

Instructions for preparing an article submitted to Documenta Mathematica

EMS Press

Abstract. The abstract provides the reader with a clear description of your study and its results. We ask you to take great care in preparing the abstract and to not use references to the bibliography, as “[4]” is meaningless if the abstract appears separated from the rest of the article. You can use “Petrunin (1998)” or (if it is necessary to specify the exact source) “Petrunin [Geom. Funct. Anal. 8 (1998), 123–148]”. Inline formulas such as $\Omega := \mathbb{R}^n \setminus \mathbb{R}^d$ can be used, but displayed formulas should be avoided.

Authors are expected to submit their article in well-structured \LaTeX using the style file `ems-dm.sty` and following the instructions given in this manual.

1. Using the template

1.1. The tex file

- Rename `DocMath-template.tex` using, e.g., the surnames of the authors.
- Insert your text in the appropriate places; see the comments scattered throughout the \LaTeX template.
- No personal style files should be used.
- Avoid redundant source code such as unused definitions.
- Avoid using `\def` to define own macros.
- You may not modify the geometry or style in any way. Do not worry about bad page breaks and avoid adding extra space to improve the appearance of the manuscript.

1.2. The style file

- Do not edit or change the style file.
- The style file already loads the following packages:
 - `amsthm, amsmath, amssymb`
 - `enumitem, geometry, caption, graphicx, array`
 - `hyperref, url, fontenc, inputenc`

- babel, booktabs, cite, float, footmisc, multicol, xcolor
- newtxmath, newtxtext, kvoptions, nag, ragged2e
- pdf14, pdftexcmds, xpatch, zref-base

Do not load these packages again.

- Missing packages can be downloaded from <https://ctan.org/>.

1.3. Sending your manuscript

Once your own editing is done, please provide us with:

- the tex file,
- the corresponding pdf file,
- the bib file (in case you use BibTeX),
- all figures in a common format such as eps or pdf.

2. A few basic guidelines

2.1. References

- References should be listed alphabetically at the end of the article using numerical labels [1], [2], ...
- All references in the bibliography should be cited at least once in the text.
- Abbreviate titles of journals and book series as in [zbMath Open](#) or [Mathematical Reviews](#).
- The examples on page 5 show the preferred style for books, papers, theses, etc.
- If you use BibTeX, please use the bibliography style `emss.bst`:

```
\bibliographystyle{emss}
\bibliography{your-bib-file}
```

2.2. Enumerated lists

- (1) The labels of first level enumerations are by default (1), (2), ...
- (2) You may change them to, e.g., (i), (ii), ... by using an optional argument:

```
\begin{enumerate}[(i)]
  \item ...
  \item ...
\end{enumerate}
```

- (3) For more options see the [documentation](#) of the `enumitem` package.

2.3. Figures and tables

- All figures should be legible and of good quality. Avoid very small or large text and pixelated or fuzzy lines.
- By default figures are printed black and white. (Exceptions are possible and must be approved by the typesetter.) If you provide colour figures, make sure that they are also legible in black and white. The figures appear in colour only in the online version of the journal. Since both versions must have the same wording, please refrain from referring to colours (“the red line”).

- Include figures by writing

```
\begin{figure}[t]
  \includegraphics[width=.6\textwidth]{FILENAME}
  \caption{Caption.}\label{fig:xyz}
\end{figure}
```

- For subcaptions, load `\usepackage[margin=0pt]{subfig}` in the preamble and then write

```
\begin{figure}[t]
  \subfloat[Caption a]{\includegraphics[width=4cm]{...}}
  \qqquad
  \subfloat[Caption b]{\includegraphics[width=4cm]{...}}
  \caption{Caption.}
\end{figure}
```

- Tables are included using the `table` environment.

2.4. Theorems and the like

- For theorems and the like include appropriate `\newtheorem` commands such as

```
\theoremstyle{plain}
  \newtheorem{theorem}{Theorem}[section]
  \newtheorem{lemma}[theorem]{Lemma}
\theoremstyle{definition}
  \newtheorem{example}[theorem]{Example}
  \newtheorem{remark}[theorem]{Remark}
```

Please do not use `\theoremstyle{remark}`.

- For a proof, use `\begin{proof}... \end{proof}`. An end-of-proof sign ■ is added automatically.
- Use `\qedhere` to put ■ at the end of an unnumbered formula.

2.5. Displayed formulas

- For displayed formulas consisting of more than one line use

```
\begin{align} ... \end{align}
```

(respectively the starred form) instead of the `eqnarray` environment, since the former yields better spacing.

- In case you do not want numbering for every line, add `\notag` at the end of the line where you do not want a number:

$$\begin{aligned} A &= f(x_i) = F'(x), \\ B &= g(x_i) = G'(x). \end{aligned} \tag{1}$$

- Write

```
\begin{equation}\begin{aligned} ... \end{aligned}\end{equation}
```

to get one label for the complete block:

$$\begin{aligned} A &= f(x_i) = F'(x), \\ B &= g(x_i) = G'(x). \end{aligned} \tag{2}$$

- Other available environments for multiline displays are `gather` or `multline`.

2.6. Labels

- If you cross-reference a section, subsection, figure, table, displayed formula or theorem-like environment, always use `\label` and `\ref`.
- Do not reference page numbers of your article (`\pageref`).

2.7. Table of contents

- If your article has 50 or more pages, you may include a table of contents using `\tableofcontents`.

2.8. More mathematics

- Avoid blank lines before or after a display, unless you really want to start a new paragraph.
- Instead of `$$...$$` use `\begin{equation*}... \end{equation*}` or `\[...\]`.
- For horizontal spacing in displayed formulas use `\quad` or `\qquad` (not multiple `~`).
- Leave punctuation marks *outside* inline formulas: `$n>0$`.
- Avoid forcing `displaystyle` with `\displaystyle` or `\limits` for inline formulas.
- For the separator (normal size) in set notation use `\mid` (not `|`).
- For the double bar (indicating a norm) use `\lVert` and `\rVert`.
- There are several commands such as `\det` or `\sin` for setting things upright. If you need operators that are not predefined, define, e.g.,

```
\newcommand\Hom{\operatorname{Hom}}
```


- [3] D. V. Nguyen, S. K. Chilappagari, M. W. Marcellin, and B. Vasic, LDPC codes from latin squares free of small trapping sets. 2010, arXiv:[1008.4177](https://arxiv.org/abs/1008.4177)
- [4] A. Petrunin, Parallel transportation for Alexandrov space with curvature bounded below. *Geom. Funct. Anal.* **8** (1998), no. 1, 123–148 MR [1601854](https://www.ams.org/mathscinet-getitem?mr=1601854)
- [5] J. Schöberl, Commuting quasi-interpolation operators. Technical report isc-01-10-math, Texas A&M University, 2001, www.isc.tamu.edu/publications-reports/tr/0110.pdf
- [6] W. P. Ziemer, *Weakly differentiable functions*. Grad. Texts in Math. 120, Springer, New York, 1989 MR [1014685](https://www.ams.org/mathscinet-getitem?mr=1014685)

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