

Using BibTeX and epsfig

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## Today's Discussion

- BibTeX

- Creating a BibTeX document.
- The bibliographic database.
- Citing sources in a LATEX document.
- Extending BibTeX.

- epsfig

- Importing PostScript files.
- Positioning figures on the page.
- Referencing figures with labels.

## .bib Database Format

Database entry:

```
@entrytype{key,  
  field1=data1,  
  field2=data2,  
  
  ...  
  fieldN=dataN}
```

Abbreviation Definitions:

```
@string{ stringname = data }
```

@string{aw = "Addison--Wesley Publishing Company")

@book{Knuth,

author="Donald E. Knuth",  
title="The {\TeX}book",  
publisher=aw,  
year=1990,  
annotate="This book is the definitive reference on the  
\TeX{} document formatting language. However, it  
contains no information on \LaTeX{} macro extensions,  
and is therefore of limited use to casual \LaTeX use."}

@book{Diller,

author="Antoni Diller",  
title="\LaTeX{} Line by Line",  
publisher="John Wiley and Sons",  
year=1993,  
annotate="Diller provides a highly readable introduction  
to \LaTeX. This is an excellent choice for someone  
who is just beginning. It includes chapters on the most  
commonly used features of \LaTeX, as well as a command  
reference section. The main drawback of this book is that  
it does not contain information on the '2e' extensions  
to \LaTeX."}

@book{Goossens,

author="Michel Goossens and Frank Mittlebach and  
Alexander Samarin",  
title="The \LaTeX{} Companion",  
publisher=aw,  
year=1994,  
annotate="This is a reference book for \LaTeX{} power  
users. It contains a wealth of informations on  
extensions to \LaTeX2e{} developed by the user  
community. As it's title suggests, this book should  
not be viewed as a reference for basic document processing  
but rather as an adjunct to some more  
elementary reference such as Diller."}

@book{Lamport,

title="\LaTeX : A Document Preparation System",  
author="Leslie Lamport",  
publisher=aw,  
year=1986,  
annotate="This reference book and tutorial by the man who put  
the 'L' in \LaTeX{} provides a concise but thorough summary  
of \LaTeX{} commands and syntax."}

@book{Kopka,

title="A Guide to \LaTeX2e",  
author="Helmut Kopka and Patrick W. Daly",  
publisher=aw,  
year=1995,  
annotate="Similar to Diller, this book provides a thorough  
tutorial on \LaTeX{} and \LaTeX2e{} extensions.  
Unfortunately, the command reference section is a bit weak."}

@article{Beebe,

author="Nelson H. F. Beebe",  
title="Bibliography Prettyprinting and Syntax  
Checking",  
journal="{TUG}boat",  
volume=14,  
number=4,  
pages="395-419",  
year=1993,  
month=dec,  
annotate="This article describes three programs which  
are useful for working with BibTeX databases."}

## Hints for Data Fields

- Enter as much information about the source as possible and let BibTeX decide what to use.
- All data except abbreviations are enclosed in quotes (") or curly braces ({ }).
- Multiple authors are separated by "and".
- Words which must be displayed exactly as typed can be enclosed in curly braces.
- Name suffixes and prefixes can be attached to an author's last name using curly braces (e.g. Sammy Davis Jr. can be entered "Sammy {Davis Jr.}" ).

## BibTeX Commands

Define the bibliography style. . .

```
\bibliographystyle{style}
```

. . . cite sources in your text . . .

```
\cite{key}
```

. . .and create the bibliography.

```
\bibliography{database}
```

```
\documentclass{article}  
\usepackage{fullpage}
```

```
\begin{document}
```

```
\bibliographystyle{plain}
```

Several good references contain information on BibTeX. Diller \cite{Diller} provides a clear introduction to BibTeX with lots of examples. Goossens, {\it et. al.} \cite{Goossens} discuss more advanced features of BibTeX such including many usefully formatting techniques. Beebe \cite{Beebe} describes three programs which are useful for maintaining bibliographic databases.

```
\bibliography{texref}  
\end{document}
```

Several good references contain information on BibTeX. Biller [2] provides a clear introduction to BibTeX with lots of examples. Goossens, et. al. [3] discuss more advanced features of BibTeX such including many usefully formatting techniques. Beebe [1] describes three programs which are useful for maintaining bibliographic databases.

## References

- [1] Nelson H. F. Beebe. Bibliography prettyprinting and syntax checking. *TUGboat*, 14(4):395-419, December 1993.
- [2] Antoni Diller. *LATEX Line by Line*. John Wiley and Sons, 1993.
- [3] Michel Goossens, Frank Mittlebach, and Alexander Samarin. *The LATEX Companion*. Addison-Wesley Publishing Company, 1994.

## Extending BibTeX

- Style files and packages can be downloaded from [ftp. carom. com/pub/tex/ctan](ftp://carom.com/pub/tex/ctan).
- The `harvard.sty` package allows name-date references.
- The `annotation.bst` style produces an annotated bibliography.

```
\documentclass{article}
\usepackage{fullpage,../harvard}
```

```
\begin{document}
\bibliographystyle{../agsm}
```

Several good references contain information on BibTeX. `\citeasnoun{Diller}` provides a clear introduction to BibTeX with lots of examples. Other references discuss style files `\cite{Goossens}`, and useful utility programs `\cite{Beebe}`.

```
\bibliography{texref}
\end{document}
```

Several good references contain information on BibTeX. Diller (1993) provides a clear introduction to BibTeX with lots of examples. Other references discuss style files (Goossens, Mittlebach & Samarin 1994), and useful utility programs (Beebe 1993).

