

Bibliography in L^AT_EX*

Boris Veytsman

February 2009

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page **1** of **17**

Go Back

Find

Full Screen

Print

Quit

1. Citations

All scientific papers have bibliographic citations. L^AT_EX automatically numbers them.

Bibliography in
L^AT_EX

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 2 of 17

Go Back

Find

Full Screen

Print

Quit

1. Citations

All scientific papers have bibliographic citations. L^AT_EX automatically numbers them.

The main command for citation is `\cite`. Its argument is the *label* of the citation.

As shown in `\cite{Knuth94:TheTeXbook}`, we can use `\TeX{}` for many things.

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 2 of 17

Go Back

Find

Full Screen

Print

Quit

1. Citations

All scientific papers have bibliographic citations. L^AT_EX automatically numbers them.

The main command for citation is `\cite`. Its argument is the *label* of the citation.

As shown in~\cite{Knuth94:TheTeXbook}, we can use `\TeX{}` for many things.

Depending on the package used this can be typeset as:

Default: As shown in [1], we can use T_EX for many things.

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 2 of 17

Go Back

Find

Full Screen

Print

Quit

1. Citations

All scientific papers have bibliographic citations. L^AT_EX automatically numbers them.

The main command for citation is `\cite`. Its argument is the *label* of the citation.

As shown in~\cite{Knuth94:TheTeXbook}, we can use T_EX{} for many things.

Depending on the package used this can be typeset as:

Default: As shown in [1], we can use T_EX for many things.

Package cite: As shown in¹, we can use T_EX for many things.



1. Citations

All scientific papers have bibliographic citations. L^AT_EX automatically numbers them.

The main command for citation is `\cite`. Its argument is the *label* of the citation.

As shown in~\cite{Knuth94:TheTeXbook}, we can use T_EX{} for many things.

Depending on the package used this can be typeset as:

Default: As shown in [1], we can use T_EX for many things.

Package cite: As shown in¹, we can use T_EX for many things.

Package natbib: As shown in (Knuth, 1994), we can use T_EX for many things.



2. Making List of References By Hand

The environment `thebibliography` lists the references:

```

Some works about hydrogen bonds include~\cite{Huang06}
and~\cite{CGPBook}.

\begin{thebibliography}{99}

\bibitem{Huang06}
Huang,~C.; Kuo,~S.; Lin,~F.; Huang,~W.~J.; Wang,~C.~F.;
  Chen,~W.~Y.; Chang,~F.~C. \textit{Macromolecules} \textbf{2006,}
  \textsl{39,} 300--308.

\bibitem{CGPBook}
Coleman,~M.~M.; Graf,~J.~F.; Painter,~P.~C. \textit{Specific
  Interactions and the Miscibility of Polymer Blends;} Technomic:
  Lancaster, Pa, 1991.

\end{thebibliography}

```

The argument of the `\bibitem` command is the label for citing.

Citations

Manual Refs

Using Bib \TeX

Bibliography Styles

Databases

Some Special Fields



Page 3 of 17

Go Back

Find

Full Screen

Print

Quit

Exercise 1. Typeset the file:

biblio1.tex

```
\documentclass{article}

\begin{document}

Some works about hydrogen bonds include~\cite{Huang06}
and~\cite{CGPBook}.

\begin{thebibliography}{99}

\bibitem{Huang06}
Huang,~C.; Kuo,~S.; Lin,~F.; Huang,~W.~J.; Wang,~C.~F.;
  Chen,~W.~Y.; Chang,~F.~C. \textit{Macromolecules} \textbf{2006,}
  \textsl{39,} 300--308.

\bibitem{CGPBook}
Coleman,~M.~M.; Graf,~J.~F.; Painter,~P.~C. \textit{Specific
  Interactions and the Miscibility of Polymer Blends;} Technomic:
  Lancaster, Pa, 1991.

\end{thebibliography}

\end{document}
```

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 4 of 17

Go Back

Find

Full Screen

Print

Quit

3. Using BibT_EX

Creating thebibliography environments is too cumbersome. Fortunately, there is a program bibtex, which can do this.

