

Template demonstrating the quantumarticle class

Lidia del Rio¹, Christian Gogolin², and Marcus Huber³

¹Institute for Theoretical Physics, ETH Zurich, Switzerland

²ICFO-Institut de Ciències Fòniques, The Barcelona Institute of Science and Technology, 08860 Castelldefels (Barcelona), Spain

³Institute for Quantum Optics & Quantum Information (IQOQI), Austrian Academy of Sciences, Boltzmanngasse 3, Vienna A-1090, Austria

August 23, 2016

In the standard, twocolumn, layout the abstract is typeset as a bold face first paragraph. Quantum also supports a onecolumn layout with the abstract above the text. Both can be combined with the titlepage option to obtain a format with dedicated title and abstract pages that are not included in the page count. This format can be more suitable for long articles. The abstract environment can appear both before and after the `\maketitle` command and calling `\maketitle` is optional, as long as there is an abstract. Both abstract and `\maketitle` however must be placed after all other `\author`, `\affiliation`, etc. commands.

In the `twocolumn` layout and without the `titlepage` option there can be a paragraph directly following the abstract before the first section. In `onecolumn` format or with a dedicated `titlepage`, this should be avoided.

1 Sectioning and equations

Sections, subsections, subsubsections, and paragraphs should be typeset with the standard LaTeX commands. You can use the standard commands for equations. For multi-line equations `align` is preferable over `eqnarray`.

$$E = mc^2 \quad (1)$$

$$a^2 + b^2 = c^2 \quad (2)$$

$$H|\psi\rangle = E|\psi\rangle \quad (3)$$

$$(\mathbb{1} \otimes A)(B \otimes \mathbb{1}) = A \otimes B \quad (4)$$

Whether you prefer to refer to equations as Eq. (1), Equation 1, or just (1) is up to you, but please be consistent.

Paragraphs The paragraph is the smallest unit of sectioning. Feel free to end the paragraph title with

Christian Gogolin: `latex@quantum-journal.org`, `http://quantum-journal.org`, You can use the `\email`, `\homepage`, and `\thanks` commands to add additional information for the preceding `\author`. It is displayed, together with the author name, at the bottom of the first page.

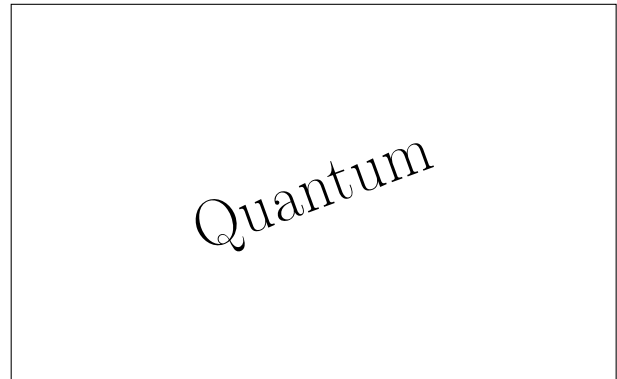


Figure 1: Every figure must have an informative caption and a number. The caption can be placed above, below, or to the side of the figure, as you see fit. The same applies for tables, boxes, and other floating elements.

a full stop if you find this appropriate.

1.1 Footnotes and references

Footnotes¹ appear in the bottom of the page. References to other works [1] appear in the References section at the end of the work. You can manually format your citations or use BibTeX, BibLaTeX, or any other package, as you see fit. Feel free to use a citation and bibliography style that you deem appropriate for your work. Important: As a cutesy to your readers, please include click-able links, preferably using the DOI of the cited work, or, if this is not available/applicable, to the arXiv page, for all citations.

1.1.1 Figures

See Fig. 1 for an example of how to include figures. Feel free to place them at the top or bottom of the page, or in the middle of a paragraph as you see fit. Try to place them on the same page as the text referring to them.

¹Only use footnotes when appropriate.

2 Summary section

Longer articles should include a section that, early on, explains the main results, their limitations, and assumptions. Depending on the target audience this section can be used to, for example, present the main theorem, or provide a summary of the results for a wider audience.

3 Extra packages

Quantum encourages to load the following extra packages:

```
\usepackage[utf8]{inputenc}
```

```
\usepackage[english]{babel}
\usepackage[T1]{fontenc}
\usepackage{amsmath}
\usepackage[pdftex]{hyperref}
```

Packages that change font settings, such as **times** or **helvet** should not be loaded.

4 Wide equations

Very wide equations can be shown expanding over both columns using the **widetext** environment. In **onecolumn** mode, the **widetext** environment has no effect.

$$|\text{AME}(n=6, q=5)\rangle = \sum_{i,j,k=0}^4 |i, j, k, i+j+k, i+2j+3k, i+3j+4k\rangle \quad (5)$$

References

[1] Foo and Bar, Quantum **123**, 123456 (2016).

A First section of the appendix

Quantum allows the usage of appendices. Appendices should appear after the main References.

A.1 Subsection

Ideally, the command `\appendix` should be put before the appendices to get appropriate section numbering. The appendices are then numbered alphabetic, with numeric (sub)section numbering. Equations continue to be numbered sequentially.

$$A \neq B \quad (6)$$

You are free to change this in case it is more appropriate for your article, but a consistent and unambiguous numbering of sections and equations must be ensured.

B Problems and Bugs

In case you encounter problems using the article class please consider opening a bug report in our bug-tracker under <https://github.com/cgogolin/quantum-journal/issues> or contact us via email under latex@quantum-journal.org.