A LaTeX package for preparing manuscripts for submissions to the OA journal 'Enterprise Modelling and Information Systems Architectures – An International Journal' (EMISA)

Stefan Strecker (stefan.strecker@fernuni-hagen.de)
Martin Sievers (martin.sievers@schoenerpublizieren.de)

22nd February 2016 – Version 2.0.1

1   Introduction

Enterprise Modelling and Information Systems Architectures – An International Journal (EMISA) is a publisher-independent, peer-reviewed open access journal (https://emisa-journal.org). EMISA is published by the German Informatics Society (GI) and is a publication of its Special Interest Group (SIG) on Modelling Business Information Systems (SIG MoBIS) and its SIG on Design Methods for Information Systems (SIG EMISA). SIG MoBIS has sponsored the development of the EMISA LaTeX package currently maintained by Stefan Strecker (stefan.strecker@fernuni-hagen.de) and Martin Sievers (martin.sievers@schoenerpublizieren.de). It is based on an earlier funded work by Martin Leidig.

The EMISA LaTeX package is provided for preparing manuscripts for submission to EMISA, and for preparing accepted submissions for publication as well as for typesetting the final document by the editorial office. Articles in EMISA are published online at https://emisa-journal.org (in the Portable Document Format or PDF format). The EMISA editorial office is run (alongside many other tasks and projects) by the two Editors-in-Chief assisted by doctoral students. Editorial work at EMISA is best described as a volunteer effort for the scientific community. You can assist us by preparing your manuscript following the instructions and style guidelines described in this document: Your work will be published quicker with less (typographical) glitches and will have a professional appearance.

2   Installation

The EMISA LaTeX package consists of the document class `emisa.cls`, the biblatex bibliography style `emisa.bbx` and the biblatex citation style `emisa.cbx`.

The package also includes a quick-start template for authors (`emisa-author-template.tex`) and the present author instructions and style guidelines (`emisa.pdf`).

The preferred installation method of the canonical *release* version is through your TEX distribution's package installer (e. g. TEX Live's `tlmgr` or the MiKTEX Package Manager). You may need to first update (or synchronise) the package database from one of the TEX distribution's repositories. This type of installation is recommended in order to always get the latest *release* version automatically. The canonical release version of the package is also available from CTAN at http://www.ctan.org/pkg/emisa, while the *current development* (i. e. most recent) version of the package with bug fixes and new features (relative to the release version) is available from GitHub (https://github.com/sstrecker/emisa-latex-package).

If you prefer a manual installation (or want to install the latest development version), download the corresponding Zip archive from Github (the latest development version is always available as Zip archive at https://github.com/sstrecker/emisa-latex-package/archive/master.zip), uncompress it in the same directory (folder) in which the source files for the manuscript will be maintained, and then run `pdflatex emisa.dtx` twice, and start from `emisa-author-template.tex`.

3   Instructions and guidelines

This document provides instructions and style guidelines for authors. Follow the instructions and guidelines in the present document to set up your files, to type in your text, to format figures, tables, source code listings and algorithms, and to obtain a consistent visual appearance in accordance with the journal's style specifications. Before submitting your manuscript online to the journal's online submission system at https://emisa-journal.org, use these instructions and guidelines as a checklist. Note that these instructions are *not* intended as a general introduction to LATEX2e and corresponding tools (see, for example, http://mirror.ctan.org/info/lshort/english/ for 'The Not So Short Introduction to LATEX2e—Or LATEX2e in 157 minutes').

4   Preliminary remarks

The EMISA document class is derived from the standard LATEX article class, and produces a customised two-column layout with bibliographic information about the manuscript in a multi-line page headline (including the name of the journal, volume and issue number, date of publication, short title as well as author names) on A4-sized paper. The EMISA class builds on a number of standard LATEX packages. It is highly recommended to install the *full* set of LATEX packages that come with your LATEX distribution to make the required packages available to the EMISA package. Alternatively, missing packages may be installed via your TeX distribution's package manager or on-the-fly (if supported by your distribution).

The production process at the EMISA editorial office is based entirely on LATEX, and runs pdfLATEX and `biber` to produce the final proof and publication-ready PDF of an article. The biblatex package is used to typeset citations and references in conjunction with the `biber` tool. Make sure to use `biber` rather than `bibtex` to process your bibliography data base file(s). Most TEX editors have an option to easily switch to `biber`. The production tool chain at the editorial office requires that all text files of an article are provided in *UTF-8 file encoding*, and that all submitted files are provided with *lower case filenames only*. Do *not* use upper case characters in filenames at all and avoid non-ASCII characters in filenames.

