

Chapter 4

Bibliography Management

- ✦ Bibliography inclusion: embedded system and BibTeX

4.1 Embedded System

```
\begin{thebibliography}{9} % label width

\bibitem{Courant67} % citation key
Richard~Courant, Kurt~Friedrichs, Hans~Lewy
On the Partial Difference Equations of Mathematical Physics
{\em IBM Journal, pp.~215--234},
March, 1967

\bibitem{Berenger05} % citation key
Jean-Pierre~B'\{e}renger
A FDTD Subgridding Based on Huygens Surfaces
{\em IEEE AP-S International Symposium},
2005, Washington D.C., USA

\bibitem{Taflove05} % citation key
Allen~Taflove, Susan C.~Hagness
{\em Computational Electrodynamics:\\
The Finite-Difference Time-Domain Method, 3rd Edition}.
Artech House, 2005

\end{thebibliography}
...
\end{document}
```

- ✦ Use embedded system for documents with small amount of references (presentations, posters)

4.2 Citing References

- † Cite your references with the `\cite[opts]{key}` command

Courant et al.~\cite{Courant67} have defined...

Berenger~\cite{Berenger05} provides a detailed explanation...

Taflove and Hagness~\cite[Ch.~3, pp.~67--108]{Taflove05} introduce...

- † Multiple citations

See~\cite{Courant67,Berenger05,Taflove05} for theoretical background...

- † Citation keys are case-sensitive
- † No space is allowed between the citation keys
- † `\nocite{Courant67}`: citation will appear only in the bibliography, but not in the main text
- † `\nocite{*}`: all citations will appear in the bibliography, but not in the main text (testing)

4.3 BibTeX

- † BibTeX: references → plain text file with the extension `*.bib`
- † BibTeX: database entry

```
@ARTICLE{Costen09,
  title   = {Comparison of {FDTD} Hard Source With {FDTD}
            Soft Source and Accuracy Assessment in {D}ebye Media},
  author  = {Costen, F. and B\`{e}renger, J.-P. and Brown, A.K.},
  journal = {{IEEE} {T}ransactions on {A}ntennas and {P}ropagation},
  volume  = {57},
  number  = {7},
  pages   = {2014--2022},
  year    = {2009}
}
```

- † Generic form:

```
@ENTRY_TYPE{citation_key,
  title   = {...},
  author  = {...}, % separate multiple authors with ‘and’
  journal = {...}, % use ‘{ }’ to preserve capital letters
  volume  = {...},
  number  = {...},
  pages   = {...},
  year    = {...}
}
```

4.3.1 Standard BibTeX entries

- + Published article (journal, magazine)

```
@ARTICLE{,  
  author = {}, % required  
  title = {},  
  journal = {},  
  year = {},  
  volume = {}, % optional  
  number = {},  
  pages = {},  
  month = {},  
  note = {}  
}
```

- + Article in conference proceedings

```
@INPROCEEDINGS{,  
  title = {}, % required  
  author = {},  
  booktitle = {},  
  year = {},  
  editor = {}, % optional  
  volume = {},  
  number = {},  
  series = {},  
  pages = {},  
  address = {},  
  month = {},  
  organization = {},  
  publisher = {},  
  note = {}  
}
```

- + Conference proceedings

```
@PROCEEDINGS{,  
  title = {}, % required  
  year = {},  
  editor = {}, % optional  
  volume = {},  
  number = {},  
  series = {},  
  address = {},  
  month = {},  
  organization = {},  
  publisher = {},  
  note = {}  
}
```

+ Published book

```

@BOOK{,
  title      = {}, % required
  publisher  = {},
  year       = {},
  author     = {}, % alternative: editor
  volume     = {}, % optional
  number     = {},
  series     = {},
  address    = {},
  edition    = {},
  month      = {},
  note       = {}
}

```

+ Book section w/o an independent title

```

@INBOOK{,
  title      = {}, % required
  chapter    = {},
  publisher  = {},
  year       = {},
  author     = {}, % alternative: editor
  volume     = {}, % optional
  number     = {},
  series     = {},
  type       = {},
  address    = {},
  edition    = {},
  month      = {},
  pages      = {},
  note       = {}
}

```

+ Book section with an independent title

```

@INCOLLECTION{,
  author     = {}, % required
  title      = {},
  booktitle  = {},
  publisher  = {},
  year       = {},
  pages      = {}, % optional
  editor     = {},
  volume     = {},
  number     = {},
  series     = {},
  type       = {},
  chapter    = {},
  address    = {},
  edition    = {},
  month      = {},
  note       = {}
}

