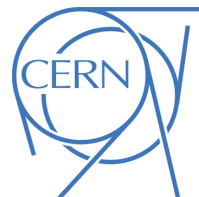




ATLAS NOTE

2nd December 2014



Guide to references and Bib \TeX in ATLAS documents

Ian C. Brock

University of Bonn

Abstract

This document illustrates how to use Bib \TeX for the bibliography of your ATLAS paper. It discusses what to pay attention to when creating references and how to get round common problems. Use of both `bib \LaTeX` and the more traditional Bib \TeX is covered. Two Bib \TeX (`.bst`) style files have been created that can be used with any of the ATLAS supported journals, depending on whether they require the title of the references to be included or not.

This document was generated using version 01-04-02 of the ATLAS \LaTeX package.

1 mydocument

The ATLAS Collaboration has specific guidelines as to what constitutes a good bibliographic style. For example, a reference to a paper by an LHC Collaboration must not include the first author, whereas, if the paper is by any other collaboration it should. Where available, links to the arXiv entries of the papers should be included. To help authors with their paper preparations, a standard ATLAS bibliographic style has been developed which incorporates all of these requirements, and, at the same time, is largely compatible with those of the journals the papers are being submitted to.

It is strongly recommended to use BibT_EX for the references. Although it often appears harder to use at the beginning, it means that the number of typos should be reduced significantly and the format of the references will be correct, without you having to worry about formatting it. In addition the order of the references is automatically correct.

A new implementation of BibT_EX is provided by the bibl_atex [1] package. It is planned to move all ATLAS documents to the use of this package. One major advantage of the package is that it defines quite a few more entry types that are much more suitable for online documents and things like CONF and PUB notes. It is also possible to use UTF-8 encoding in the entries, which means that letters such as ä, é, ß can be included directly in the text. Adjustment of the style is also much simpler. It is possible to take a base style and then just apply changes to it rather than having to learn the details of how bst files are constructed.

The typical compilation cycle when using BibT_EX looks like the following:

```
pdflatex mydocument
bibtex mydocument
pdflatex mydocument
pdflatex mydocument
```

If you use bibl_atex with the backend biber rather than bibtex, replace the command bibtex with biber.

bibl_atex and BibT_EX create a file with the extension .bbl, which contains the actual references used, and L^AT_EX then takes care to include them in your paper. Note that only after the third run of L^AT_EX will all references be correct. Unless you change a reference you do not have to do the bibtex step again.

You can of course use L^AT_EX rather than pdfL^AT_EX, but pdfL^AT_EX is preferred, as things like clicking on cross-references and links to publications in the bibliography work much more reliably with pdfL^AT_EX.

2 BibT_EX database

One or more files with the extension .bib (in this example: atlas_paper.bib) should contain all the references. The files may also contain references that you do not use, so they may act like a library of references.

You should check that you base your .bib file on the examples provided, as it has the references in the style recommended for ATLAS publications. This will definitely save time in the reviewing process!

If you use BibT_EX you include the source file(s) as follows:

```
\bibliography{../atlas_latex,atlas_biblalex}
\bibliographystyle{bibtex/bst/atlasBibStyleWoTitle}
```

at the point where the bibliography should be printed.

If you use `biblatex`, you should include commands like:

```
\usepackage[backend=biber,  
  style=numeric-comp,sorting=none,block=ragged,firstinits=true]{biblatex}  
\addbibresource{../atlas_latex.bib}  
\addbibresource{atlas_biblatex.bib}
```

in the preamble of our document. These are included for you if you include `atlaspackage` with the option `biblatex`. Then include the command:

```
\printbibliography
```

where the bibliography should get printed. As mentioned above, use the command `biber` instead of `bibtex` to process the `.bib` files. Note that `biber` returns an error if it encounters an empty `.bib` file.