Author template   The file `emisa-author-template.tex` provides a good starting point for manuscript preparation (if the EMISA package is available through your TEX distribution, the file is stored at `/doc/latex/emisa/` inside your TEX installation folder/directory. Just copy it to your working directory). It is also recommended to review the example of an article typeset with `emisa.cls` provided in Sec. 18.

5 Class Options

british, UKenglish   British English is the language of choice for publishing in EMISA. The class option `british` is loaded by default to obtain the correct hyphenation for British English (as provided by the `babel` package). The option *may be* explicitly used with the EMISA class to exemplify the use of British English. Example: `\documentclass[british]{emisa}`. This is the standard option. Note that the `csquotes` package is loaded with settings to produce proper quotation marks in British English (see below).

american, USenglish   If you want to use American English instead, you can use the option `american` or `USenglish`. The hyphenation patterns and quotation marks will be set accordingly.

referee, review   By default, a final version of the manuscript is typeset for online publication including the names and affiliations of authors. For reviewing purposes, the names and affiliations of the authors are omitted using the document option `referee` or `review` to allow for the anonymous (i. e. double blind) peer-review process of EMISA. Example: `\documentclass[referee]{emisa}`. Make sure to use the document option `referee` or `review` before typesetting the final PDF intended for submission to the journal.

6 Author information

\author
\address
    Each author is added using the macro `\author{`⟨*author name*⟩`}` followed by the corresponding address `\address{`⟨*author's address (line 1)*⟩`\\`. . . *(line 2)*`\\`. . . ⟩`}`. If you have multiple authors with the same address, please use `\address{`⟨*author's address*⟩`}` only for the first one and `\address[`⟨*letter of address*⟩`]{}` for all others. See `emisa-author-template.tex` for details.

\author*   There always has to be declared exactly one author as the corresponding author. This is indicated by using the starred version of the `\author` command: `\author*{`⟨*author's name*⟩`}{`⟨*email address*⟩`}`.

7 Title, subtitle, abstract, and keywords

\title
\subtitle
\abstract
\keywords
    The mandatory title and optional subtitle of a manuscript are typeset using `\title{`⟨*title*⟩`}` and `\subtitle{`⟨*subtitle*⟩`}`. Note that the subtitle is indented. The abstract of the manuscript is typeset using `\abstract{`⟨*abstract*⟩`}`. Each manuscript should provide an abstract of about 200–400 words. Keywords describing the manuscript are typeset using `\keywords{`⟨*keywords*⟩`}` and are concatenated using the `\and` command. At least three keywords should be provided.

8 Additional information on the first (title) page

\acknowledgements Acknowledgements, for example, of collaborators, funding agencies etc. may be added using \acknowledgements{⟨*acknowledgements*⟩}. The acknowledgements are typeset in a footnote on the first page below the corresponding author's email address.

\authornote Additional information for reviewers and readers may be added in a footnote on the titlepage using \authornote{⟨*author note*⟩}. This is typically used for stating earlier publications (e. g. in conference proceedings) on which the present manuscript is based.

9 Style guidelines for regular text

▷ Manuscripts should *not* make use of outdated LATEX commands such as \em, but rather use the LATEX2e commands (e. g. \emph, \texttt).

▷ Do *not* make use of bold face (\textbf). Use \emph instead to typeset an important word in italics!

▷ Always use the tilde ~ to connect before \ref{⟨*label*⟩}, e. g., Sec.~\ref{label} rather than the problematic: Sec. \ref{label}.

▷ Always use the en-dash (--) for ranges – without spaces – e. g., 17--34. The hyphen (-) should only be used for compound words or hyphenation.

▷ Do *not* write abbreviations such as e.g. but use the macros provided by the EMISA class (see below). Add punctuation when necessary, for example, write , \ie, to achieve the correct punctuation for 'id est' (i. e.) rather than , i.e., which introduces two problems: A missing spacing after the first full stop and a wrong spacing after the second full stop.

▷ Follow the journal's style specification with respect to predefined text styles:

  ○ Use SMALLCAPS for names of open-source projects, products and companies etc., e. g., \textsc{eclipse} to produce ECLIPSE. *Pay attention to lower case spelling*.

\meta ○ Use non-proportional font for language concepts, meta types, meta classes etc., i. e., \texttt{AbstractGoalType} to produce AbstractGoalType, or use the predefined macro \meta{⟨*metatype*⟩}, e. g., \meta{AbstractGoalType}.

\type ○ Use the sans-serif font face for type-level concepts etc., e. g., \textsf{Goal} to produce Goal when referring to a Goal type, or use the predefined macro \type{⟨*type*⟩}, e. g., \type{Goal}.