## References

Beebe, N. H. F. (1993), 'Bibliography prettyprinting and syntax checking', *TUGboat* 14(4), 395-419.

Diller, A. (1993), *LATEX Line by Line*, John Wiley and Sons.

Goossens, M., Mittlebach, F. & Samarin, A. (1994), *The LATEX Companion*, Addison-Wesley Publishing Company.

# Some Useful Books on LATEX

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## References

- [1] Nelson H. F. Beebe. Bibliography prettyprinting and syntax checking. *TUGboat*, 14(4):395-419, December 1993.
- KEY: Beebe  
ANNOTATION: This article describes three programs which are useful for working with BibTeX databases.
- [2] Antoni Diller. *LATEX Line by Line*. John Wiley and Sons, 1993.
- KEY: Diller  
ANNOTATION: Diller provides a highly readable introduction to LATEX. This is an excellent choice for someone who is just beginning. It includes chapters on the most commonly used features of LATEX, as well as a command reference section. The main drawback of this book is that it does not contain information on the '2e' extensions to LATEX.
- [3] Michel Goossens, Frank Mittlebach, and Alexander Samarin. *The LATEX Companion*. Addison-Wesley Publishing Company, 1994.
- KEY: Goossens  
ANNOTATION: This is a reference book for LATEX power users. It contains a wealth of informations on extensions to LATEX2e developed by the user community. As it's title suggests, this book should not be viewed as a reference for basic document processing but rather as an adjunct to some more elementary reference such as Diller.
- [4] Donald E. Knuth. *The TEXbook*. Addison-Wesley Publishing Company, 1990.
- KEY: Knuth  
ANNOTATION: This book is the definitive reference on the TEX document formatting language. However, it contains no information on LATEX macro extensions, and is therefore of limited use to casual LATEXusers.
- [5] Helmut Kopka and Patrick W. Daly. *A Guide to LATEX2e*. Addison-Wesley Publishing Company, 1995.
- KEY: Kopka  
ANNOTATION: Similar to Diller, this book provides a thorough tutorial on LATEX and LATEX2e extensions. Unfortunately, the command reference section is a bit weak.
- [6] Leslie Lamport. *STEW: A Document Preparation System*. Addison-Wesley Publishing Company, 1986.
- KEY: Lamport  
ANNOTATION: This reference book and tutorial by the man who put the 'La' in LATEX provides a concise but thorough summary of LATEX commands and syntax.

## The epsfig Package

Include the epsfig LATEX extension in your header material.

```
\usepackage{epsfig}
```

Import encapsulated PostScript files in your text.

```
\epsfig{file=psfile.eps,option=param,...}
```

Some useful options:

angle =degrees

width=units

height=units

## Positioning Images on a Page

figure format,

```
\begin{figure}[pos]
... image commands (usually \epsfig) ...
\caption{Caption test}
\label{LABEL}
\end{figure}
```

The pos field controls figure placement.

t - place float at top of page

b - place float at bottom of page

p - place float on its own page

h - place float in current text location

## Referencing Figures

- The optional caption command can be used to attach text to a figure.
- The optional label command allows a figure to be referenced from within the text.
  - `\ref{LABEL}` prints a figure number.
  - `\pageref{LABEL}` prints the number of the page containing the figure.

```
\documentclass{article}
\usepackage{fullpage,eepic}
```

```
\begin{document}
```

Psfic/TeX is a macro package for TeX, as well as LaTeX, that facilitates the inclusion of PostScript figures into (La)TeX documents. With the help of a compatible postprocessor, PostScript figures are automatically scaled and positioned on the page, and the proper amount of space is reserved. Figures can be presented as traditional broken-out displays, and Custom characters may be created and used freely throughout a document.

By combining the use of psfig and a float box, pictures can be placed anywhere on a page. Captions can be added, and pictures can be referenced by a label. Label referencing eliminates the need to manually number figures in a document.

Figure \ref{BIGSMILE} demonstrates the simplest use of psfig. Figure \ref{SMALLSMILE} shows the same PostScript reduced in size using the psfig's "hight" option.

```
\begin{figure}[t]
\begin{center}
\epsfig{figure=smile.eps,angle=270}
\end{center}
\caption{Have a nice day!}
\label{BIGSMILE}
\end{figure}
```

```
\begin{figure}[h]
\begin{center}
\epsfig{figure=smile.eps,height=1.5in,angle=270}
\end{center}
\caption{Have an nice day (smaller).}
\label{SMALLSMILE}
\end{figure}
```

Any PostScript program can be used as a psfig figure, as long as it adheres to the Encapsulated PostScript Format (EPSF), which dictates a set of forbidden operators and a comment structuring convention. Psfig is actually less restrictive than the EPSF requirements; it can handle some of the "non-compliant" postscript operators.

Figure \ref{MAN} shows how a figure can be rotated using the psfig "angle" option.

```
\begin{figure}[p]
\begin{center}
\epsfig{figure=man.eps,angle=270}
\end{center}
\caption{Keep on truckin' .}
\label{MAN}
\end{figure}
\end{document}
```