Bibliography in
L^AT_EX

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 5 of 17

Go Back

Find

Full Screen

Print

Quit

3. Using BibT_EX

Creating thebibliography environments is too cumbersome. Fortunately, there is a program bibtex, which can do this.

To use it, one adds lines to the T_EX file with the commands \bibliography and \bibliographystyle:

```
\bibliography{hbonds,physmath}  
\bibliographystyle{unsrt}
```

The first command shows, which database to use. The second defines the style of bibliography.

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 5 of 17

Go Back

Find

Full Screen

Print

Quit

Bib \TeX works with *bibliographic databases* like this:

hbonds.bib

```

@article{Huang06,
  author =      {Huang, C. F. and Kuo, S. W. and Lin, F. J. and
                  Huang, W. J. and Wang, C. F. and Chen, W. Y. and
                  Chang, F. C.},
  journal =     {Macromolecules},
  number =     {1},
  pages =      {300--308},
  title =      {Influence of {PMMA}-Chain-End Tethered Polyhedral
                  Oligomeric Silsesquioxanes on the Miscibility and
                  Specific Interaction with Phenolic Blends},
  volume =     {39},
  year =       {2006},
}

@book{CGPBook,
  address =     {Lancaster, Pa},
  author =     {M. M. Coleman and J. F. Graf and P. C. Painter},
  publisher =   {Technomic},
  title =      {Specific Interactions and the Miscibility of Polymer
                  Blends},
  year =       {1991},
}
  
```

Bibliography in
 \LaTeX

Citations

Manual Refs

Using Bib \TeX

Bibliography Styles

Databases

Some Special Fields



Page 6 of 17

Go Back

Find

Full Screen

Print

Quit

L^AT_EX and BibT_EX work in tandem:

1. `latex` processes `.tex` file and creates `.aux` file with references.

Bibliography in
L^AT_EX

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 7 of 17

Go Back

Find

Full Screen

Print

Quit

L^AT_EX and BibT_EX work in tandem:

1. `latex` processes `.tex` file and creates `.aux` file with references.
2. `bibtex` reads `.aux` file and `.bib` files and extracts only the necessary references. It formats them accordingly to the style and (optionally) sorts. The results are in the file `.bb1`

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 7 of 17

Go Back

Find

Full Screen

Print

Quit

L^AT_EX and BibT_EX work in tandem:

1. `latex` processes `.tex` file and creates `.aux` file with references.
2. `bibtex` reads `.aux` file and `.bib` files and extracts only the necessary references. It formats them accordingly to the style and (optionally) sorts. The results are in the file `.bb1`
3. On the next two runs `latex` reads the `.bb1` file and uses it to typeset bibliography.

How does `.bb1` file look?

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 7 of 17

Go Back

Find

Full Screen

Print

Quit

L^AT_EX and BibT_EX work in tandem:

1. `latex` processes `.tex` file and creates `.aux` file with references.
2. `bibtex` reads `.aux` file and `.bib` files and extracts only the necessary references. It formats them accordingly to the style and (optionally) sorts. The results are in the file `.bbl`
3. On the next two runs `latex` reads the `.bbl` file and uses it to typeset bibliography.

How does `.bbl` file look?

Exercise 2. Run `latex` and `bibtex` on the file `biblio2.tex`. Take a look at `biblio2.bbl`

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 7 of 17

Go Back

Find

Full Screen

Print

Quit

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 8 of 17

Go Back

Find

Full Screen

Print

Quit

_____ biblio2.bbl _____

```
\begin{thebibliography}{1}

\bibitem{Huang06}
C.~F. Huang, S.~W. Kuo, F.~J. Lin, W.~J. Huang, C.~F. Wang,
W.~Y. Chen, and F.~C. Chang.
\newblock Influence of {PMMA}-chain-end tethered polyhedral oligomeric
silsesquioxanes on the miscibility and specific interaction with
phenolic blends.
\newblock {\em Macromolecules}, 39(1):300--308, 2006.

\bibitem{CGPBook}
M.~M. Coleman, J.~F. Graf, and P.~C. Painter.
\newblock {\em Specific Interactions and the Miscibility of Polymer
Blends}.
\newblock Technomic, Lancaster, Pa, 1991.

\end{thebibliography}
```

It is just thebibliography environment!

4. Bibliography Styles

Bibliography style: a .bst file.

