

Reference Rules and Styles in Scientific Writing

Section D. References Cited

1. Committee on Prospering in the Global Economy of the 21st Century, Committee on Science, Engineering, and Public Policy, National Academy of Sciences, National Academy of Engineering, and Institute of Medicine of the National Academies, *Rising above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future* (The National Academies Press, Washington DC, 2007). http://www.nap.edu/catalog.php?record_id=11463
2. National Academies of Sciences, Engineering and Medicine, *Developing a National STEM Workforce Strategy: A Workshop Summary* (Washington DC, The National Academies Press, 2016). doi: 10.17226/21900.
3. J.R. Franz, ed., *Physics Graduate Education for Diverse Career Options* (American Physical Society and the American Association of Physics Teachers, College Park MD, 1995).
4. Institute of Medicine, National Academy of Sciences, and National Academy of Engineering, *Expanding Underrepresented Minority Participation: America's Science and Technology Talent at the Crossroads* (Washington DC, The National Academies Press, 2011). ISBN-13: 978-0-309-15969-2 (PDF).
5. R.S. Gusewater and C.J. Dixon, *Advancing Diversity in the US Industrial Science and Engineering Workforce* (Washington DC, The National Academies Press, 2014). ISBN-13: 978-0-309-26505-8.
6. P.J. Mulvey and S. Nicholson, "Physics Bachelor's Degrees: Results from the 2010 Survey of Enrollments and Degrees." *Focus On*, September 2012, American Institute of Physics. <https://www.aip.org/sites/default/files/statistics/undergrad/bachdegrees-p-10.pdf>
7. N. Bernth, A. Bienenstock, K.S. Buiel, C. Fore, T. Hodapp, P. Rankin, C.M. Urry, S.J. Yemello, *Gender Equity: Strengthening the Physics Enterprise in Universities and National Laboratories*, results of an NSF Workshop, May 6-8, 2007 (College Park, MD, American Physical Society, 2009).

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*with thanks to Charles Gammie
who first articulated many of the "why"s*




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In this talk, we'll look at the why
and how of adding references to a
manuscript...




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Why cite other people's work?

- To give credit to others for their work
- To prove your credibility and demonstrate your familiarity with the problem
- To place an idea in context
- To establish authority for a claim
- To justify an assumption
- To distinguish your work from that of others and show the novelty and significance of your contributions




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Why cite your own work?

- To get credit for your own work
- To show how the work being reported is related to and builds on what you've already done


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Why else do readers need references?

- To evaluate the validity of your methods, your assumptions, and your conclusions
- To be able to investigate an idea in greater detail
- To be aware of alternative methods or conclusions

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Be absolutely objective in citing references, even ones that don't agree with you and from people you don't like


“...a specific, extra type of integrity that is not lying, but bending over backwards to show how you may be wrong, that you ought to have when acting as a scientist.”

—Richard P. Feynman
Surely You're Joking Mr. Feynman!

Failure to cite fairly is called *selective citation* and is a breach of professional standards

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 **What has to be cited?**


“...as first shown by Newton, $F = ma$.”¹ 

Exception for “common knowledge”
BUT
“common knowledge” is context dependent
field and subfield
audience
venue

Should it be cited? Err on the side of generosity!
(particularly if the author is still alive...)

¹Isaac Newton, *Philosophiae Naturalis Principia Mathematica* (London, 1687).


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 **Which citation?**

**Cite original, not derivative work, if possible—
minimizes risk of misinterpretation or error in
the secondary source**

**Cite the final, peer-reviewed version, not the
preprint (*Phys. Rev. D*, not arXiv)**

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Bad citation practices:


- Selective citation—incomplete, biased
- Citing inaccessible sources
- Citing papers you haven't actually read (!)
- Misrepresenting the cited paper
- Citing indiscriminately (the “core dump”)

“Literature references should not be tacked onto a manuscript ...instead, they need to be used with taste and judgment. Although some may consider references mere “window dressing”—something added to a manuscript to make it look scholarly—their misuse speaks loudly for itself...Such citations become annoying rather than illuminating.”

—Herbert B. Michaelson
How to Write & Publish Engineering Papers and Reports, 3rd ed.
(Oryx Press, 1990), p. 143.


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Now we'll look at how to format those citations...



How?

