

biblatex-phys – A biblatex implementation of the AIP and APS bibliography style*

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This package provides a style for `biblatex` which follows the guidelines of the AIP and APS. The citation style is numeric and unsorted. The bibliography style follows the pattern of the official REVTeX class (<http://ctan.org/pkg/revtex>). The style should be loaded in the usual way

```
\usepackage[style=phys]{biblatex}
```

Load-time options are provided to deal with the small number of variations between the AIP and APS styles. The References section of this document demonstrates the format generated by the package using the `biblatex-phys.bib` database of example citations.

The styles use the standard `biblatex` database requirements. This means that a database designed for traditional BIBTeX use may need some editing for optimal output. The accompanying example database `biblatex-phys.bib` shows examples of all of the supported entry types with common fields filled in.

1 Style options

All of the styles here add a small number of package options to the standard set provided by `biblatex`. This allows the styles to cover the variations seen between the AIP and APS styles.

- `doi` (*env.*) The standard style options `doi`, `eprint`, `isbn` and `url`, as described in the `biblatex` manual. However, these options are turned off as standard by the `phys` style. This reflects the fact that these entries may be present in reference databases but are not generally included in published bibliographies. Note that DOI values are printed for journal articles with no pages or eid given, even if the `doi` option is `false`.
- `subentry` (*env.*) In common with the standard `biblatex` numeric styles, all of the styles in the bundle support the boolean `subentry` option. With this set `true`, entries of type `set` are given individual labels within the bibliography.
- `articletitle` (*env.*) The use of article titles varies between the AIP and APS styles. The boolean option `articletitle` is available to control this behaviour. The standard settings is `true`, which follows the guidelines of the AIP: it should be set to `false` to follow the APS style. (This option also applies to the titles of proceedings entries and patents, which are treated in the same way.)
- `biblabel` (*env.*) The format of the numbers used in the bibliography (the “bibliography label”)

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varies. The `biblabel` option allows the user to easily set the format used. This option takes a values `superscript` (the standard setting) and `brackets`.

`chaptertitle` (*env.*) Printing chapter titles for `incollection` entries is part of the AIP style but is not part of the APS style. The `chaptertitle` option can be used to control this.

`pageranges` (*env.*) The inclusion of the full page range of journal articles varies between the AIP and APS styles. The boolean option `pageranges` is available is control this behaviour. The standard settings is `true`, which follows the guidelines of the AIP and prints the full range: it should be set to `false` to follow the APS style, which will result in only the first page being printed.

1.1 collaboration field

To support large-scale collaborations, the style recognises the `collaboration` field. This is a simple text field which gives the name of the collaboration, and which is printed in parenthesis after the authors.

1.2 aip and aps styles

As detailed above, the standard settings follow the AIP style. To obtain the APS style, use

```
\usepackage[%
  style=phys,%
  articletitle=false,biblabel=brackets,%
  chaptertitle=false,pageranges=false%
]
{biblatex}
```

2 Title formatting

The style convert article titles to sentence case format. This can be suppressed using

```
\DeclareFieldFormat{titlecase}{#1}
```

3 url formatting

The style uses the `url` package to format hyperlinks. As such, the format of these is left to the document author to alter. The `\urlstyle` command may be used to alter this, either for the whole document or only for the bibliography, for example by using

```
\AtBeginBibliography{%
  \urlstyle{same}%
}
```

4 Interaction with babel

In common with other `biblatex` styles, `biblatex-phys` uses the `csquotes` package mechanism to place article titles in quotation marks. This means that the formatting

of these will depend on the `babel` language in use. Full details are covered in the manuals for `biblatex` and `csquotes`.

5 Errors and omissions

Suggestions for improvement and bug reports can be logged in the package issue database, found at <https://github.com/josephwright/biblatex-phys/issues>, or can be sent by e-mail to joseph@texdev.net.