There are hundreds of bibliography styles¹. The most common are:

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 9 of 17

Go Back

Find

Full Screen

Print

Quit

¹171 on one of my machines, 262 on another...

4. Bibliography Styles

Bibliography style: a .bst file.

There are hundreds of bibliography styles¹. The most common are:

plain sorted and numbered

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 9 of 17

Go Back

Find

Full Screen

Print

Quit

¹171 on one of my machines, 262 on another...

4. Bibliography Styles

Bibliography style: a .bst file.

There are hundreds of bibliography styles¹. The most common are:

plain sorted and numbered

unsrt numbered, but not sorted

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 9 of 17

Go Back

Find

Full Screen

Print

Quit

¹171 on one of my machines, 262 on another...

4. Bibliography Styles

Bibliography style: a .bst file.

There are hundreds of bibliography styles¹. The most common are:

plain sorted and numbered

unsrt numbered, but not sorted

abbrv sorted, numbered, abbreviated

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 9 of 17

Go Back

Find

Full Screen

Print

Quit

¹171 on one of my machines, 262 on another...

4. Bibliography Styles

Bibliography style: a .bst file.

There are hundreds of bibliography styles¹. The most common are:

plain sorted and numbered

unsrt numbered, but not sorted

abbrv sorted, numbered, abbreviated

alpha sorted, uses labels like Lam94 instead of numbers

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 9 of 17

Go Back

Find

Full Screen

Print

Quit

¹171 on one of my machines, 262 on another...

4. Bibliography Styles

Bibliography style: a .bst file.

There are hundreds of bibliography styles¹. The most common are:

plain sorted and numbered

unsrt numbered, but not sorted

abbrv sorted, numbered, abbreviated

alpha sorted, uses labels like Lam94 instead of numbers

natbib family: **plainnat**, **abbrvnat**, **unsrtnat**. . . Use of labels like (Lamport, 1994) and many variations. See *Natbib* manual².

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 9 of 17

Go Back

Find

Full Screen

Print

Quit

¹171 on one of my machines, 262 on another. . .

²Patrick W. Daly, Natural Sciences Citations and References (Author-Year and Numerical Schemes), February 2007, <http://ctan.tug.org/tex-archive/macros/latex/contrib/natbib>.

5. Bibliography Databases

hbons.bib

```

@article{Huang06,
  author =      {Huang, C. F. and Kuo, S. W. and Lin, F. J. and
                  Huang, W. J. and Wang, C. F. and Chen, W. Y. and
                  Chang, F. C.},
  journal =     {Macromolecules},
  number =     {1},
  pages =      {300--308},
  title =      {Influence of {PMMA}-Chain-End Tethered Polyhedral
                  Oligomeric Silsesquioxanes on the Miscibility and
                  Specific Interaction with Phenolic Blends},
  volume =     {39},
  year =       {2006},
}

@book{CGPBook,
  address =     {Lancaster, Pa},
  author =     {M. M. Coleman and J. F. Graf and P. C. Painter},
  publisher =   {Technomic},
  title =      {Specific Interactions and the Miscibility of Polymer
                  Blends},
  year =       {1991},
}
  
```

We have *entries* (@book, @article), *keys* (Huang06, CGPBook) and *fields* (author, title, etc.)

Bibliography in
 \LaTeX

Citations

Manual Refs

Using Bib \TeX

Bibliography Styles

Databases

Some Special Fields



Page 10 of 17

Go Back

Find

Full Screen

Print

Quit

Standard Entries: @article, @book, @booklet, @inbook, @incollection, @inproceedings, @manual, @masterthesis, @misc, @phdthesis, @proceedings, @techreport, @unpublished

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 11 of 17

Go Back

Find

Full Screen

Print

Quit

Standard Entries: @article, @book, @booklet, @inbook, @incollection, @inproceedings, @manual, @masterthesis, @misc, @phdthesis, @proceedings, @techreport, @unpublished

Standard Fields: address, annote, author, booktitle, chapter, crossref, edition, editor, howpublished, institution, journal, key, month, note, number, organization, publisher, school, series, title, type, volume, year.