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Rule #1—Journals have their own idiosyncratic rules

Physical Review Letters—
[1] R.A. Smith, B.S. Handy, and V. Ambegaokar, *Phys. Rev. B* **63**, 094513 (2001).


Semiconductor Science and Technology—
[2] Chen C H, Tang C W, Shi J, and Klubek K P 2000
Thin Solid Films **363** 327

Astrophysical Journal—
McCullough, P. R., et al. 2006, *ApJ*, 648, 1228

Science—
11. A. J. Leggett, *Phys. Rev. Lett.* **25**, 1543 (1970).

TIP: Read the “instructions for authors” that are printed in the journal

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Rule #1—Journals have their own idiosyncratic rules

<https://journals.aps.org/prl/authors#techformat>

Technical Format and Style Guidelines
References and footnotes

Combine references and footnotes to text material in a single list, and number the items consecutively in the order in which they are cited. Designate references and footnotes in the text with inline numerals in square brackets.


The full author list of cited papers should be given in the references, except when the number exceeds 10 (for *Physical Review Physics Education Research* the limit is 3). When citations are made to internal reports, other items not available in the published literature, or unpublished work, it is the responsibility of the author to provide sufficient information to enable the reader to obtain a copy of the cited material. Citations to papers published in peer-reviewed journals are considered primary references. Citations to e-print archives should not be used in place of primary references. Citations to classified reports or other documents with restricted circulation should be avoided. All citations, including those cited in figure and table captions, should be listed in the reference section.

It is important to confirm the accuracy of the bibliographic information in the references. Links will be added to the cited document. If reference citations are incorrect or incomplete (e.g., missing author name, or an incorrect volume number or page), the associated links may fail.

Physical Review encourages authors to include titles for all references as an aid to the reader. If this format is used, it must be applied to all references. Please note that *Physical Review X*, *PRX Quantum*, *Physical Review Research*, *Physical Review Applied*, and *Physical Review Fluids* require all references to include titles.

TIP: Check the journal’s website for instructions

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Basic reference style for physicists:

[1] G. Baym, D.H. Beck, and C.J. Pethick, “Transport in very dilute solutions of ^3He in superfluid ^4He ,” *Phys. Rev. B* **88**, 014512/9 pp. (2021).

If more than five authors, you may use F. Author et al., but get in the habit of putting all author names in your citation manager—you’ll need them for proposals

Use AIP style for books, theses, patents, computer codes, websites, reports, and unpublished materials

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To title or not to title?

***Phys. Rev. Lett.*—**
[6] P. Nozières and D. Pines, *Phys. Rev.* **113**, 1254 (1959).

***Nature Physics*—**
9. Cronenwett, S. M., Oosterkamp, T. H. & Kouwenhoven, L. P. A tunable Kondo effect in quantum dots. *Science* **281**, 540–544 (1998).

TIP: Put titles and inclusive page numbers in your master bibliography—although you won’t need them for most journal papers, you *will* need them for some papers, proposals, and other docs

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How?

Don't make up your own abbreviations of journal names


The *AIP Style Manual*, Appendix G* has nine pages (two columns each) of abbreviations for journal names; use 'em

Or consult
<https://library.caltech.edu/reference/abbreviations/>

Essential to use standard abbreviations so the bibliographic information is recorded properly in the citation indexes

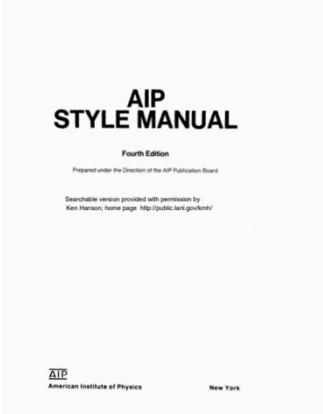
*https://courses.physics.illinois.edu/PHYS496/Resources/AIP_Style_4thed.pdf

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How?

Consult the AIP Style Manual for formatting styles



- Journal articles
- Books
- Chapters in books
- Paper in a proceedings
- Patent
- Thesis
- Computer code
- Technical report

Tip: Your discipline may differ; consult your adviser on best practice

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Journal article

A. Bezryadin, C.N. Lau, and M. Tinkham, *Nature* **404**, 971 (2000).

Authors' names are presented

First initial.Middle initial.<space>Surname

Journal name is not italicized

Journal volume is bold face

Issue numbers are not used (except when needed, e.g., *Physics Today*)

Publication year is enclosed in parentheses

Citation is followed by a period

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Distinctions are made among journal articles

Published article—

J.M. Smith, *Phys. Rev. B* **75**, 15 (2007).

