

Preparing contributions to CERN reports (school, workshop, and conference proceedings) (Title style)

The DTP Section (Author style)

CERN, Geneva, Switzerland (Affiliation style)

Abstract (Abstract heading style)

This paper lays out the rules for authoring CERN Reports which are treated by the CERN DTP. (Abstract body style)

1 Introduction (Heading 1 style)

To ensure consistency and uniformity in the style and layout of CERN Reports, authors must observe the instructions detailed in the present paper. (First paragraph style)

Appendix A lists the styles needed in *Microsoft Word* to format your contribution correctly. (Paragraph style)

Appendix B contains a summary of the guidelines.

Note that it is the author's responsibility to obtain permission from the copyright holder if material taken from other sources is included in the source submitted for a CERN Report.

2 Generalities on typing

If you submit your electronic source in LaTeX, you must use the cernrep class file available from the DTP website (<http://cern.ch/DTP>). If, for any reason, you cannot use the class file (LaTeX) or the template (*Word*) provided, following the instructions given below will ensure that your contribution looks as it should. Specific instructions for preparing contributions in *Word* are given in Appendix A.

Please note that if the electronic file supplied does not print out well, we may ask for a good-quality paper original.

2.1 Format for the text (Heading 2 style)

Type within a text frame of 16 cm × 24 cm (i.e. on A4 size paper, with 3.0 cm margins at the top and at the bottom, and 2.5 cm on the left and right). Fill the frame completely. Do not start a new section on a new page, but continue on the same page. References to page numbers should not be made within the text, as the pages of each contribution will be renumbered for the final Report. Reference can be made to section numbers, e.g., 'see Section 3.1'.

Use the following point sizes:

- 14 and bold lower-case characters except for the first letter and proper names for the title
- 11 and italic lower-case characters for the names of the authors and for emphasis in the text (rather than underlining)
- 12 and bold lower-case characters for the section headings (level 1 headings)
- 11 and bold lower-case characters for the subsection headings (level 2 headings)
- 11 and bold italic lower-case characters for the sub-subsection headings (level 3 headings)
- 11 and italic lower-case characters for the sub-sub-subsection headings (level 4 headings)

- 11 and plain lower-case characters for the body of the text
- 10 and plain lower-case characters for the captions to figures and tables
- 9 and plain lower-case characters for footnotes.

The text should be typed using line spacing exactly 13 points. Paragraphs should be indented by 1 cm, except for the first paragraph after a heading, which is not indented, and all paragraphs should be right and left justified.

If for any reason you cannot use the template, leave two lines (26 points) of space above the level 1 headings. Leave one line (13 points) of space above headings of levels 2–4. Leave half a line (6 points) of space above paragraphs and above entries in the list of references.

3 Parts of the text

3.1 Abstract

Your contribution should be preceded by an abstract of not more than 150 words, written as a single paragraph and indented by 2 cm on either side, as above.

3.2 Equations

Equations should be treated as part of the text, and therefore punctuated (with a space between the end of the equation and the punctuation mark). Equations are numbered consecutively, with the number enclosed in parentheses and placed flush with the right-hand margin. References to them in the text should be of the form ‘Eq. (3), Eqs. (7) and (8), Eqs. (3)–(5)’, or ‘Equation (3)’ at the beginning of a sentence.

Equations may be written using the equation editor provided in *Word*. Using the style ‘equation’ you can use the tab key to insert the equation (centred) and then the number flush with the right-hand margin.

3.3 Figures

3.3.1 How to supply figures (heading 3 style)

Figures must be prepared electronically. Make sure that the image is of high quality when printed (in black and white) and is of high enough resolution (min. 300 dots per inch). We accept EPS, PICT, TIFF, PNG, PDF, and JPEG files. *Encapsulated PostScript (EPS) files are preferred*. In any case, send us your illustrations in their original format (PNG, JPEG, etc.), do not reprocess them yourself.

All lines should be heavy enough (min. 0.75 point) and all figures, decimal points, symbols, etc., large enough and sufficiently spaced to ensure clarity when printed at the final size. If using colour, please ensure that the figure prints clearly in greyscale and adapt your text knowing that the difference between coloured items when reproduced in grey is not obvious. Avoid photographs whenever possible; where necessary, please supply high-resolution scanned images or good glossy prints.

