

STYLE GUIDELINES

Certain journals have unwisely enacted different style requirements from these; those requirements perforce must supersede these for publication in those journals.

We did the experiment. We did not come in one morning to find to our surprise that the experiment had been done and that the analysis was written up and submitted to *The Physical Review*. We write in the active voice. Exhibit A lists a few well-known papers that follow this rule.

The analysis being presented is presented in the present tense. Events that occurred prior to performing the analysis being presented (e.g. detector design, or results published in the past) are explained in the past tense. There is one exception: in a blind analysis, the past tense may be used to distinguish the time before the blinders were removed from the result being presented.

We are a collaboration in more than name, and of more than one person. For example, one does not apply a cut on the number of hits in the kaon RICH. We apply a cut on the number of hits in the kaon RICH. On peut ignorer cette règle en écrivant en français. The (now rare) single author should use "I" rather than "we", unless he suffers from multiple personality disorder.

Readers of the *Physical Review* have a remarkable level of mathematical literacy. We do not have to spell out small integers for them, although we might choose to do so for 0 and 1. Also, we do not have to save them the trouble of determining what some specific value (e.g. that 0.005%) means in colloquial terms ("not very many"). Just give them the number.

When giving a number, give the uncertainty of the number unless you are not actually doing science.

If you are unsure you probably should use the word "uncertainty". If, in retrospect, you are quite certain then perhaps the word "error" is more appropriate.

The usage of our theoretical colleagues notwithstanding, a "prediction" is appropriate only for quantities not yet measured.

The apostrophe is for possessives, not for contractions. The exception is it, which lacks an apostrophe in the possessive "its".

Conduct which hunts. Replace "which" with "that" except in nonessential clauses. Write "the horse, which is in the paddock, is six years old" to indicate the age of a horse that by chance happens to be in the paddock; "the horse that is in the paddock is six years old" to indicate that the specific horse now in the paddock, is six years old.

Figure captions are sentences at least, if not entire paragraphs. Sentences have periods, and so do captions. Section headings are not sentences and consequently do not have periods.

Acronyms and special terms are given in parenthesis after their first definitions; following that point in the paper, only the defined acronym or term may be used, and not the longer description that it replaces. Do not use acronym for terms used less than 2 times following the definition; an exception might be made if the acronym is a term of the art that the reader might well have encountered before reading your paper.

Usage of the following words and phrases should be examined for anaphoric resolution issues: it, they, this, shown above, the preceding, given below.

When presenting an itemized list, follow each item with a semicolon except for the final item and the penultimate item. Put a period at the end of the final item and a comma with either "and" or "or" at the penultimate item.

When listing without itemizing, place a comma after each term except the penultimate. For example, "red, green and black." A comma after the penultimate term should be used if publishing in a journal published at a place named Oxford, e.g. Progress of Theoretical Physics, or The Ole Miss Alumni Review.

Do not sprinkle, your writing, with commas, like salt, on a steak.

Like-wise the hy-phen.

The need to meet strict length requirements justifies neither failure to keep related words together nor failure to present information in parallel constructions when appropriate.

When writing for journals without strict length requirements we may include topics, but not words, that would not fit in a shorter article. For

example, an entire paragraph describing the tracking algorithm may merit inclusion but the contentless phrase "note that" does not.

The author who was not thoughtful enough to run a spell checker is not likely to be an author thoughtful enough to be worth reading.

Paragraphs are separated with blank lines and are not indented. There is no need to make them more than a single sentence long. Sections are separated with a larger blank space than paragraphs. Figures, tables, and equations that are not embedded in the text are separated by a blank line both above and below them (including the caption) and are centered.

Equations that are not embedded in the text must be numbered.

Symbols and acronyms defined in the course of a sentence are surrounded by parenthesis.

Use parentheses to describe parallel options, e.g. "The distance between the primary and secondary vertex in $\gamma + b(c)$ events is typically 3(1) mm."

Figure, Table, Section, Reference, and Equation are always capitalized and never abbreviated.

Feel free to put a mathematical symbol at the start of a sentence.

