Documentation of quantumarticle.cls

Contents

1   Introduction

The quantumarticle document class is suggested for papers that will be submitted to Quantum –
the open journal of quantum science. It is based on the widely used article document class and
designed to allow a seamless transition from documents typeset with article, revtex and elsarticle
document classes.

2   Typesetting documents

2.1   Recommended structure

2.2   Sectioning

Sections, subsections, subsubsections, and paragraphs should be typeset with the standard LaTeX
commands. The paragraph is the smallest unit of sectioning. Feel free to end the paragraph title
with a full stop if you find this appropriate.

2.3   Equations

You can use the standard commands for equations. For multi-line equations `align` is preferable
over `eqnarray`, please refrain from using the latter. For complex equations you may want to
consider using the `IEEEeqnarray` environment from the `IEEEtrantools` package.

How you refer to equations is up to you, but please be consistent and use the `\eqref{...}`
command instead of writing (`\ref{...}`).

As a courtesy for your readers and referees, please suppress equation numbers only if there is
a specific reason to do so, to not make it unnecessarily difficult to refer to individual results and
steps in derivations.

2.4   Floats

Every floating element 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.

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. A figure on the first
page can help readers remember and recognize your work more easily.

2.4.1   Figures

Figures are typset using the standard `figure` environment for single-column figures and `figure*`
for multi-column figures.

2.4.2   Tables

TODO: Do we support table / table*?

2.5   Plots

Quantum provides a Jupyter notebook to create plots that integrate seamlessly with `quantumarticle`.

3   Package options

The quantumarticle document class provides a multitude of package options that change the appearance of the final document to the liking of the user.

Default options that need not be given are marked with (*). Options that are only provided for compatibility reasons and that will not alter the typesetting of the document are written in gray font.

3.1   Document setup

3.1.1   Document format

The document class does not specify a default document format, an error is raised if none is specified.

Option	Description
a4paper	Sets the paper size to ISO A4.
a5paper	Sets the paper size to ISO A5.
b5paper	Sets the paper size to ISO B5.
letterpaper	Sets the paper size to ANSI Letter.
legalpaper	Sets the paper size to ANSI Legal.
executivepaper	Sets the paper size to ANSI Executive.

3.1.2   Orientation

By default, the orientation is portrait.

Option	Description
landscape	Sets the orientation of the document to landscape.

3.1.3   Fontsize

By default, the fontsize is 10pt.

Option	Description
10pt (*)	Sets the normal fontsize to 10pt.
11pt	Sets the normal fontsize to 11pt.
12pt	Sets the normal fontsize to 12pt.

3.1.4   Sides

By default, the setting is oneside.

Option	Description
oneside (*)	Prepares the document as onesided.
twoside	Prepares the document as twosided.

3.1.5 Titlepage

By default, the document class is typset with no extra titlepage.

Option	Description
`titlepage`	Displays the title on a separate titlepage.
`notitlepage`	Displays the title on the same page as the text.

3.1.6 Draft

By default, the document class is typset as final.

Option	Description
`draft`	Marks the document as a draft.
`final (*)`	Does not mark the document as a draft.

3.2 Style options

3.2.1 Equations

By default, equations are typset centered, with equation numbers on the right. TODO: Clear fleqn behaviour

Option	Description
`fleqn`	Display equations left aligned.
`leqno`	Display equation numbers to the left of the equation.

3.2.2 Bibliography

Option	Description
`openbib`	TODO: Find out what openbib does.

3.3 Pre-loaded packages

The document class only loads packages necessary for its operation, such as `geometry` or `hyperref`. For compatibility reasons, there are commands that load certain widely used classes for the user.

Option	Description
`amsfonts`	Load the package `amsfonts`.
`noamsfonts`	Don't load the package `amsfonts`.
`amssymb`	Load the package `amssymb`.
`amssymbol`	— " —
`noamssymb`	Don't load the package `amssymb`.
`amsmath`	Load the package `amsmath`.
`noamsmath`	Don't load the package `amsmath`.

3.4 Publication

By default, all documents that are created with the `quantumarticle` documentclass are treated as possible submissions to Quantum.

Option	Description
`accepted=YYYY-MM-DD`	Adds the note 'Accepted in Quantum YYYY-MM-DD' to the document.
`unpublished`	Intended for works that are not published in Quantum. Disables all Quantum-related branding.
`noarxiv`	Intended for works that are not meant to be uploaded to the arXiv. Disables all arXiv-related sanity checks in the document. This option also sets `unpublished`.

3.5 Compatibility

The `quantumarticle` class aims to be maximally compatible with documents that were previously typset with other document classes. For this reason, a lot of options are present for the sole purpose of compatibility but don't have an effect on how your document will be typset. These include:

Option	Description
`checkin`	No effect.
`preprint`	— " —
`reprint`	— " —
`manuscript`	— " —
`noshowpacs`	— " —
`showpacs`	— " —
`showkeys`	— " —
`noshowkeys`	— " —
`balancelastpage`	— " —
`nobalancelastpage`	— " —
`nopreprintnumbers`	— " —
`preprintnumbers`	— " —
`hyperref`	— " —
`bibnotes`	— " —
`nobibnotes`	— " —
`footinbib`	— " —
`nofootinbib`	— " —
`altaffilletter`	— " —
`altaffilsymbol`	— " —
`superbib`	— " —
`citeautoscript`	— " —
`longbibliography`	— " —
`nolongbibliography`	— " —
`eprint`	— " —
`noeprint`	— " —
`author-year`	— " —
`numerical`	— " —
`galley`	— " —
`raggedbottom`	— " —
`tightenlines`	— " —
`lengthcheck`	— " —
`reprint`	— " —
`eqsecnum`	— " —
`secnumarabic`	— " —
`floats`	— " —
`stfloats`	— " —
`endfloats`	— " —
`endfloats*`	— " —
`osa`	— " —
`osameet`	— " —

opex	— ” —
tops	— ” —
josa	— ” —
byrevtex	— ” —
floatfix	— ” —
nofloatfix	— ” —
ltxgridinfo	— ” —
outputdebug	— ” —
raggedfooter	— ” —
noraggedfooter	— ” —
frontmatterverbose	— ” —
linenumbers	— ” —
nomerge	— ” —
hypertext	— ” —
frontmatterverbose	— ” —
inactive	— ” —
groupedaddress	— ” —
unsortedaddress	— ” —
runinaddress	— ” —
superscriptaddress	— ” —
aps	Triggers revtex compatibility mode
pra	— ” —
prb	— ” —
pre	— ” —
prl	— ” —
prx	— ” —
aip	— ” —

4 Contributing

In case you encounter problems using the article class please consider opening a bug report in our bug-tracker on GitHub. You can also contact us via email under `latex@quantum-journal.org`, but it may take significantly longer to get a response. In any case we need the full source of a document that produces the problem and the log file showing the error to help you.

Improvements submitted as pull requests against the development branch are very much appreciated!

5 Copyright

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