3 ATLAS bibliography style files

The format of the references in your ATLAS paper depends on the journal to which you are submitting, but in general we can classify the journal styles in two categories: those which require the title of the references and those which do not. To ensure the homogeneity in all ATLAS publications, Bib_T_EX style files are provided for each of these categories along with an example file that illustrates how different types of bibliographic material should be referenced.

The style files can be found in the directory `bibtex/bst` of the `atlaslatex` package.

If you use Bib_T_EX, you should choose between the two style files given below, depending on the journal to which they wish to submit their paper. These style files have been successfully tested in the framework provided by the journals listed in the following sections and with the standard ATLAS document template.

For ATLAS notes, both internal and public, a style without the title for papers in journals is recommended.

3.1 Bib_T_EX style file for journals with the title in the reference

Journals:

- JHEP
- JINST
- NJP

Bib_T_EX style file: `atlasBibStyleWithTitle.bst`

Include at the end of your `.tex` file the following lines:

```
\bibliographystyle{atlasBibStyleWithTitle}  
\bibliography{atlas-bibtex}
```

You can use the Bib_T_EX style `JHEP.bst` for papers that are supposed to be submitted to JHEP. However, note that JHEP only prints the arXiv entry etc. if the entry type is `@Article`. In the examples included in this document, the entry type `@Booklet` is used for preprints and CONF notes, as this works best with other Bib_T_EX styles. If you are planning to submit to JHEP/JINST and use `JHEP.bst` replace all `@Booklet` entry types with `@Article`.

3.2 BibTeX style file for journals without the title in the reference

Journals:

- EPJC
- NPB
- PLB
- PRD
- PRL

BibTeX style file: `atlasBibStyleWoTitle`

Include at the end of your `.tex` file the following lines:

```
\bibliographystyle{atlasBibStyleWoTitle}
\bibliography{atlas-bibtex}
```

3.3 biblatex style file

If you use `biblatex` a style file: `atlasbiblatex.sty` which you should include with a normal `\usepackage` command. By default, this style includes the document title. The title can be turned off by including the option `articletitle=false`. This option turns off the title for entry types `@Article` and `@Booklet`, as `@Booklet` should be used for CONF and PUB notes.

4 Journal names

It is often the case that one sees several different abbreviations for journal names in one set of references. In order to try to get round this problem, macros are defined that contain the standard abbreviations. It is then also possible to modify the abbreviation if a journal uses a different convention from ours.

The abbreviations can be found in the style file `latex/atlasjournal.sty`, which is included by default if you load `atlasphysics`. This style file also defines several other abbreviations that can be adjusted to the journal style. Standard sets for different journals can be provided by an option in the future.

5 References from Inspire

A common way to find a reference is using Inspire [2]. You can select the output format as BibTeX and simply copy the result(s) to your `.bib` file. In order that the reference follows the ATLAS conventions you need to do the following, assuming that the reference is for an LHC collaboration paper:

1. Change the field name `author` to `xauthor`.
2. Change the field name `collaboration` to `author` and write the collaboration in the form `"{ATLAS Collaboration}"`. Note the use of both quotes and curly braces.
3. Either replace the journal name with the appropriate macro, e.g. `"Phys.Lett."` with `\PLB`; or insert spaces between the parts of the name, i.e. `Phys.\ Lett..` Note the use of `\` (you can also use `{ }`) instead of just a space, as a regular interword space should be inserted and not an end of sentence space.

4. Remove the journal letter from the volume and include it in the journal, e.g. “Eur. Phys. J. C”, “Phys. Rev. D”.

If the reference is for another collaboration, rename the `collaboration` field to `xcollaboration` and insert `{NonLHC Collaboration}` and at the beginning of the `author` field.

Instead of renaming `author` or `collaboration` fields, you can of course simply delete them!

6 BibT_EX tips

- A bibliographic item is created in the `.bib` file as:

```
@Article{lhCollaboration:2012,  
  author = "...",  
  title = "...",  
  further bibliographic information}  
}
```

The identifier directly after the document type declaration is how one should refer to this item inside the main `.tex` file. Use a non-breaking space between the citation and the reference, i.e. `... measured previously~\cite{lhCollaboration:2012}`.

