress] package option.

**Non-numbers** Sorting and compression work with (positive) numbers (8,6,7,9 gives [6–9]) as well as numbers with prefix or suffix characters ([5a–5c] or [T1–T4]), and also dual numbers with a separator character ([1.11–1.15]). Dual numbers don't mix well with single numbers. Other forms of entry are printed before all sortable forms.

**Superscript** With package option [superscript] (or [super] for short), citations are displayed as superscripts, except those with an optional note, which are printed on-line with brackets.

Superscript citations use *the same input format* as ordinary citations to produce different output. Blank space before the `\cite` command is discarded, and trailing punctuation is moved to come before the superscript citation. For example, ‘`information \cite{source};`’ ignores the space before `\cite` and puts the semicolon before the number to give ‘`information;12`’, just as if you typed ‘`information;$^{12}$`’. Doubling of periods (., ?, !.) is checked for and suppressed. You may disable movement with the [nomove] package option.

**Line Breaks** Line breaks before and within the citation (after dashes, and after punctuation) are permitted, but discouraged by ‘penalties’ (given by `\citeprepenalty`, `\citemidpenalty`, and `\citepunctpenalty`; see Customization). The option [nobreak] prohibits these breaks. No breaks are permitted with superscript cites.

**Space before** Regular-text citations have the preceding space adjusted to be a normal inter-word space, even if there is no space in the input. The [noadjust] option disables this. Superscript citations have all preceding space removed.

**Numbers alone** The command `\citen` is provided to give just the citation number(s) without the brackets or superscript and other formatting. Aliases are `\citenum` and `\citeonline` for easy conversion to other citation packages.

## Options

There are several options for `\usepackage{cite}`, some already mentioned.

<code>[superscript]</code>	use superscripts for cites without optional notes
<code>[super]</code>	alias for <code>[superscript]</code> (like <code>natbib</code> )
<code>[ref]</code>	uses the format <code>[Ref.~12, given note]</code> (useful with the <code>superscript</code> option)
<code>[nospace]</code>	eliminates the spaces after commas in the number list
<code>[space]</code>	uses a full inter-word space after the commas
<code>[nobreak]</code>	eliminate all line-breaks
<code>[nosort]</code>	prevents sorting of the numbers (default is to sort, ...
<code>[sort]</code>	...and this option is provided for completeness).
<code>[nomove]</code>	prevents moving the superscript cite after punctuation
<code>[move]</code>	moving punctuation is the default
<code>[noadjust]</code>	disables ‘smart’ handling of space before a cite
<code>[adjust]</code>	is the default
<code>[nocompress]</code>	inhibit compression of consecutive numbers into ranges
<code>[compress]</code>	is the default
<code>[biblabel]</code>	define the bibliography label to match <code>\cite</code>

If your citations are not numeric, and not of any near-numeric sortable form, then you should probably not use `cite.sty`; but if you must, then at least use the `[nosort,nocompress]` options.

## More Customization

The punctuation characters that will migrate before superscript cites are listed in the macro `\CiteMoveChars`, which you can redefine (using `\renewcommand`). The default set of characters is `. , ; : .`. Perhaps `!` and `?` should be included too, but they weren’t listed in the (APS) style manual, and they do put too much visual separation between the cite and what it applies to. Feel free to redefine `\CiteMoveChars`. Quote marks should be typed before the `\cite`, so do not need to move. This gives one difficulty – punctuation following quotes won’t migrate inside the quotation: e.g., `‘‘Transition State Theory’’\cite{Eyring}`. gives out “Transition State Theory”.<sup>8</sup>, but you may want the period inside the quotes, thus: “Transition State Theory.”<sup>8</sup>

When moving punctuation before a superscript cite, the spacing after the citation is set according to the final punctuation mark moved, and

doubling of periods (., ?, !.) is checked for and suppressed. There is a problem with double periods after a capitalized abbreviation or directly after \@: Both of ‘N.S.A. \cite{space}.’ and ‘et al.\@ \cite{many}.’ will give doubled periods. Type ‘\ ’ (backslash space) after abbreviations like ‘et al.’ (et al.\ \cite{many}.) to get the right spacing within a sentence whether or not a citation follows, and prevent double periods with the superscript cite. You could use \@ to fix the N.S.A. example (N.S.A.\@. \cite{space}.) but that gives the wrong spacing when there is no citation, so it should be inserted only where a cite follows.

There are several commands that you may redefine to change the formatting of citation lists:

command	function	default
<code>\citeform</code>	reformats each number	nothing
<code>\citepunct</code>	printed between numbers	comma, penalty, thinspace
<code>\citeleft</code>	left delimiter of list	[
<code>\citeright</code>	right delimiter of list	]
<code>\citemid</code>	printed before note	comma, penalty, space
<code>\citedash</code>	used in compressed range	endash, penalty
<code>\CiteMoveChars</code>	characters that get moved	.,:;
<code>\OverciteFont</code>	font sel. for superscripts	<code>\fontsize{\sf@size}...</code>

The left/mid/right commands apply to regular test citations, and don’t affect the formatting of superscript citations. You may use `\renewcommand` to change any of these. Remember, these commands are extensions made by this package; they are not regular LaTeX. Some examples of changes:

```

\renewcommand\citeform[1]{\romannumeral 0#1}} → roman i,vi
\renewcommand\citeform[1]{[#1]} → individual brackets [1]–[5],[9]
\renewcommand\citeform{\thechapter.} → by chapter: 2.18–2.21
\renewcommand\citepunct{,} → no space and no breaks at commas
\renewcommand\citemid{; } → semicolon before optional note
\renewcommand\citeleft{(} → parentheses around whole list
\renewcommand\citeright{)} → parentheses around whole list

```

The appearance of the whole citation list is governed by `\@cite`, (for full-sized cites) and `\@citess` (for superscripts). For more extensive changes to the formatting, redefine these. For example, to get brackets around the list of superscript numbers you can do:

```

\renewcommand\@citess[1]{\textsuperscript{[#1]}}
(after \makeatletter).

```

The superscript option does not normally affect the numbering format of the bibliography, which is controlled by the `\@biblabel` command. Just for convenience, the cite package now understands a `[biblabel]` option that redefines `\@biblabel` to match the format of `\cite`.

Line breaking can be turned off using the `[nobreak]` option, but it can be controlled more precisely by changing three numeric values for the line-break penalties:

Command	Location	Default
<code>\citeprepenalty</code>	before entire citation	<code>\@highpenalty</code>
<code>\citemidpenalty</code>	in <code>\citemid</code> , before note	<code>\@medpenalty</code>
<code>\citepunctpenalty</code>	in <code>\citepunct</code> and <code>\citedash</code>	1000

Use `\mathchardef` (!) to change these penalty values, as in

```
\mathchardef\citeprepenalty=9999
```

(Yes, that is obscure but I don't want to use up counter registers or to pretend the parameters are counters to be incremented.)

Alternatively, the commands `\citemid`, `\citedash`, and `\citepunct` can be redefined to use different penalty parameters, or none at all.