

# References and Citations

$\text{\LaTeX}$ : A Professional Document Preparation System

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# Introduction

In the domain of bibliography management packages,  $\text{\LaTeX}$  offers three prominent alternatives, namely

- ▶ `bibtex`,
- ▶ `natbib`, and
- ▶ `biblatex`.

Of these, `biblatex` stands out as a contemporary software solution that affords a more user-friendly and versatile interface, alongside superior language localization capabilities.

This tutorial introduces the methodology of leveraging `biblatex` to effectively manage and format bibliographies within a  $\text{\LaTeX}$  document.

# Minimal Working Example

```
1 \documentclass{article}
2
3 \usepackage{biblatex}
4 \addbibresource{sample.bib}
5
6 \begin{document}
7 Let's cite! The Einstein's journal paper \cite{einstein}
8 and the Dirac's book \cite{dirac} are physics related items.
9
10 \printbibliography
11
12 \end{document}
```

Typesets:

```
pdflatex filename.tex
biber filename
pdflatex filename.tex
```

# Minimal Working Example

Let's cite! The Einstein's journal paper [2] and the Dirac's book [1] are physics related items.

## References

- [1] Paul Adrien Maurice Dirac. *The Principles of Quantum Mechanics*. International series of monographs on physics. Clarendon Press, 1981. ISBN: 9780198520115.
- [2] Albert Einstein. “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]”. In: *Annalen der Physik* 322.10 (1905), pp. 891–921. DOI: <http://dx.doi.org/10.1002/andp.19053221004>.

# Customization

```
1 \documentclass{article}
2
3 \usepackage[backend=biber,style=alphabetic,sorting=ynt]{biblatex}
4 \addbibresource{sample.bib}
5
6 \begin{document}
7 Using \texttt{biblatex} you can display bibliography divided
8 ↪ into sections, depending of citation type.
9 Let's cite! The Einstein's journal paper \cite{einstein} and
10 ↪ the Dirac's book \cite{dirac} are physics related items.
11 Next, \textit{The \LaTeX\ Companion} book
12 ↪ \cite{latexcompanion}, the Donald Knuth's website
13 ↪ \cite{knuthwebsite}, \textit{The Comprehensive Tex Archive
14 ↪ Network} (CTAN) \cite{ctan} are \LaTeX\ related items; but
15 ↪ the others Donald Knuth's items \cite{knuth-fa,knuth-acp}
16 ↪ are dedicated to programming.
17
18 \printbibliography
19 \end{document}
```

# Customization

Using biblatex you can display bibliography divided into sections, depending of citation type. Let's cite! The Einstein's journal paper [Ein05] and the Dirac's book [Dir81] are physics related items. Next, *The L<sup>A</sup>T<sub>E</sub>X Companion* book [GMS93], the Donald Knuth's website [Knu], *The Comprehensive Tex Archive Network* (CTAN) [Gre93] are L<sup>A</sup>T<sub>E</sub>X related items; but the others Donald Knuth's items [Knu73; Knu68] are dedicated to programming.

## References

- [Ein05] Albert Einstein. “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]”. In: *Annalen der Physik* 322.10 (1905), pp. 891–921. doi: <http://dx.doi.org/10.1002/andp.19053221004>.
- [Knu68] Donald E. Knuth. *The Art of Computer Programming*. Four volumes. Seven volumes planned. Addison-Wesley, 1968.
- [Knu73] Donald E. Knuth. “Fundamental Algorithms”. In: Addison-Wesley, 1973. Chap. 1.2.
- [Dir81] Paul Adrien Maurice Dirac. *The Principles of Quantum Mechanics*. International series of monographs on physics. Clarendon Press, 1981. ISBN: 9780198520115.
- [GMS93] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The L<sup>A</sup>T<sub>E</sub>X Companion*. Reading, Massachusetts: Addison-Wesley, 1993.
- [Gre93] George D. Greenwade. “The Comprehensive Tex Archive Network (CTAN)”. In: *TUGBoat* 14.3 (1993), pp. 342–351.
- [Knu] Donald Knuth. *Knuth: Computers and Typesetting*. URL: <http://www-cs-faculty.stanford.edu/~uno/abcde.html>.

# The bibliography file (\*.bib)

```
@article{einstein,  
  author = "Albert Einstein",  
  title = "{Zur Elektrodynamik bewegter K{\o}rper}. ({German}) [{On} the  
↪ electrodynamics of moving bodies]",  
  journal = "Annalen der Physik",  
  volume = "322",  
  number = "10",  
  pages = "891--921",  
  year = "1905",  
  DOI = "http://dx.doi.org/10.1002/andp.19053221004",  
  keywords = "physics"  
}  
  
@book{dirac,  
  title={The Principles of Quantum Mechanics},  
  author={Paul Adrien Maurice Dirac},  
  isbn={9780198520115},  
  series={International series of monographs on physics},  
  year={1981},  
  publisher={Clarendon Press},  
  keywords = {physics}  
}  
  
@inbook{knuth-fa,  
  author = "Donald E. Knuth",  
  title = "Fundamental Algorithms",  
  publisher = "Addison-Wesley",  
  year = "1973",  
  chapter = "1.2",  
  keywords = "knuth,programming"  
}  
...
```

