Template demonstrating the quantum bibstyle

David Wierichs[1] and Johannes Jakob Meyer[2,3]

[1]Institute for Theoretical Physics, University of Cologne, Germany
[2]Dahlem Center for Complex Quantum Systems, Freie Universität Berlin, 14195 Berlin, Germany
[3]QMATH, Department of Mathematical Sciences, University of Copenhagen, 2100 Copenhagen, Denmark

1 Overview

We use the opportunity of talking about bibtex entries to give an overview of the available reference classes:

`article`	Section 2
`book`	Section 3
`repository`	Section 4
`website`	Section 5
`misc`	Section 6
Other classes	Section ??
`booklet`	Section ??
`inbook`	Section 6.1
`incollection`	Section ??
`inproceedings`	Section ??
`manual`	Section ??
`mastersthesis`	Section ??
`phdthesis`	Section ??
`proceedings`	Section ??
`techreport`	Section ??
`unpublished`	Section ??
Mixed tests	Section 7

All of these reference classes are available in standard bibtex style files as well, with the exception of `repository` and `website`. Of course there may be other style files supporting reference classes with the same name, but the implementation in quantum.bst will not be based on any of those.

2 Reference class `article`

For the `article` class, the `title` is printed in *italics*. The `journal` is not reformatted, the `volume` printed in **bold font**. We also include the `pages` if present and the `year` in round brackets (). `doi` links are always included if given, the same holds for `eprint`. Only if neither of these two fields is given do we use the `url` to provide a hyperlink to the article. Code repositories are linked whenever provided via the `code` field, which is a non-standard field in quantum.bst.

Examples:

`doi`	`eprint`	`url`	`code`	result
✓	✓	✓/×	✓	[1]
✓	✓	✓/×	×	[2]
×	✓	✓/×	✓	[3]
×	✓	✓/×	×	[4]
×	×	✓/×	✓	[5]
×	×	✓/×	×	[6]

Note that in particular citations via a URL alone are not recommended. If you want to cite a website or code repository, please use the respective reference classes `website` or `repository` (see below).

article references

[1] Matthew McKague. "Self-testing in parallel with CHSH". Quantum **1**, 1 (2017). DOI: 10.22331/q-2017-04-25-1. eprint: arXiv:1609.09584. code: tony-blake/Hybrid-x509-s.

[2] Matthew McKague. "Self-testing in parallel with CHSH". Quantum **1**, 1 (2017). DOI: 10.22331/q-2017-04-25-1. eprint: arXiv:1609.09584.

[3] Matthew McKague. "Self-testing in parallel with CHSH". Quantum **1**, 1 (2017). eprint: arXiv:1609.09584. code: tony-blake/Hybrid-x509-s.

[4] Matthew McKague. "Self-testing in parallel with CHSH". Quantum **1**, 1 (2017). eprint: arXiv:1609.09584.

[5] Matthew McKague. "Self-testing in parallel with CHSH". Quantum **1**, 1 (2017). URL: doi.org/10.22331/q-2017-04-25-1. code: tony-blake/Hybrid-x509-s.

[6] Matthew McKague. "Self-testing in parallel with CHSH". Quantum **1**, 1 (2017). URL: doi.org/10.22331/q-2017-04-25-1.

3 Reference class book

For the reference class `book`, the `title`, the `year`, the `publisher` as well as *either* the `author` *or* the `editor` field must be given. The `volume`, `number` and `series`, the (publisher) `address`, the `edition` as well as links in the fields `doi`, `eprint` and `url` are optional. The order in which links are printed is the same as for `article`, Section 2. Some example `book` references are [1, 2].

book references

[1] Michael A. Nielsen and Isaac L. Chuang. "Quantum computation and quantum information". Cambridge University Press (2009). DOI: 10.1017/cbo9780511976667.

[2] Michael A. Nielsen and Isaac L. Chuang. "Quantum computation and quantum information". Cambridge University Press (2009). 10th Anniversary edition. URL: doi.org/10.1017/cbo9780511976667.

4 Reference class `repository`

For the custom `repository` reference class, the `author` field is used if given but is not required (in contrast to the `article` class). If the repository address is given via `code` (strongly recommended), a properly formatted repository name is printed and links to the given address, including potentially version-, branch- or even commit-specific links. If no `code` entry is given, `url` is used as address instead, without any formatting of the printed text; Either `code` or `url` have to be provided. A title is not considered even if given. TODO: Consider a year in any way?

`code`	`url`	result
✓	✓/×	[1]
×	✓	[2]
×	×	invalid

Note that if you want both a `url` and a `code` link to be displayed, you can use the `website` reference class presented below for that.

repository references

[1] Johannes Jakob Meyer. code: johannesjmeyer/rsmf.

[2] Johannes Jakob Meyer. URL: github.com/johannesjmeyer/rsmf.

5 Reference class `website`

For the new custom reference class `website`, we require a `title` and a `url` which are both printed always. `author` is optional and printed if given, the same holds for `code`, which is formatted as repository link like for `repository`. If you want to provide `code` but not `url`, the reference class `repository` (see above) is made for you.

