ZAA style author's guide

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1 Introduction

The ZAA class file `zaa.cls` provides a LaTeX 2ε document class which is used to produce the final, camera-ready version of the manuscript. (It is scaled down by a factor of 1.2 in the printing process.)

It should be useable on every not too ancient TeX installation which provides LaTeX 2ε and the packages `amsmath, amssymb, amsthm, cite` and `ifthen`. The ZAA class is a small modification of the standard `article` class and as compatible with standard LaTeX as possible. In addition, it loads the mentioned AMS packages providing special support for the needs of mathematical texts.

Please report any bugs or problems to the author.

2 The document preamble

The ZAA style class is loaded by the `documentclass` line
`\documentclass[`⟨*options*⟩`]{`zaa`}`.
Possible options are `finaltitle, finalsize, nosectionnumber`, `draft` and `erratum`. The `finaltitle` option generates a titlepage appropriate for the ZAA journal and activates running headlines on all pages. `finalsize` activates the journal's page layout, the `draft` option activates the marking of overfull lines.[1] Theorems, propositions etc are usually numbered subordinately within a section (Theorem 2.1). The `nosectionnumber` option changes this to a continuous numeration. The `erratum` option removes abstract, keywords and subject classification from the title page and is used for errata. All other options are passed to the `article` class.

Other packages may be loaded by using the standard `\usepackage` command. For instance, to load the `graphicx` package which allows the inclusion of PostScript figures, one would use
`\usepackage{graphicx}`.
The packages `amsmath, amssymb` and `amsthm` are already preloaded by the ZAA class.

3 Front matter

- The title of the manuscript is specified by using the `\title{`title`}` macro. A `\\` may be used to put a line break in a long title.
- The `\author{`First Author, Second Author and ...`}` macro specifies the authors.
- The authors' address is specified by the `\address{`...`}` macro. Use several `\address` commands to enter more than one address and indicate the relation to the authors in the following way:

```
\author{Carl Friedrich Gau\ss\ and Felix Klein}
\address{C.F. Gau\ss: G\"ottingen,...\email{gauss@uni-goe.de}}
\address{F. Klein: Leipzig,...}
```

[1] **Beware!** Other packages may be influenced by the `draft` option, too. E.g., `graphicx` will no longer include your pictures.

You may add your e-mail address using the `\email{...}` macro **inside** and **at the end** of the corresponding `\address{...}` macro:

```
\address{F. Klein: Mathematisches Institut Leipzig,
Augustusplatz 10, 04105 Leipzig, Germany\email{fklein@math.uni-leipzig.de}}
```

- ZAA style uses the title as headline on odd pages and the author's name as headline on even pages. For long titles and in case of more than one author the running headlines should be specified using `\runtitle`{short title} and `\runauthor`{First Author et al.}.
- You can add a `\dedication{...}` line.
- Use `\abstract{...}` to enter the abstract.
- Use `\keywords{...}` for a list of keywords.
- The AMS subject classification code can be entered in one of two forms: either

```
\primclass{35R30}
\secclasses{35J20, 65M30}
```

  or

```
\classification{35R30, 35J20, 65M30}
```

- The technical editors will add the `\logo`, `\doi` and `\received` macros. For example, `\logo{12}{2013}{2}{327}` generates the line "Volume 12 (2013), 327–341" on the title page and `\doi{344}` adds the line "DOI: 10.4171/ZAA/344".
  The command `\received{February 3, 2013}` adds a "Received" line to the end of the paper. There is also a `\revised{...}` command.
- After specifying the title, authors, addresses, running titles, abstract, keywords and classification code insert the

```
\maketitle
```

  command.

4 The body of the paper

The section headings

`\section` {⟨*title text*⟩}
`\subsection` {⟨*title text*⟩}

are supported. Since subsections are printed as run-in headings, a period is automatically added at the end. The `\subsectionn` command avoids this. As usual, the starred form suppresses the automatic numbering, e.g.