# Standard article syntax

```
@article{einstein,  
  author = "Albert Einstein",  
  title = "{Zur Elektrodynamik bewegter  
↪ K\{"o"}rper}. ({German}) [{On} the electrodynamics  
↪ of moving bodies]",  
  journal = "Annalen der Physik",  
  volume = "322",  
  number = "10",  
  pages = "891--921",  
  year = "1905",  
  DOI =  
↪ "http://dx.doi.org/10.1002/andp.19053221004"  
}
```



# Standard book syntax

```
@book{dirac,  
  title={The Principles of Quantum Mechanics},  
  author={Paul Adrien Maurice Dirac},  
  isbn={9780198520115},  
  series={International series of monographs on  
↪ physics},  
  year={1981},  
  publisher={Clarendon Press}  
}
```

# Standard in-book syntax

```
@inbook{knuth-fa,  
  author = "Donald E. Knuth",  
  title = "Fundamental Algorithms",  
  publisher = "Addison-Wesley",  
  year = "1973",  
  chapter = "1.2",  
  keywords = "knuth,programming"  
}
```

# Standard online document syntax

```
@online{knuthwebsite,  
  author    = "Donald Knuth",  
  title     = "Knuth: Computers and Typesetting",  
  url       =  
↪ "http://www-cs-faculty.stanford.edu/~uno/abcde.html",  
  urldate   = {2010-09-30}  
}
```

## Supported entry types

article	book	mvbook
inbook	bookinbook	suppbook
booklet	collection	mvcollection
incollection	suppcollection	manual
misc	online	patent
periodical	suppperiodical	proceedings
mvproceedings	inproceedings	reference
mvreference	inreference	report
set	thesis	unpublished
custom	conference	electronic
masterthesis	phdthesis	techreport
datatype		

## Supported entry fields

abstract	afterword	annotation	annotator
author	authortype	bookauthor	bookpagination
booksubtitle	booktitle	chapter	commentator
date	doi	edition	editor
editortype	eid	entrysubtype	eprint
eprinttype	eprintclass	eventdate	eventtitle
file	foreword	holder	howpublished
indextitle	institution	introduction	isan
isbn	ismn	isrn	issue

## Supported entry fields

issuesubtitle	issuetitle	iswc	journalsubtitle
journaltitle	label	language	library
location	mainsubtitle	maintitle	month
note	number	organization	origdate
origlanguage	origlocation	origpublisher	origtitle
pages	pagetotal	pagination	part
publisher	pubstate	reprinttitle	series
shortauthor	shortedition	shorthand	shorthandintro
shortjournal	shortseries	shorttitle	subtitle
title	translator	type	url
venue	version	volume	year

# Bibliography sorting options

Option	Description
nty	sort by name, title, year
nyt	sort by name, year, title
nyvt	sort by name, year, volume, title
anyt	sort by alphabetic label, name, year, title
anyvt	sort by alphabetic label, name, year, volume, title
ydnt	sort by year (descending), name, title
none	entries are processed in citation order

# Citation styles

stylename	Citation style
numeric	Implements a numeric citation scheme intended for in-text citations.
numeric-comp	Compact variant of the numeric mode. Citations like [1, 2, 3] are replaced by [1-3].
numeric-verb	Verbose variant of the numeric style. Instead of [2, 5, 7] will print [2];[5];[7].
numeric-verb	Verbose variant of the numeric style. Instead of [2, 5, 7] will print [2];[5];[7].
alphabetic	Alphabetic citation scheme similar to the standard alpha in style bibtex.
alphabetic-verb	Verbose version of the alphabetic style. Instead of [Doe98, Doe95, Farn2004] will print [Doe98];[Doe95];[Farn2004].



# Citation styles

stylename	Citation style
authoryear	Implements the author-year citation scheme.
authoryear-comp	Compact variant of the authoryear style. Prints Doe 1992, 1995 instead of Doe 1992, Doe 1995.
authortitle	Implements the author-title scheme. Intended for citations given in footnotes.
authortitle-comp	Compact variant of authortitle. Instead of Doe, First title; Doe, Second title this will print Doe, First title, Second title.
verbose	Citation style that prints a full citation when the entry is cited for the first time and a short version afterwards.
reading	Citation style that goes with the bibliography style by the same name. Loads the authortitle style.

# Citation styles

<b>stylename</b>	<b>Citation style</b>
chem-acs	American Chemical Society (ACS) style
phys	American Institute of Physics (AIP) style
nature	Nature journal style
science	Science journal style
ieee	Institute of Electrical and Electronics Engineers (IEEE) style
apa	American Psychological Association (APA) style

# Bibliography styles: numeric

Items are cited: *The L<sup>A</sup>T<sub>E</sub>X Companion* book [2], the Einstein journal paper [1], and The L<sup>A</sup>T<sub>E</sub>X related items are [2, 3].