```

+ PhD thesis

```
@PHDTHESIS{,  
  author = {}, % required  
  title  = {},  
  school = {},  
  year   = {},  
  type   = {}, % optional  
  address = {},  
  month  = {},  
  note   = {}  
}
```

+ Master's thesis

```
@MASTERSTHESIS{,  
  author = {}, % required  
  title  = {},  
  school = {},  
  year   = {},  
  type   = {}, % optional  
  address = {},  
  month  = {},  
  note   = {}  
}
```

+ Technical manual

```
@MANUAL{,  
  title      = {}, % required  
  author     = {}, % optional  
  organization = {},  
  address    = {},  
  edition    = {},  
  month      = {},  
  year       = {},  
  note       = {}  
}
```

+ Technical report from a named institution

```
@TECHREPORT{,  
  author      = {}, % required  
  title       = {},  
  institution = {},  
  year        = {},  
  type        = {}, % optional  
  number      = {},  
  address     = {},  
  month       = {},  
  note        = {}  
}
```

- † Bound document w/o publisher/sponsor

```
@BOOKLET{,
  title      = {}, % required
  author     = {}, % optional
  howpublished = {},
  address    = {},
  month      = {},
  year       = {},
  note      = {}
}
```

- † Unpublished work

```
@UNPUBLISHED{,
  author = {}, % required
  title  = {},
  note   = {},
  month  = {}, % optional
  year   = {}
}
```

- † Miscellaneous (other kinds of publications)

```
@MISC{,
  author      = {}, % optional
  title       = {},
  howpublished = {},
  month       = {},
  year        = {},
  note       = {}
}
```

4.3.2 Non-Standard BibTeX Entries

- † Supported by the IEEE Transactions BibTeX style file IEEEtran [6]
- † Website, manual in electronic form

```
@ELECTRONIC{,
  author      = {},
  title       = {},
  organization = {},
  address     = {},
  howpublished = {}, % {file, mailing list} name, RFC no., book series
  url         = {},
  month       = {},
  year        = {},
  key         = {} % sorting key
}
```

+ Patent and patent request

```
@PATENT{,
  author      = {},
  assignee    = {},
  address     = {},
  title       = {},
  language    = {},
  nationality  = {},
  type        = {}, % patent request
  number      = {},
  dayfiled   = {},
  monthfiled = {},
  yearfiled  = {},
  day         = {},
  month       = {},
  year        = {}
}
```

+ Standard

```
@STANDARD{,
  title        = {},
  organization = {}, % alternative: institution
  address      = {},
  number       = {},
  type         = {},
  revision     = {}, % revision no.
  month        = {},
  year         = {}
}
```

+ Periodical publication

```
@PERIODICAL{,
  title = {},
  volume = {},
  month = {},
  year = {},
  key = {} % sorting key
}
```

4.3.3 Example BibTeX File

† Text file with the extension *.bib and BibTeX entries:

```
@ARTICLE{Courant67,
  author = {Richard Courant and Kurt Friedrichs and Hans Lewy},
  title   = {On the Partial Difference Equations of Mathematical Physics},
  journal = {IBM Journal},
  pages   = {215--234},
  month   = {March},
  year    = {1967}
}

@INPROCEEDINGS{Berenger05,
  author   = {Jean-Pierre B\'{e}renger},
  title    = {A {FDTD} Subgridding Based on {Huygens} Surfaces},
  booktitle = {IEEE AP-S International Symposium},
  year     = {2005},
  address  = {Washington D.C., USA}
}

@BOOK{Taflove05,
  author   = {Allen Taflove and Susan C. Hagness},
  title    = {Computational Electrodynamics:
             The Finite-Difference Time-Domain Method},
  publisher = {Artech House},
  edition  = {third},
  year     = {2005}
}
```

4.3.4 URLs in BibTeX

† Including URLs into BibTeX references:

- Use the url package
- Place the URL into the note or howpublished keyword

```
note = { \url{http://www.manchester.ac.uk} }
```

† BibTeX entry with a website reference:

```
@MISC{Manchester12,
  title          = {The University of Manchester, {M}ain website},
  howpublished   = { \url{http://www.manchester.ac.uk} },
  month         = {May},
  year          = {2012},
  note          = {Accessed: May~24, 2012}
}
```