Accepted for publication—

J.M. Smith, *Phys. Rev. B* (to be published).

Submitted for publication—

J.M. Smith, *Phys. Rev. B* (submitted).

Erratum—

J.M. Smith, *Phys. Rev. B* **75**, 706(E) (2007).

AIP Translation journals—

J.M. Smirnov, *Zh. Eksp. Teor. Fiz* **51**, 165 (1966) [*Sov. Phys. JETP* **24**, 11 (1967)].

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Book

Edward R. Tufte, *Visual Explanations* (Graphics Press, Cheshire, CT, 1997).

No comma before opening parenthesis mark
Parenthetical information is publisher, city of publication, and year of publication, in that order

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Chapter in a book

R.B. Fuller, “Defects in MoGe thin films,” in *Point Defects in Solids*, eds. J.H. Crawford, Jr. and L.M. Slifkin (Plenum, New York, 1972), Ch. 2, pp. 103–150

In U.S. usage—

Commas and periods go *inside* quotes

Semicolons and dashes go *outside* quotes

Question marks and exclamation marks go *inside* or *outside*, depending on whether the mark is part of what is being quoted

<http://people.physics.illinois.edu/Celia/MsP/QuotationMarks.pdf>

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Paper in a proceedings

Published as a book—

R.B. Jones, in *Proc. of the Workshop on Nuclear and Dense Matter, Urbana, 1977*, eds. G.A. Baym and V.R. Pandharipande (University of Illinois, Urbana, 1978), p. 195.

Not published—

R.B. Jones, in *Proc. of the Workshop on Nuclear and Dense Matter, Urbana, 1977*, eds. G.A. Baym and V.R. Pandharipande (unpublished).

Shortened title—

R.B. Jones, in *Nuclear and Dense Matter*, proceedings of the Workshop, Urbana, Illinois, eds. G.A. Baym and V.R. Pandharipande (University of Illinois, Urbana, 1978).

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Patent

Ghoshal; Uttam S., U.S. Patent No. 6,356,147 (March 12, 2002).

Thesis

D.L. Dalidovich, Ph.D. thesis, University of Illinois at Urbana-Champaign, 2001 (unpublished).

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Computer Code

Chris Denend et al., computer code DREAMWEAVER, v. 4
(Macromedia, Inc., San Francisco, CA, 2000).

Website*

Theoretical Biophysics Group, “Organization of energy transfer
networks in photosynthesis,”
<http://www.ks.uiuc.edu/Research/psres> (April
15, 2007).**

***Some editors will not accept URLs as references; NSF and NIH
do not allow URLs in project descriptions for proposals**

****Good practice is to include the date the material was
accessed**

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Reports

**Most reports are considered to be
“unpublished”**

R.E. Rowland, Argonne National Laboratory Report ANL/ER—
3, 1995 (unpublished).

**Those reports considered to be full publications
should omit the (unpublished) designation at
the end of the reference.**

D.H. Lassila, B.P. Bonner, V.V. Bulatov, J.U. Cazamias, and
E.A. Chandler, Lawrence Livermore National Laboratory
Report UCRL-TR-202805,
2004.

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What about citing websites?

Some editors will not accept URLs as references

NSF and NIH do not allow URLs in project descriptions for proposals

Good practice is to include the date the material was published/accessed

Anja Metelmann, “A superconducting qubit that protects itself.”
<https://physics.aps.org/articles/v14/25>
(17 February 2021; accessed 17 February 2021).

Theoretical Biophysics Group, “Mechanisms of protein synthesis by the ribosome.”
<http://www.ks.uiuc.edu/Research/ribosome/>
(Accessed 15 February 2021).

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What about citing websites?