As already mentioned, before using material such as illustrations taken from other sources, do not forget to obtain permission from the copyright holder.

3.3.2 Positioning and layout

Figures should not be included in the text, but a ‘place holder’ may be indicated for placement purposes. *The graphic files for each of the individual figures must be provided separately.*

Instructions on the handling of figures in the context of *Word* are given in Appendix B.

3.3.2.1 *Figure captions (heading 4 style)*

Figure captions should be brief and placed centrally *below* the illustration, e.g., '**Fig. 3:** A short title'. No full stop is necessary unless the caption is more than one sentence long, in which case full punctuation should be used. Captions should be typed in point size 10.

3.3.3 *References to figures*

All figures must be referred to in the text in consecutive numerical order and should, for example, be referred to as 'Fig. 3, Figs. 3–5', or 'Figure 3' at the beginning of a sentence. Figures with several parts are cited as follows: 'Fig. 2(a) and (b), Figs. 3(a)–(c)'. Figures and illustrations *should follow* the paragraph in which they are first discussed. If this is not feasible, they may occur on the following page.

3.4 **Tables**

All tables must be referred to in the text in consecutive numerical order. Tables should be referred to as 'Table 1, Tables 2–7'. (The word 'Table' should never be abbreviated.)

3.4.1 *Positioning and layout of the table*

Each table should be centred on the page width, with a table number and brief caption in point size 10 typed *above* it.

Tables should be open, drawn with a double thin horizontal line (3/4 pt) at the top and bottom, and a single horizontal line (3/4 pt) separating column headings from data.

3.4.2 *Formatting and layout within the table*

Write the column headings in sentence case but do not use full stops. Units should be entered in parentheses on a separate line below the column heading. (If the same unit is used throughout the table, it should be written in parentheses on a separate line below the caption.)

Unsimilar items should be aligned on the left, whereas similar items should be aligned on the operator or decimal point. All decimal points must be preceded by a digit.

3.4.2.1 *Table captions*

Table captions should be brief and placed centrally *above* the table, e.g., '**Table 1:** A short title'. No full stop is necessary unless the caption is more than one sentence long, in which case full punctuation should be used. Captions should be typed in point size 10.

3.4.2.2 *Notes in the table*

Notes in tables should be designated by superscript lower-case letters, and begun anew for each table. The superscript letter should be placed in alphabetical order moving from left to right across the first row and down to the last. The notes should then be listed directly under the table.

References cited in tables should appear in consecutive numerical order, following the order explained above for notes (left to right, top to bottom). They should appear exactly as references cited in the main body of the document (and be treated as part of the text in terms of numbering, so be careful when moving tables containing references).

3.5 Bibliographical references

References should be cited in the text using numbers within square brackets: ‘example [1], example [1, 2], example [1–5]’, or ‘see Ref. [1], Refs. [1–5]’. The word ‘Reference’ should be written in full if this word occurs at the beginning of a sentence. References should appear in consecutive numerical order in the text and should be listed in numerical order at the end of the text. Punctuation can be used either within or outside the brackets, but please ensure that one method is used consistently throughout the contribution.

3.5.1 List of references

Unless you are near the bottom of the last page of text, do *not* start a new page for the list of references, but continue on the same page. The list of references should appear as an unnumbered subsection, entitled ‘References’. The references themselves are numbered automatically. Note that in the list of references it is unnecessary to state the title of an article or chapter in proceedings or in a collection of papers unless a page number cannot be quoted, e.g., for forthcoming publications.

For abbreviations of names of journals quoted in the references, see the *Journal abbreviations* entry available from the DTP Web page at the URL <http://cern.ch/DTP/dtpgrammar.htm>¹. The entry *Citation of references* on the same Web page shows more details on how to present references.

If you need to provide a bibliography, this should come after the list of references.

If you have appendices with references cited therein, the list of references must follow the appendices. If no references are cited in the appendices, the list of references precedes the appendices.

3.6 Footnotes

Footnotes are to be avoided. If absolutely necessary, they should be brief, and placed at the bottom of the page on which they are referred to, in point size 9. The footnote marker should be placed *inside* any punctuation mark. Take care when citing references in the footnotes to ensure that these are correctly numbered.