## References

- [1] Albert Einstein. “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]”. In: *Annalen der Physik* 322.10 (1905), pp. 891–921. DOI: <http://dx.doi.org/10.1002/andp.19053221004>.
- [2] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The L<sup>A</sup>T<sub>E</sub>X Companion*. Reading, Massachusetts: Addison-Wesley, 1993.
- [3] Donald Knuth. *Knuth: Computers and Typesetting*. URL: <http://www-cs-faculty.stanford.edu/%5C~%7B%7Duno/abcde.html>.

# Bibliography styles: alphabetic

Items are cited: *The L<sup>A</sup>T<sub>E</sub>X Companion* book [GMS93], the Einstein journal paper [Ein05], and The L<sup>A</sup>T<sub>E</sub>X related items are [GMS93; Knu].

## References

- [Ein05] Albert Einstein. “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]”. In: *Annalen der Physik* 322.10 (1905), pp. 891–921. DOI: <http://dx.doi.org/10.1002/andp.19053221004>.
- [GMS93] Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The L<sup>A</sup>T<sub>E</sub>X Companion*. Reading, Massachusetts: Addison-Wesley, 1993.
- [Knu] Donald Knuth. *Knuth: Computers and Typesetting*. URL: <http://www-cs-faculty.stanford.edu/%5C~%7B%7Duno/abcde.html>.

# Bibliography styles: authoryear

Items are cited: *The L<sup>A</sup>T<sub>E</sub>X Companion* book Goossens, Mittelbach, and Samarin 1993, the Einstein journal paper Einstein 1905, and The L<sup>A</sup>T<sub>E</sub>X related items are Goossens, Mittelbach, and Samarin 1993; Knuth n.d.

## References

- Einstein, Albert (1905). “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]”. In: *Annalen der Physik* 322.10, pp. 891–921. DOI: <http://dx.doi.org/10.1002/andp.19053221004>.
- Goossens, Michel, Frank Mittelbach, and Alexander Samarin (1993). *The L<sup>A</sup>T<sub>E</sub>X Companion*. Reading, Massachusetts: Addison-Wesley.
- Knuth, Donald. *Knuth: Computers and Typesetting*. URL: <http://www-cs-faculty.stanford.edu/%5C~%7B%7Duno/abcde.html>.

# Bibliography styles: reading

Items are cited: *The L<sup>A</sup>T<sub>E</sub>X Companion* book Goossens, Mittelbach, and Samarin, *The L<sup>A</sup>T<sub>E</sub>X Companion*, the Einstein journal paper Einstein, “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]”, and The L<sup>A</sup>T<sub>E</sub>X related items are Goossens, Mittelbach, and Samarin, *The L<sup>A</sup>T<sub>E</sub>X Companion*; Knuth, *Knuth: Computers and Typesetting*.

## References

**Einstein: Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]** **einstein**

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Albert Einstein. “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]”. In: *Annalen der Physik* 322.10 (1905), pp. 891–921. DOI: <http://dx.doi.org/10.1002/andp.19053221004>.

**Goossens et al.: The L<sup>A</sup>T<sub>E</sub>X Companion** **latexcompanion**

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Michel Goossens, Frank Mittelbach, and Alexander Samarin. *The L<sup>A</sup>T<sub>E</sub>X Companion*. Reading, Massachusetts: Addison-Wesley, 1993.

**Knuth: Knuth: Computers and Typesetting** **knuthwebsite**

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Donald Knuth. *Knuth: Computers and Typesetting*. URL: <http://www-cs-faculty.stanford.edu/%5C~%7B%7Duno/abcde.html>.

# Bibliography styles: iee

## 1 First section

Items that are cited: *The L<sup>A</sup>T<sub>E</sub>X Companion* book [1], The Einstein's journal paper [2] and the Dirac's book [3] are physics related items. Next, a citation about *The L<sup>A</sup>T<sub>E</sub>X Companion* book [1].

## References

- [1] M. Goossens, F. Mittelbach, and A. Samarin, *The L<sup>A</sup>T<sub>E</sub>X Companion*. Reading, Massachusetts: Addison-Wesley, 1993.
- [2] A. Einstein, “Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]”, *Annalen der Physik*, vol. 322, no. 10, pp. 891–921, 1905. DOI: <http://dx.doi.org/10.1002/andp.19053221004>.
- [3] P. A. M. Dirac, *The Principles of Quantum Mechanics*, ser. International series of monographs on physics. Clarendon Press, 1981, ISBN: 9780198520115.

# Bibliography styles: nature

## 1 First section

Items that are cited: *The L<sup>A</sup>T<sub>E</sub>X Companion* book [1], The Einstein's journal paper [2] and the Dirac's book [3] are physics related items. Next, a citation about *The L<sup>A</sup>T<sub>E</sub>X Companion* book [1].

## References

1. Goossens, M., Mittelbach, F. & Samarin, A. *The L<sup>A</sup>T<sub>E</sub>X Companion* (Addison-Wesley, Reading, Massachusetts, 1993).
2. Einstein, A. Zur Elektrodynamik bewegter Körper. (German) [On the electrodynamics of moving bodies]. *Annalen der Physik* **322**, 891–921 (1905).
3. Dirac, P. A. M. *The Principles of Quantum Mechanics* ISBN: 9780198520115 (Clarendon Press, 1981).