- † IEEEtran bibliography style: url field for each entry

```
@PHDTHESIS{Abalenkovs11,
  author = {Maksims Aba\c{1}enkovs},
  title = {{H}uygens {S}ubgridding for
           the {F}requency-{D}ependent--{F}inite-{D}ifference
           {T}ime-{D}omain {M}ethod},
  school = {The University of Manchester,
           School of Electrical and Electronic Engineering},
  year = {2011},
  address = {Sackville Street Building, Manchester, M60~1QD, United Kingdom},
  month = nov # { 24,},
  url = {https://www.escholar.manchester.ac.uk/
        item/?pid=uk-ac-man-scw:137344}
}
```

4.3.5 Including BibTeX files into L^AT_EX documents

- † BibTeX: commands to add at the end of document

```
\bibliographystyle{plain}      % bibliography appearance
\bibliography{cem,subgridding} % bibliography files
...
\end{document}
```

- † Change in the compilation process:

```
(pdf)latex    article.tex
      bibtex    article
(pdf)latex    article.tex
(pdf)latex    article.tex
```

4.3.6 Housekeeping Issues

- † Finding and managing references with Google Scholar and JabRef
- † Importance of keeping different BibTeX files for different topics
- † Internal naming of references and PDF files:

SurnameXYZ → Berenger06a, Berenger06b, Berenger11

4.3.7 Customisation of Citation Appearance

- † Use the cite package for citation sorting and compression: [1,7,5,6,2] → [1,2,5–7].
- † Use the natbib package for advanced customisation of citation appearance
- † Harvard citation style:

- Include natbib package
- Set bibliography style to plainnat with \bibliographystyle{plainnat}
- Use the \citep{} or citep*{} command instead of \cite{}

\citep{Courant67} → (Courant et al., 1967)

\citep*{Courant67} → (Courant, Friedrichs, and Lewy, 1967)

4.3.8 Exporting EndNote Citations into BibTeX

- † EndNote: built-in output style “BibTeX Output”
- † In EndNote menu: File → Output Styles → Open Style Manager
- † Select “BibTeX Output” out of available output styles
- † In EndNote menu: File → Export
- † EndNote *.enl file converted to BibTeX *.bib file

4.4 Exercises

1. Create new text file and save it in BibTeX format by changing the file extension to *.bib.
2. Find the most influential book in your research area using the library catalogue.
3. Manually add the book entry into your BibTeX file.

```

if ( (author == you) & (publications ≥ 3) ) then
    create bibliography file with your own scientific contributions
else
    find find three most influential articles in your research area using Google Scholar
    copy, paste, edit article entries in your bibliography file
end if

```

4. Add an entry for your own Master's or PhD thesis.
5. Insert your bibliography file into your \LaTeX document with the `\bibliography{}` command.
6. Set the bibliography style with the `\bibliographystyle{}` command.
7. Insert multiple citations of the documents in your bibliography list into your article, use the `\cite{}` command.
8. Specify a book chapter and page numbers using the optional arguments of the `\cite[]{}{}` command.
9. Compile your document and observe the appearance of references in the text and the appearance of bibliography at the end of the document.
10. Experiment with different bibliography styles `plain`, `abbrv`, `alpha`, `IEEEtran`, recompile the document each time and observe the changes.
11. Create an entry for a website in your bibliography file.
12. Add more entries of different types to your bibliography file (conference contribution, technical manual, patent, standard).
13. Experiment with the `\nocite{}` command.
14. Apply Harvard citation style to your document by using the `natbib` package and the `\citep{}` command.



Bibliography

- [1] (2012, Apr. 16) \LaTeX Wikibook. [Online]. Available: <http://www.wikibooks.org>
- [2] M. Abalenkovs, “Huygens Subgridding for the Frequency-Dependent–Finite-Difference Time-Domain Method,” Ph.D. dissertation, The University of Manchester, School of Electrical and Electronic Engineering, Sackville Street Building, Manchester, M60 1QD, United Kingdom, Nov. 24, 2011. [Online]. Available: <https://www.escholar.manchester.ac.uk/item/?pid=uk-ac-man-scw:137344>
- [3] R. Courant, K. Friedrichs, and H. Lewy, “On the partial difference equations of mathematical physics,” *IBM Journal*, pp. 215–234, March 1967.
- [4] J.-P. Bérenger, “A FDTD subgridding based on Huygens surfaces,” in *IEEE AP-S International Symposium*, Washington D.C., USA, 2005.
- [5] A. Taflove and S. C. Hagness, *Computational Electrodynamics: The Finite-Difference Time-Domain Method*, 3rd ed. Artech House, 2005.
- [6] M. Shell. The IEEEtran BibTeX style. IEEE. [Online]. Available: <http://www.michaelshell.org/tex/ieeetran/bibtex/>