3.7 Appendices

Each appendix should be laid out as the sections in the text. Appendices should be labelled alphabetically and be referred to as Appendix A, Appendices A–C, etc. Equations, figures and tables should be quoted as Eq. (A.1) and Fig. A.1, etc.

3.8 Acknowledgements

If required, the acknowledgements should appear as an unnumbered subsection immediately before the references section.

4 Spelling and grammar

For more information on English grammar rules and commonly misused words and expressions (including a guide to avoiding ‘franglais’), please see the files available from the DTP Web pages (<http://cern.ch/DTP>).

4.1 Spelling

CERN uses British English spelling, and ‘-ize’ rather than ‘-ise’. Here we provide a few examples for guidance:

¹ The Reviews of Modern Physics site: <http://rmp.aps.org/info/manprep.html> also has a list. (footnote style)

- il fulfil (not fulfill)
- re centre (not center), metre (not meter for length)
- our colour (not color)
- gue catalogue (not catalog, but analog is used in electronics)
- mme programme (not program, unless referring to a computer program)
- ell- labelled (not labeled)
- ce/-se licence (noun), license (verb), practice (noun), practise (verb)
- ize organization, authorize.

Exceptions to the ‘-ize’ rule include advise, comprise, compromise, concise, demise, devise, enterprise, exercise, expertise, improvise, incise, precise, revise, supervise, surmise, surprise, televise.

4.2 Punctuation

4.2.1 *Hyphen*

Hyphens are used to avoid ambiguity, i.e., in attributive compound adjectives (compare ‘a little used car’ and ‘a little-used car’), to distinguish between words such as ‘reform’ (change for the better) and ‘re-form’ (form again), and to separate double letters to aid comprehension and pronunciation (e.g., co-operate).

Hyphens are also used if a prefix or suffix is added to a proper noun, symbol, or numeral, and in fractions: e.g., non-Fermi, 12-fold, three-quarters.

4.2.2 *En dash*

En dashes are used to mean ‘and’ (e.g., space–time, Sourian–Lagrange) or ‘to’ (e.g., 2003–2004, input–output ratio).

4.2.3 *Em dash*

An em dash is used as a parenthetical pause. Simply type with no space on either side (Word will automatically insert a thin space), e.g., ‘the experiment—due to begin in 2007—represents a major advance...’.

4.2.4 *Quotation marks*

Double for true quotations, single for anything else. Single within double for a quotation within a quotation. Our preferred method of punctuation around quotation marks is to place punctuation marks (except an exclamation mark, question mark, dash or parenthesis belonging only to the quotation) *outside* the quotation marks, to avoid any ambiguity: Oxford has been called a ‘Home of lost causes’.

4.2.5 *Apostrophe*

Do not use in plural acronyms (e.g., JFETs), decades (1990s). Do use in plural Greek letters and symbols (e.g., π 's).

4.2.6 *Colon, semicolon, exclamation mark, question mark*

Please note that in English these punctuation marks do not require a space before them.

4.3 Lists

In a series of three or more terms, use a comma (sometimes called the serial comma) before the final ‘and’ or ‘or’ (e.g., gold, silver, or copper coating). In a run-on list, do not introduce a punctuation mark between the main verb and the rest of the sentence. Avoid the use of bullet points.

For a displayed list there are two options:

- i) finish the introductory sentence with a colon, start the first item of the list with a lower-case letter, finish it with a semicolon, and do the same for all items until the last, where a full stop is placed at the end of the text (as here); (item list style)
- ii) finish the introductory sentence with a full stop, start the first item with a capital letter and finish it with a full stop, and do the same for the remaining items.

4.4 Capitalization

Capitalize adjectives and nouns formed from proper names, e.g., Gaussian. Exceptions to this rule include units of measure (ampere), particles (fermion), elements (einsteinium), and minerals (fosterite) derived from names. Capitalize only the name in Avogadro’s number, Debye temperature, Ohm’s law, Bohr radius.

Never capitalize lower-case symbols or abbreviations. When referring to article, paper, or report, column, sample, counter, curve, or type, do not capitalize.

Do capitalize Theorem I, Lemma 2, Corollary 3, etc.

4.4.1 Acronyms

In the first instance, spell out the acronym using capital letters for each letter used in the acronym, and provide the acronym in parentheses, e.g., Quark–Gluon Plasma (QGP).