References

- ¹R. A. Allen, D. B. Smith, and J. E. Hiscott, *Radioisotope data*, UKAEA Research Group Report AERE-R 2938 (H.M.S.O., London, 1961).
- ²A. J. Arduengo III, R. L. Harlow, and M. Kline, “A stable crystalline carbene”, *J. Am. Chem. Soc.* **113**, 361–363 (1991).
- ³A. J. Arduengo III, F. P. Gentry Jr., P. K. Taverkere, and H. E. Simmons III, “Process for manufacture of imidazoles”, U.S. pat. 6177575 (E. I. DuPont, 2001).
- ⁴W. L. F. Armarego and C. L. L. Chai, *Purification of laboratory chemicals*, 5th ed. (Butterworth–Heinemann, London, 2003).
- ⁵A. Arnèodo, R. Benzi, J. Berg, L. Biferale, E. Bodenschatz, A. Busse, E. Calzavarini, B. Castaing, M. Cencini, L. Chevillard, R. T. Fisher, R. Grauer, H. Homann, D. Lamb, A. S. Lanotte, E. Lévèque, B. Lüthi, J. Mann, N. Mordant, W.-C. Müller, S. Ott, N. T. Ouellette, J.-F. Pinton, S. B. Pope, S. G. Roux, F. Toschi, H. Xu, and P. K. Yeung (International Collaboration for Turbulence Research), “Universal intermittent properties of particle trajectories in highly turbulent flows”, *Phys. Rev. Lett.* **100**, 254504 (2008).
- ⁶R. L. Augustine, *Heterogeneous catalysis for the synthetic chemist* (Marcel Dekker, New York, 1995).
- ⁷G. Booth and J. Chatt, “The reactions of carbon monoxide and nitric oxide with tertiary phosphine complexes of iron(II), cobalt(II), and nickel(II)”, *J. Chem. Soc.*, 2099–2106 (1962).
- ⁸*CORINA: generation of 3D coordinates*, (2006) <http://www.molecular-networks.com/software/corina/index.html>.
- ⁹A. M. Coghill and L. R. Garson, eds., *The ACS style guide*, 3rd ed. (Oxford University Press, Inc. and The American Chemical Society, New York, 2006).
- ¹⁰F. A. Cotton, G. Wilkinson, C. A. Murillio, and M. Bochmann, *Advanced inorganic chemistry*, 6th ed. (Wiley, Chichester, United Kingdom, 1999).
- ¹¹D. Pugh, J. A. Wright, and A. A. Danopoulos, “‘Pincer’ pyridine dicarbene iridium complexes: facile C–H activations and unexpected η^2 -imidazol-2-ylidene coordination”, *Angew. Chem. Int. Ed.*, in press.
- ¹²K. Dehnicke and J. Strähle, “Die Übergangsmetall-Stickstoff-Mehrfachbindung”, *Angew. Chem.* **93**, 451–464 (1981).
- ¹³K. Dehnicke and J. Strähle, “The transition metal–nitrogen multiple bond”, *Angew. Chem., Int. Ed. Engl.* **20**, 413–426 (1981).