VIEWPOINT

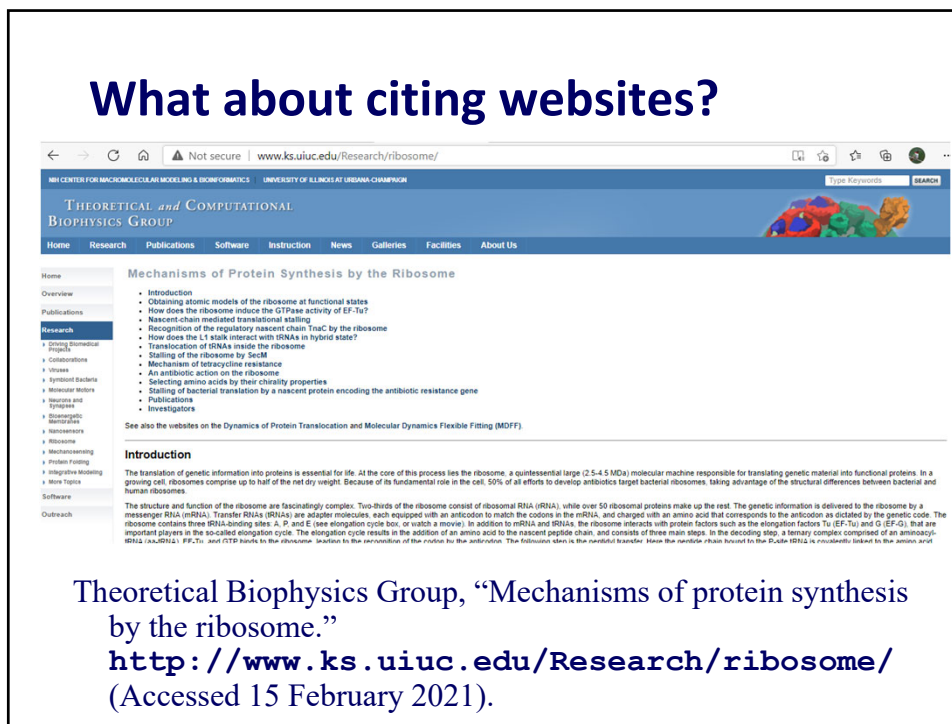
A Superconducting Qubit that Protects Itself

→ Anja Metelmann
Department of Physics, Free University of Berlin, Berlin, Germany
→ February 17, 2021 • *Physics* 14, 25

A newly proposed superconducting circuit architecture employs a synthetic magnetic field to create a qubit that is intrinsically protected from noise.

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What about citing websites?



Theoretical Biophysics Group, “Mechanisms of protein synthesis by the ribosome.”
<http://www.ks.uiuc.edu/Research/ribosome/>
(Accessed 15 February 2021).

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What about citing unpublished sources?

D.W. Hertzog, private communication.

H.R. Hughes, unpublished.

J. Kunkle, presented at the Undergraduate Research Symposium, Department of Physics, University of Illinois at Urbana-Champaign, Jan. 26, 2007 (unpublished).

TIP: Some editors will not accept papers that cite unpublished sources; use them very sparingly

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Consult the journal for preferred style of number call-outs in the text

In-line

Square brackets [1]; space before the first bracket

Punctuation goes after [1], [3], and [5].

Multiple refs separated by commas [2], [4], [6].

Serial refs indicated by an en dash [7–10].

Superscript

No parentheses or brackets; no spaces¹¹

Punctuation goes *before*.¹²

Multiple refs separated by commas.^{13,14,15}

Serial refs indicated by an en dash.^{16–19}

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Harvard referencing style

Call-outs are given by the last name of the author(s) and the date of publication

References are enclosed in parentheses unless the author's name is part of the sentence

“The α -model (Jones et al. 2004)...”

“According to Jones et al. (2004)...”

Items in the reference list are ordered alphabetically by the surname of the first author of each paper

Abel, T. 2002, *Science*, 295, 93

Yu, Q., & Tremaine, S. 2002, *MNRAS*, 335, 965

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To recap:

Cite responsibly

**No one-size-fits-all for reference style;
read the directions**

**Put all author names, article titles, and inclusive
page numbers in your master bibliography;
you will need them eventually**

**Choose a citation manager* that will
accommodate a number of different
referencing styles**

*q.v. [http://en.wikipedia.org/wiki/
Comparison_of_reference_
management_software](http://en.wikipedia.org/wiki/Comparison_of_reference_management_software)



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<http://physics.illinois.edu/people/Celia/>