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 11 of 17

Go Back

Find

Full Screen

Print

Quit

Standard Entries: @article, @book, @booklet, @inbook, @incollection, @inproceedings, @manual, @masterthesis, @misc, @phdthesis, @proceedings, @techreport, @unpublished

Standard Fields: address, annote, author, booktitle, chapter, crossref, edition, editor, howpublished, institution, journal, key, month, note, number, organization, publisher, school, series, title, type, volume, year.

You do not need to know them all!

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 11 of 17

Go Back

Find

Full Screen

Print

Quit

6. Some Special Fields

6.1. Author

Separate authors with “and”, not with commas!

Wrong

```
author={Leslie Lamport, Frank Mittelbach, Johannes Braams}
```



Page 12 of 17

Go Back

Find

Full Screen

Print

Quit

6. Some Special Fields

6.1. Author

Separate authors with “and”, not with commas!

Wrong

```
author={Leslie Lamport, Frank Mittelbach, Johannes Braams}
```

```
author={Leslie Lamport and Frank Mittelbach and Johannes Braams}
```



Page 12 of 17

Go Back

Find

Full Screen

Print

Quit

6. Some Special Fields

6.1. Author

Separate authors with “and”, not with commas!

Wrong

```
author={Leslie Lamport, Frank Mittelbach, Johannes Braams}
```

```
author={Leslie Lamport and Frank Mittelbach and Johannes Braams}
```

First names can be entered with comma after the last:

```
author={Lamport, Leslie and Mittelbach, Frank and Braams, Johannes}
```



6. Some Special Fields

6.1. Author

Separate authors with “and”, not with commas!

Wrong

```
author={Leslie Lamport, Frank Mittelbach, Johannes Braams}
```

```
author={Leslie Lamport and Frank Mittelbach and Johannes Braams}
```

First names can be entered with comma after the last:

```
author={Lamport, Leslie and Mittelbach, Frank and Braams, Johannes}
```

Depending on the style, could be printed as

L. Lamport, F. Mittelbach, J. Braams
Leslie Lamport, Frank Mittelbach, Johannes Braams
Lamport, Leslie; Mittelbach, Frank; Braams, Johannes
L. Lamport *et al*
etc



You need “comma form” when you have nobility in your list:

```
author={De la Serna, Rodrigo}
```

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 13 of 17

Go Back

Find

Full Screen

Print

Quit

You need “comma form” when you have nobility in your list:

```
author={De la Serna, Rodrigo}
```

Exercise 3. What’s wrong with `author={Rodrigo De la Serna}`?

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 13 of 17

Go Back

Find

Full Screen

Print

Quit

You need “comma form” when you have nobility in your list:

```
author={De la Serna, Rodrigo}
```

Exercise 3. What’s wrong with `author={Rodrigo De la Serna}`?

You need *two commas* when you have “Jr.”, etc.:

```
author={Stanford, Sr., Leland}  
author={Dumas, p{\‘e}re, Alexander}  
author={Dumas, fils, Alexander}  
author={Blythe, III, William Jefferson}
```

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 13 of 17

Go Back

Find

Full Screen

Print

Quit

You need “comma form” when you have nobility in your list:

```
author={De la Serna, Rodrigo}
```

Exercise 3. What’s wrong with `author={Rodrigo De la Serna}`?

You need *two commas* when you have “Jr.”, etc.:

```
author={Stanford, Sr., Leland}  
author={Dumas, p{\'e}re, Alexander}  
author={Dumas, fils, Alexander}  
author={Blythe, III, William Jefferson}
```

Exercise 4. Can you explain how does bibtex interpret the line
`author={Leslie Lamport, Frank Mittelbach, Johannes Braams}`?

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 13 of 17

Go Back

Find

Full Screen

Print

Quit

You need “comma form” when you have nobility in your list:

```
author={De la Serna, Rodrigo}
```

Exercise 3. What’s wrong with `author={Rodrigo De la Serna}`?

You need *two commas* when you have “Jr.”, etc.:

```
author={Stanford, Sr., Leland}  
author={Dumas, p{\'e}re, Alexander}  
author={Dumas, fils, Alexander}  
author={Blythe, III, William Jefferson}
```

Exercise 4. Can you explain how does `bibtex` interpret the line
`author={Leslie Lamport, Frank Mittelbach, Johannes Braams}`?