10 Abbreviations and initialisms

\eg,\ie,\cf,\etal To achieve consistent typesetting of common abbreviations, macros are predefined by the EMISA class. These macros should *consistently* being used instead of writing the plain version. For example use \eg rather than e.g.,. The macros take care of spacing within and after the abbreviations.

▷ \eg for e. g.
▷ \ie for i. e.
▷ \cf for cf.
▷ \etal for et al.

\emisaabbrv   If you miss any frequently used abbreviation for your article, you can easily add it using `\emisaabbrv{⟨\abbreviation_macro⟩}{⟨text⟩}` in the preamble of your article.

\OMG,\BPM,\BPMN,\UML   In addition to common abbreviations, further initialisms are provided by the class for convenience and for a consistent visual appearance. Note that the class uses SMALLCAPS for typesetting initialisms. The list of predefined initialisms comprises:

▷ `\OMG` for OMG (Object Management Group).
▷ `\BPM` for BPM (Business Process Management).
▷ `\BPMN` for BPMN (Business Process Model and Notation).
▷ `\UML` for UML (Unified Modelling Language).

\emisainitialism   You can add your own initialisms by stating `\emisainitialism{⟨\initialism_macro⟩}{⟨text⟩}` in the preamble.

11   Quotation marks

\enquote   It is *highly recommended* to use the `\enquote{⟨quotation⟩}` command to produce correct quotation marks. Note that the command can be nested and will produce correct primary and secondary quotation marks in British English (or American English – depending on the chosen class option), for example `\enquote{A quote \enquote{within a quote}}`. For other quotation macros and environment please consult the csquotes documentation [8].

Alternatively (but not recommended), the correct Unicode characters for the quotation marks in British (American) English can be used. See Wikipedia's entry for 'quotation mark' for further information.

12   Citations and references

\parencite   The EMISA journal uses its own author-year citation style predefined for the biblatex package (`emisa.cbx`),
\textcite   and its own style for formatting entries in the list of references (`emisa.bbx`). Consult the biblatex package
\cite   documentation [4] for an introduction to the citation commands. It is important to use the citation commands properly to follow the journal's style specifications.

▷ `\parencite` is used for citing in parentheses (usually at the end of a sentence). In most cases, page numbers should be provided. Example: `\ldots{} is known \parencite[5]{Knuth1986}` produces '... is known (Knuth 1986, p. 5)'. Also use `\parencite` to produce a prefix within parentheses, e.g. `\ldots{} is known \parencite[for a justification, see][5]{Knuth1986}` produces '... is known (for a justification, see Knuth 1986, p. 5)'.
▷ `\textcite` allows for using the cited work as a subject in the grammatical structure of a sentence. Example: `\textcite{Knuth1986} states that ...` produces 'Knuth (1986) states that ...'. Additionally, page numbers and further information can be provided, see the biblatex package documentation.
▷ `\cite` is used for typesetting the citation without parentheses, and is typically used within parentheses. Example: `(see \cite{Knuth1986})` produces '(see Knuth 1986)'. This variant is the least used and should be used with care.

Make sure to format the bibliographic entries consistently! Do not mix abbreviated first names with unabbreviated first names, as for example

`@ARTICLE{key1, author = {{van der Weiden}, J. W. P.} ...`

`@ARTICLE{key2, author = {{van der Weiden}, Jan W. P.} ...`

if both entries refer to the same author. This will lead to unexpected results with respect to the label generation of the citation. Make sure to always abbreviate author first names and to always use use curly brackets around multi-word last names, e. g. `{van der Weiden}, J. W. P.` in the bibentries.

13   Figures

All line-drawings must be provided as vector graphics (*not* bitmap graphics) in PDF format and all other (non-schematic) figures (e. g. screenshots) must be provided in PDF, JPEG or PNG format in a proper (high) resolution for the intended size of the rendered image to avoid pixelation due to low resolution; bitmap graphics shown in full page width in the submission should at least be of a resolution of two (2) megapixels or at least 1920 pixels wide.

14   Tables

tabular   Tables can be added using the standard notation, i. e. using `tabular` inside the floating environment `table` (see Listing 1). However, the standard column parameters p, l, c and r are often not sufficient to provide a table with an exact width, e. g. the text width.

Listing 1: An example for a standard table using `tabular`

```
\begin{table}
\small % or \footnotesize if needed at all
\centering % if needed
\caption{Add the caption here}
%\label{tab:unique-label} % alternatively after \end{tabular}
\begin{tabular}{p{3cm}lcr}
\toprule
A column 3cm wide and with possible line breaks &
\midrule
A column set flush-left with no line breaks &
A column set centred  with no line breaks &
A column set flush right with no line breaks \\
\bottomrule
\end{tabular}
\label{tab:unique-label}
\end{table}
```

tabularx Therefore the EMISA class loads the package tabularx by default. It defines an additional column parameter X, which has to be used for at least one column. In addition the standard `tabular` environment is substituted by `tabularx` which has two mandatory arguments, namely the total width of the table and the definition for the columns.