`\subsection*{`Acknowledgement`}`

Section numbering, equation numbering, cross-referencing etc. work in the usual LaTeX way.
Figures may be included using the `graphicx` package:

```
\begin{figure}
 \includegraphics[scale=.35,angle=90]{fig1.eps}
 \caption{\label{fig1}Text of first caption.}
\end{figure}
```

An excellent description of its many capabilities can be found at
http://mirror.ctan.org/info/epslatex/english/epslatex.pdf

4.1 AMS packages

The American Mathematical Society's AMS-LaTeX packages provided extra fonts, symbols, and math markup that are quite convenient. The ZAA style supports the use of these packages directly.

Among many other things, these packages define the `\mathfrak` and `\mathbb` commands to switch to the Fraktur and Blackboard Bold fonts, respectively. `${\mathfrak{G}}$` gives a Fraktur "$\mathfrak{G}$" and `${\mathbb{Z}}$` gives a Blackboard Bold "$\mathbb{Z}$".

Please read the extensive documentation available at http://www.ams.org/tex/amslatex.html, especially the AMS *Short Math Guide for LaTeX* available at
ftp://ftp.ams.org/pub/tex/doc/amsmath/short-math-guide.pdf.

4.2 Theorem-like environments

The following environments[2] are supplied: `theorem, lemma, proposition, corollary, definition, conjecture, example, remark, note, case` and `proof`. If you need additional ones, read the *AMS theorem package user's guide* at http://www.ams.org/tex/amslatex.html. All environments except `proof` are numbered and have a `*` form which is unnumbered: `theorem*, lemma*` etc. By default the environments are numbered subordinately within a section and all environments share the same numbering sequence – Lemma 3.1, Definition 3.2, Note 3.4, Lemma 3.5 and so on. The `nosectionnumber` option of the `documentclass` statement results in a) continous numeration throughout the article and b) independent numbering of all environments – Lemma 1, Definition 1, Note 1, Lemma 2 and so on.

The command `\QED` produces a small rectangle: □ and should be used to indicate the end of proofs in the `proof` environment.

```
\begin{theorem}
This is an example of a theorem.
\end{theorem}

\begin{theorem}[Meik's Theorem]
This is an example of a theorem with a parenthetical note in the heading.
\end{theorem}

\begin{proof}
This is evident.\QED
\end{proof}

\begin{note*}
  A note.
\end{note*}

\begin{proof}[Proof of Fermat's theorem]
See margin of this paper.\QED
\end{proof}
```

produces:

Theorem 4.1. *This is an example of a theorem.*

Theorem 4.2 (Meik's Theorem)**.** *This is an example of a theorem with a parenthetical note in the heading.*

Proof. This is evident. □

Note. A note.

Proof of Fermat's theorem. See margin of this paper. □

[2]An environment "foobar" is (in LaTeX jargon) something that is used in the form

```
\begin{foobar}
...
\end{foobar}
```

4.3 Miscellaneous

The `litemize` environment can be used in place of `itemize`. It takes one mandatory additional argument which should be the longest label of the list:

```
\begin{litemize}{TheLongestLabel}
  \item[ALongWord] a first item
  \item[ALongWord] a second item
  \item[TheLongestLabel] a third item
\end{litemize}
```

5 Citations and references

As usual in LaTeX, references are cited in text using the `\cite` {⟨*key*⟩} command and are listed in the bibliography using the `\bibitem` {⟨*key*⟩} command. The `\cite` macro enables LaTeX to automatically number the references in the manuscript.

A typical example might be:

```
String theory \cite{GSW} attempts to provide a theory of everything.
```

The corresponding `\bibitem` would be:

```
\bibitem{GSW} Greene,~M., Schwarz,~J. and Witten,~E.:
\textit{Superstring Theory: Introduction.} Cambridge: Cambridge Univ Press 1985.
```

References should be formatted according to the ZAA and MathSciNet style and sorted alphabetically by name of the first author.