Since `bibtex` mangles names a lot, you need to keep accented letters inside groups!

```
author={Dumas, p{\'e}re, Alexander}  
author={de la Serna, Ram{\'o}n G{\'o}mez}
```

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 13 of 17

Go Back

Find

Full Screen

Print

Quit

6.2. Title

Capitalization in titles depends on the style—so bibtex may change it. Compare

```

_____ bib file _____
title =      {Influence of {PMMA}-Chain-End Tethered Polyhedral
              Oligomeric Silsesquioxanes on the Miscibility and
              Specific Interaction with Phenolic Blends},

```

and the result:

Influence of PMMA-chain-end tethered polyhedral oligomeric silsesquioxanes on the miscibility and specific interaction with phenolic blends.

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 14 of 17

Go Back

Find

Full Screen

Print

Quit

6.2. Title

Capitalization in titles depends on the style—so bibtex may change it. Compare

```

_____ bib file _____
title =      {Influence of {PMMA}-Chain-End Tethered Polyhedral
              Oligomeric Silsesquioxanes on the Miscibility and
              Specific Interaction with Phenolic Blends},

```

and the result:

Influence of PMMA-chain-end tethered polyhedral oligomeric silsesquioxanes on the miscibility and specific interaction with phenolic blends.

Exercise 5. Why did we put PMMA in braces?

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 14 of 17

Go Back

Find

Full Screen

Print

Quit

6.2. Title

Capitalization in titles depends on the style—so bibtex may change it. Compare

```

_____ bib file _____
title =      {Influence of {PMMA}-Chain-End Tethered Polyhedral
              Oligomeric Silsesquioxanes on the Miscibility and
              Specific Interaction with Phenolic Blends},

```

and the result:

Influence of PMMA-chain-end tethered polyhedral oligomeric silsesquioxanes on the miscibility and specific interaction with phenolic blends.

Exercise 5. Why did we put PMMA in braces?

Use braces to prevent mangling uppercased words and accents!

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 14 of 17

Go Back

Find

Full Screen

Print

Quit

6.3. Crossref

```

@InCollection{Parkinson:GPSError,
  author =      {Bradford W. Parkinson},
  title =      {{GPS} Error Analysis},
  pages =      {469--485},
  crossref =    {GPSBlueBookI}
}
@InCollection{Spilker96:Tropo,
  author =      {Spilker, Jr., J. J.},
  title =      {Tropospheric Effects on {GPS}},
  crossref =    {GPSBlueBookI},
  pages =      {517--546},
}
@Book{GPSBlueBookI,
  editor =      {Parkinson, Bradford W. and Spilker, Jr., James J.},
  title =      {Global Positioning System: {T}heory and
    Applications, Volume {I}},
  booktitle =   {Global Positioning System: {T}heory and
    Applications, Volume {I}},
  publisher =   {American Institute of Aeronautics and Astronautics, Inc.},
  year =        1996,
  volume =      {163},
  series =      {Progress in Astronautics and Aeronautics},
  address =     {370 L'Enfant Promenade, Washington, DC 20024-2518}
}
  
```

Field `crossref` is used to refer to the book, when we need to cite chapters.

Citations

Manual Refs

Using Bib \TeX

Bibliography Styles

Databases

Some Special Fields



Page 15 of 17

Go Back

Find

Full Screen

Print

Quit

1. The book information will be “picked up” from the book.
2. If we cite enough chapters, the book will be added to the references list.

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 16 of 17

Go Back

Find

Full Screen

Print

Quit

1. The book information will be “picked up” from the book.
2. If we cite enough chapters, the book will be added to the references list.

Exercise 6. The entry for GPSBlueBookI has both `title` and `booktitle` fields.
Can you explain why?

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 16 of 17

Go Back

Find

Full Screen

Print

Quit

References

Daly, Patrick W. Natural Sciences Citations and References (Author-Year and Numerical Schemes). February 2007. <http://ctan.tug.org/tex-archive/macros/latex/contrib/natbib>.

Citations

Manual Refs

Using BibT_EX

Bibliography Styles

Databases

Some Special Fields



Page 17 of 17

Go Back

Find

Full Screen

Print

Quit