`author`	`code`	result
✓	✓	[1]
×	✓	[2]
✓	×	[3]
×	×	[4]

Note that if you want both a `url` and a `code` link to be displayed, you can use the `website` reference class presented below for that.

references

[1] The Wiki-authors. "Wikipedia". URL: wikipedia.com. code: wikimedia/mediawiki.

[2] "Wikipedia". URL: wikipedia.com. code: wikimedia/mediawiki.

[3] The Wiki-authors. "Wikipedia". URL: wikipedia.com.

[4] "Wikipedia". URL: wikipedia.com.

6 Reference class `misc`

The reference class `misc` is meant to be used for miscellaneous entries that do not fall into any of the provided categories. As such, `misc` entries display the generic properties `author`, `title`, `howpublished`, `date`, `eprint` and `note`, the only requirement being at least one of these fields to be provided and non-empty. As the reference class `article` covers the case of preprint articles, the `misc` class was modified to refer back to `article` if `archivePrefix` is set to "arxiv" or an anyhow capitalized version thereof *and* `primaryClass` is provided and non-empty.

We provide some examples, not covering all cases, because `misc` is very flexible and there are many possibilities.

- A citation that actually is an article on the arXiv: [1]
- A footnote-like reference only containing a note: [2]
- A reference to a private correspondence: [3]

misc references

[1] Thomas Hubregtsen, David Wierichs, Elies Gil-Fuster, Peter-Jan H. S. Derks, Paul K. Faehrmann, and Johannes Jakob Meyer. "Training quantum embedding kernels on near-term quantum computers". eprint: arXiv:2105.02276.

[2] Indeed, only a note was provided for this reference.

[3] Christian Gogolin. "Purple became very popular after this.". Private correspondence.

6.1 Reference class `inbook`

The reference class `inbook` is an alias for `book` with the additional requirement that `chapter`, `pages` or both are provided. Examples would be Refs. [1–3].

Other references

[1] Michael A. Nielsen and Isaac L. Chuang. "Quantum computation and quantum information". Chapter 3. Cambridge University Press (2009). DOI: 10.1017/cbo9780511976667.

[2] Michael A. Nielsen and Isaac L. Chuang. "Quantum computation and quantum information". Chapter 3, pages 120–169. Cambridge University Press (2009). DOI: 10.1017/cbo9780511976667.

[3] Michael A. Nielsen and Isaac L. Chuang. "Quantum computation and quantum information". Volume 1chapter 3, Pages 120–169. Cambridge University Press (2009). DOI: 10.1017/cbo9780511976667.

7 Tests

Directly from the arxiv [1], arxiv via Zotero [2], some more testcases [3–9]

Test references

[1] Thomas Hubregtsen, David Wierichs, Elies Gil-Fuster, Peter-Jan H. S. Derks, Paul K. Faehrmann, and Johannes Jakob Meyer. "Training quantum embedding kernels on near-term quantum computers". eprint: arXiv:2105.02276.

[2] Thomas Hubregtsen, David Wierichs, Elies Gil-Fuster, Peter-Jan H. S. Derks, Paul K. Faehrmann, and Johannes Jakob Meyer. "Training quantum embedding kernels on near-term quantum computers". eprint: arXiv:2105.02276.

[3] A S Holevo and V Giovannetti. "Quantum channels and their entropic characteristics". Reports on Progress in Physics **75**, 046001 (2012). DOI: 10.1088/0034-4885/75/4/046001.

[4] A S Holevo and V Giovannetti. "Quantum channels and their entropic characteristics". Reports on Progress in Physics **75**, 046001 (2012). DOI: 10.1088/0034-4885/75/4/046001.

[5] Chris Akers, Netta Engelhardt, and Daniel Harlow. "Simple holographic models of black hole evaporation". JOURNAL OF HIGH ENERGY PHYSICS (2020). DOI: 10.1007/JHEP08(2020)032.

[6] Vishal Katariya and Mark M. Wilde. "Geometric distinguishability measures limit quantum channel estimation and discrimination". Quantum Information Processing **20**, 78 (2021). DOI: 10.1007/s11128-021-02992-7.

[7] Vishal Katariya and Mark M Wilde. "Geometric distinguishability measures limit quantum channel estimation and discrimination". Quantum Information Processing **20**, 1–170 (2021).

[8] Tengyuan Liang, Tomaso Poggio, Alexander Rakhlin, and James Stokes. "Fisher-rao metric, geometry, and complexity of neural networks". In The 22nd International Conference on Artificial Intelligence and StatisticsPage 9 (2019).

[9] Prateek Jain, Raghu Meka, and Inderjit S. Dhillon. "Guaranteed rank minimization via singular value projection". In J. D. Lafferty, C. K. I. Williams, J. Shawe-Taylor, R. S. Zemel, and A. Culotta, editors, Advances in Neural Information Processing Sys-

tems 23Pages 937–945. Curran Associates, Inc. (2010).