Stop signs do not have time for serifs, never mind swash. Neither do you. Lucida fonts are more readable than Helvetica fonts, although a little less widely distributed.

As a rule, lower case Roman letters used as mathematical symbols are italic and have serifs; upper case or bold font Roman letters in this situation have serifs and can but need not be italic. For Greek letters, the decision to use italics may be based on their appearance in the available font. Sub and superscripts need not follow the italic and serif status of the symbol which they modify.

In some cases, lower case Roman letters in equations will not be italic. These cases are: units, such as g or keV; chemical elements such as Au or S; numbers and the "d" in differentials (e.g. $d\phi$). In MS Word, text in an equation can be made upright with Style > Text.

Chemical elements (or compounds, for that matter) are not capitalized in a sentence, but are when they appear as a symbol. For example, "Pure ^{106}Cd is needed for sensitivity to double β decay, but all we had to work with was a pile of old nickel-cadmium batteries."

Dimensions are separated from their numbers by a space, or by a half-space if it is available. In MS Word, highlight the space and click “Format > Font > Character Spacing”; then “Spacing > Condensed > 2.5 pt”. The half-space is 1/6 of an em in the MS Equation Editor. The % symbol is an exception; it is not preceded by a space.

Unary operators such as \pm and $-$ are not followed by a space.

Do not hyphenate dimensions. A GeV cm^{-3} is a GeV multiplied by a cm^{-3} . A GeV-cm^{-3} is nonsense; cm^{-3} can not be subtracted from GeV.

Sentences are separated by two spaces.

Dates are of the form 15 Mar 44 BC. In many cases of course, the year is a 4 digit number and “AD” is not needed.

Do not capitalize the term “standard model”, except at the beginning of a sentence. It may indeed refer to the sum of all human knowledge in our field, accumulated with much pain and great labor; yet what a pathetically small sum that is indeed.

All the more so for “minimal supersymmetric standard model”.

The speed of light is 1. The mass and momentum of subatomic particles is given in electron volts or convenient multiples thereof.

There is no such thing as transverse energy. Energy is a scalar and has no components whatsoever, let alone transverse components. There are transverse components to the momentum as measured in the calorimeter.

Our readers are know the symbology for subatomic particles. You do not need to remind them that a Z is a boson. The neutrino symbol ν should not carry a subscript or overline unless necessary for understanding.

Citations are of the form <author>, <journal> **volume**, page (year)., including the trailing period. Multiple references per citation are separated by semicolons. The <author> might be of the form <name> for <collaboration> in the case of a conference proceeding, or <name> *et. al.* (The <collaboration> collaboration). Use *et. al.* for 5 or more authors; do not use *ibid.* For preprints, use hep-ph/XXXXXXX; if it predates the electronic preprint archives, try to select the preprint number that corresponds to the principal author’s home institution and

include the title prior to the preprint number. For web sites, give the site name in *Courier* or a similar font.

Specific terms to prefer:

- “simulation” – not “Monte Carlo”, which is a city, nor “Monte Carlo simulation” which is often redundant usually;
- “minimally ionizing” – not “minimum ionizing”;
- “Bethe–Bloch” – not “Bethe Bloch”, since Bethe was not Dr. Bloch’s first name;
- “cross section” – not “cross–section”
- “two–photon” – not “two photon”;
- “pseudorapidity” – not pseudo–rapidity;
- “primary vertex”, “secondary vertex”, “tertiary vertex” , or “interaction point”, “*B* decay point” etc. if the interpretation of the reconstructed object is meant – Not “detached vertex”;
- “4–momentum” – not “four–momentum” or “four momentum”;
- “branching ratio product” – not “product branching ratio”.

EXHIBIT A

The Theory of Magnetic Monopoles, P.A.M. Dirac (1948)

Theory of the Fermi Interaction, R.P. Feynman and M. Gell–Mann (1957)

The Relativistic Theory of the Non–Symmetric Field, A. Einstein (1958)

Spontaneous Symmetry Breakdown without Massless Bosons, P.W. Higgs (1965)