- ¹⁴M. J. Gaunt, “The investigation and design of palladium catalysed reactions”, PhD thesis (University of Cambridge, Cambridge, United Kingdom, 1999).
- ¹⁵F. Glorius, ed., *N-Heterocyclic carbenes in transition metal catalysis*, Vol. 21, Topics in Organometallic Chemistry (Springer, Berlin, 2007).
- ¹⁶T. Hahn, ed., *International tables for crystallography*, 5th ed., Vol. A (Kluwer Academic Publishers, Dordrecht, Netherlands, 2002).
- ¹⁷C. Hammond, *The basics of crystallography and diffraction* (International Union of Crystallography and Oxford University Press, Oxford, United Kingdom, 1997) Chap. 1, pp. 1–40.
- ¹⁸P. M. Henry, “The Wacker oxidation and related asymmetric syntheses”, in *Handbook of organopalladium chemistry for organic synthesis*, Vol. 2, edited by E.-I. Negishi (Wiley Interscience, New York, 2002) Chap. V.3.1.1, pp. 2119–2140.
- ¹⁹B. Heyn, B. Hippler, G. Kreisel, H. Schreer, and D. Walther, *Anorganische Synthesechemie: ein integriertes Praktikum* (Springer-Verlag, Weinheim, Germany, 1986).
- ²⁰E. Hope, J. Bennett, and A. Stuart, “Fluorous zirconium phosphonates: novel inorganic supports for catalysis”, in Pacificchem (international chemical congress of pacific basin societies), 961 (Pacific Basin Chemical Societies, 2005).
- ²¹H.-J. Kabbe and R. Jira, “Durch Oxidation unter erhalt des Kohlenstoffgerüsts”, in *Methoden der organischen Chemie, Houben-Weyl, Ketone, Teil 1*, Vol. VII.2a, 4th ed. (Georg Thieme Verlag, Stuttgart, Germany, 1973) Chap. III, pp. 781–790.
- ²²A. Kirschning, ed., *Topics in current chemistry* 242 (2004): *Immobilized catalysts*.
- ²³S. J. Lancaster, *Alkylation of boron trifluoride with pentafluorophenyl grignard reagent*, (2003) <http://www.syntheticpages.org/pages/215> (visited on 10/08/2008).
- ²⁴P. W. M. N. van Leeuwen, K. Morokuma, and J. H. van Lenthe, eds., *Theoretical aspects of homogeneous catalysis*, Catalysis by Metal Compounds 18 (Kluwer Academic Press, Dordrecht, Netherlands, 1995).
- ²⁵G. M. Sheldrick, “A short history of SHELXL”, in P. Müller, R. Herbst-Irmer, A. L. Spek, T. R. Schneider, and M. R. Sawaya, *Crystal structure refinement* (International Union of Crystallography and Oxford University Press, Oxford, United Kingdom, 2006).
- ²⁶E.-I. Negishi, ed., *Handbook of organopalladium chemistry for organic synthesis* (Wiley Interscience, New York, 2002).
- ²⁷ABSPACK, *CrysAlis CCD and CrysAlis RED*, version 1.171 (Oxford Diffraction Ltd., Abingdon, United Kingdom, 2006).
- ²⁸S. D. Bunge, O. Just, and W. S. Rees Jr., “[{Au[μ -N(SiMe₃)₂]}₄]: the first base-free gold amide”, *Angew. Chem. Int. Ed.* **39**, 3082–3084 (2000).
- ²⁹J. Smidt, W. Hafner, R. Jira, J. Sedlmeier, R. Sieber, R. Rüttinger, and H. Kojer, “Katalytische Umsetzungen von Olefinen an Platinmetall-Verbindungen”, *Angew. Chem.* **71**, 176–182 (1959).
- ³⁰J. Smidt, W. Hafner, R. Jira, R. Sieber, J. Sedlmeier, and A. Sabel, “The oxidation of olefins with palladium chloride catalysts”, *Angew. Chem., Int. Ed. Engl.* **1**, 80–88 (1962).

- ³¹C. D. Sofield, M. D. Walter, and R. A. Andersen, “{Amidobis[η^5 -1,3-bis-(trimethylsilyl)cyclopentadienyl]titanium(III)}”, *Acta Crystallogr., Sect. C: Cryst. Struct. Commun.*, **10.1107/S0108270104018840** (2004).
- ³²*Proceedings of the 21st international conference on coordination chemistry* (Toulouse, France) (1980).
- ³³A. J. C. Wilson and E. Prince, eds., *International tables for crystallography*, Vol. C: *Mathematical, physical and chemical tables*, 3rd ed. (Kluwer Academic Publishers, Dordrecht, Netherlands, 1992).

Change History

v0.9a	General: Detect and remove repeated information in entry sets at any position in the set	5	v0.9e	General: Link “related” articles using DOI or URL	5
v0.9b	General: Enable use of <code>firstinits</code> option	5	v0.9f	General: Allow for variation in <code>journaltitle</code> formatting	5
	Fix handling of <code>doi</code> field for <code>article</code> entries	5	v1.0	General: First stable release	5
	Print <code>doi</code> or <code>url</code> after year for <code>article</code> entries, consistent with <code>online</code> behaviour	5	v1.0a	General: Ensure style works with both backends	5
v0.9c	General: Link article publication details using DOI, URL or arXiv <code>eprint</code>	5	v1.0b	General: Fix author list formatting issue	5
	Titles in sentence case	5	v1.0c	General: Update DOI link structure	5
v0.9d	General: Correctly include “related” material (Biber-only)	5		Update internals to follow standard <code>biblatex</code> style changes	5
	Improve arXiv formatting	5	v1.1	General: Support for <code>collaboration</code> field	5
	Link book titles using DOI or URL	5	v1.1a	General: Biber support for <code>collaboration</code> field	5
	Minor fix for book formatting	5	v1.1b	General: Fix printing of DOI when pages are missing	5
	Update journal title printing so case is unchanged by processing of article titles (introduced in v0.9c)	5	v1.1d	General: Print citations inline	5