4.5 Numbers

Spell out numbers 1 to 9 unless they are followed by a unit or are part of a series containing the number 10 or higher (as here); numbers are always in roman type. Numbers should always be written out at the beginning of a sentence.

4.6 Symbols

Names of particles, chemicals, waves or states, covariant couplings and monopoles, and mathematical abbreviations are all written in roman type,

Symbols of variables (i.e. anything that can be replaced by a number) should be typed in *italics*.

Take care that this is consistent throughout the contribution.

4.7 Units

Symbols for units are printed in roman type. Symbols for units derived from proper names are written with capital letters (e.g., coulomb, 6 C). Insert a *non-breaking space* between the number and the unit, unless it is % or a superscript (e.g., 10 cm, 100 GeV, 20%, 27°C). Write the unit out in full in cases such as ‘a few centimetres’.

Please see the file on symbols and units, available from the DTP Web pages, for a list of abbreviations for the most commonly used units².

² NIST also has a useful summary on the subject, see <http://physics.nist.gov/cuu/Units/>.

Appendix A: Styles for *Microsoft Word* (Appendix heading 1 style)

We accept contributions prepared on a Macintosh or PC using *Word* (version 2001 or later).

Table A.1 lists the styles to be used in formatting each part of your contribution.

Table A.1: List of styles to be used in preparing contributions in *Word* (Table caption style)

Style name	Part of contribution (Cell heading style)
Title	Title of the contribution
Author	Names of the authors
Affiliation	Affiliation of the authors
Abstract heading	Abstract heading
Abstract body	Text of abstract
1 Heading 1	Section heading (level 1 heading) numbered
1.1 Heading 2	Subsection heading (level 2 heading) numbered
1.1.1 Heading 3	Subsubsection heading (level 3 heading) numbered
1.1.1.1 Heading 4	Subsubsubsection heading (level 4 heading) numbered
Section	Section heading (level 1 heading) unnumbered
Subsection	Subsection heading (level 2 heading) unnumbered
First paragraph	Text following all numbered and unnumbered heading
Paragraph	Other text
Item list	List (to be used for itemized list)
Figure caption	Figure number and caption
Figure	Figure (to be used when inserting figures in the text)
Table caption	Table caption
Cell heading	Cell heading in table
Cell body	Cell text in table
Equation	Numbered equation
References	List of references
Footnote	Footnote
A Appendix heading 1	Appendix section heading (level 1 heading) numbered manually
A.1 Appendix heading 2	Appendix subsection heading (level 2 heading) numbered manually
A.1.1 Appendix heading 3	Appendix subsubsection heading (level 3 heading) numbered manually
A.1.1.1 Appendix heading 4	Appendix subsubsubsection heading (level 4 heading) numbered manually

A.1 Obtaining the template file and making your contribution available (Appendix heading 2 style)

You can find the instructions as a *Word* template file (cernrep.dot) and an example (cernrepexa.dot) at the URL <http://cern.ch/DTP/dtpcernreport.htm>.

Please contact the editors to determine the best way to submit your contribution.

Appendix B: Guidelines for *Microsoft Word* files

While articles may be submitted in *Word* format, we have found the use of *Word* files in production to be problematic. To minimize possible problems, please observe the following guidelines.

1. Use *Word* 2001 or later.
2. Use MathType for both displayed (stand-alone) equations and mathematics run into the text, including individual mathematical symbols, Greek letters, and other special characters not found on the keyboard.
3. Do not embed graphics in the text. We require separate electronic figure files (EPS, PICT, TIFF, PNG, PDF, and JPEG). A 'place holder' may be indicated for placement purposes.
4. Please, keep it simple. Do not change fonts or try to achieve a 'typeset' look. Final page layout is done by the DTP. Use exclusively the styles described in the present paper and summarized in Table A.1.
5. Do the references 'by hand', without using an external program. The entry *Citation of references* on the Web page at the URL <http://cern.ch/DTP/dtpgrammar.htm> shows how to present references. The entry *Journal abbreviations* on the same Web page gives the correct abbreviations for names of journals quoted in the references.
6. Do not hide text or insert comments into the text.
7. For tables, use the *Word* table editor. Do not create 'by hand' using tab stop or spaces.
8. Do not use Rich Text Format.