- When referencing ATLAS CONF notes, the URL to the CDS page should be included. For this to work, in the preamble of your `.tex` document add `\usepackage{hyperref}`. Note that `hyperref` is included by default if you use `atlasdoc` and/or `atlaspackage`.
- If the DOI is filled and the `hyperref` package loaded, the title of the journal will be highlighted in blue and become a hyperlink to the online paper.
- When referencing papers from journals like PRD, PLB, etc., one has to be careful not to include the “D” or “B” as part of the volume. Instead these belong to the journal name. You can either use the macros that have been added to the `.bst` style files for these journals, or the macros defined in `atlasjournal`. If you want to use `biblatex` or other `bst` files, it is probably better to use the `atlasjournal` definitions.

In earlier versions of this document, it was recommended to include the `cite` package, if you use BibT_EX and want to cite multiple references in the format `[m-n]`. However, the journal style files can do this for you by using the option `sort&compress` option if `natbib` is used. The `revtex` style also does this for you. If you use `biblatex` use the option `style=numeric-comp`.

7 Examples

- LHC Collaboration [3]
- Other Collaboration [4]
- Individual authors [5]
- arXiv only [6]

- arXiv only submitted to a journal [7]
- ATLAS CONF Note [8]

While the `collaboration` field is a nice idea, it is not supported by many Bib_T_EX styles. Hence in Ref. [3], `collaboration` has been renamed to `author` and the `author` field has been renamed as `xauthor`. If you use `collaboration` and omit `author` you will get a warning when you run `bibtex`.

Note that in Ref. [8] the entry type `@Article` used to be used and the field `journal` was abused for the conference note number. This is a result of the Bib_T_EX restrictions on the entry types. The current version uses `@Booklet` and includes the CONF note number via the `howpublished` field. In general, `biblatex` provides a lot more entry types. It is planned to move to `biblatex` as the default for the ATLAS templates early in 2015. All documentation already uses `biblatex`.

History

2013-08-13: Cristina Oropeza Barrera First version of the document released.

2014-08-14: Ian Brock Updated the example references a bit and gave a bit more background information.

2014-11-26: Ian Brock Text taken from paper template and merged into this document.

References

- [1] *biblatex – Bibliographies in L_AT_EX using Bib_T_EX for sorting only*, URL: <http://www.ctan.org/pkg/biblatex>.
- [2] *INSPIRE, the High Energy Physics information system*, URL: <http://inspirehep.net>.
- [3] ATLAS Collaboration, Phys. Lett. B 709 (2012) 137, doi: [10.1016/j.physletb.2012.01.076](https://doi.org/10.1016/j.physletb.2012.01.076), arXiv: [1110.6189](https://arxiv.org/abs/1110.6189) [hep-ex].
- [4] PHOBOS Collaboration, B. Alver et al., Phys. Rev. C 75 (2007) 054913, doi: [10.1103/PhysRevC.75.054913](https://doi.org/10.1103/PhysRevC.75.054913), arXiv: [0704.0966](https://arxiv.org/abs/0704.0966) [hep-ex].
- [5] A. Sherstnev and R. S. Thorne, Eur. Phys. J. C 55 (2008) 553, doi: [10.1140/epjc/s10052-008-0610-x](https://doi.org/10.1140/epjc/s10052-008-0610-x), arXiv: [0711.2473](https://arxiv.org/abs/0711.2473) [hep-ph].
- [6] P. Z. Skands, 2009, arXiv: [0905.3418](https://arxiv.org/abs/0905.3418) [hep-ph].
- [7] J. Monk and C. Oropeza-Barrera, Submitted to Nucl. Instrum. Meth., 2011, arXiv: [1111.4869](https://arxiv.org/abs/1111.4869) [hep-ex].
- [8] ATLAS Collaboration, ATLAS-CONF-2012-058, 2012, URL: <http://cdsweb.cern.ch/record/1453786>.