Listing 2 shows two typical examples for the application of `tabularx`. If you just mark one column with the parameter X, all other columns (i.e. columns with parameters p, l, c or r) are set the usual way. The remaining width (width given as first argument to `tabularx` minus used width of all 'non-X-columns') is then assigned to the X column. To get a table two columns wide, please use `\textwidth` as the table's width.

Listing 2: An example for a table using the package tabularx for exactly one X column

```
...
\begin{tabularx}{\textwidth}{Xll}
This a column with possibly long text passages ,
so that line breaking is necessary and automatically
applied by the X column & This column is set ragged right and gets as
    wide as its contents &
Another column \\
...
\end{tabularx}
...
```

A second frequently used scenario is the need for columns with equal width, but without having to calculate the value manually. For a much more comfortable solution one can assign the X parameter to all such columns.

Listing 3: An example for a table using the package tabularx and more than one X column

```
...
\begin{tabularx}{\textwidth}{p{3cm}XXX}
This a column with possibly long text passages ,
so that line breaking is necessary and automatically
applied to get a box 3cm wide &
This column and the remaining two all have the same width, namely
(\textwidth -3cm)/3. &
...
\end{tabularx}
...
```

Additional information can be obtained from the package's documentation [19].

For nicer tables you should get rid of any vertical lines between the columns. Instead you can use the macros provided by booktabs (preloaded by EMISA) for horizontal lines of different width. Just replace the first standard `\hline` by `\toprule`, the last one by `\bottomrule` and all other by `\midrule`. There is even an alternative for `\cline` called `\cmidrule`. The example from Listing 3 then looks like:

Listing 4: An example for a table using the packages tabularx and booktabs

```
...
\begin{tabularx}{\textwidth}{p{3cm}XXX}
\toprule
Table header 1 & table header 2 & table header 3\\
\midrule
This a column with possibly long text passages,
so that line breaking is necessary and automatically
applied to get a box 3cm wide &
This column and the remaining two all have the same width, namely
(\textwidth-3cm)/3. &
...
\bottomrule
\end{tabularx}
...
```

Have a look at the package's documentation [5] for more details.

15 Source code listings

sourcecode
java

For marking up source code listings, the EMISA class uses the listings package (see the package documentation [15] for further information), and provides two customised LATEX environments: sourcecode and java. The java environment should be used to format source code listings in the Java programming language, and the sourcecode environment should be used to format source code in any other programming language. You can add the name of the programming language and other parameters known to listings like caption or label as an optional argument.

Note that the source code in either case is typeset verbatim, i. e., the author must arrange the input LATEX source code according to the intended output. Also note that the two environments have been predefined to always produce a two-column listing positioned at the top of the page. Listing 5 illustrates the use of both environments.

Listing 5: Example for the java and sourcecode environments

```
\begin{java}[caption={A hello world example},label={hw-java}]
public class HelloWorld
{
   public static void main (String[] args)
   {
      // Output Hello World!
      System.out.println("Hello World!");
   }
}
\end{java}

\begin{sourcecode}[language=R]
  hello <- function( name ) {
```

8

```
      sprintf( "Hello, %s", name );
  }
\end{sourcecode}
```

16 Pseudo-code and algorithms

algorithm
algorithmic

Apart from source code you might want to add pseudo code examples or algorithms. In contrast to the source code examples above EMISA does not define its own environments for that. Instead we recommend using the bundle algorithms consisting of the two packages algorithm and algorithmic. Typical parts like loops, if-clauses or statements all have their own macro. See Listing 6 for an example.

Listing 6: Example for a pseudocode presented within the `algorithmic` environment

```
\begin{algorithmic}[1]
\REQUIRE $n \geq 0$
\ENSURE $y = x^n$
\STATE $y \leftarrow 1$
\STATE $X \leftarrow x$
\STATE $N \leftarrow n$
\WHILE{$N \neq 0$}
\IF{$N$ is even}
\STATE $X \leftarrow X \times X$
\STATE $N \leftarrow N / 2$
\ELSE[$N$ is odd]
\STATE $y \leftarrow y\times X$
\STATE $N \leftarrow N - 1$
\ENDIF
\ENDWHILE
\end{algorithmic}
```

results in

Require: $n \geq 0$

Ensure: $y = x^n$

1: $y \leftarrow 1$

2: $X \leftarrow x$

3: $N \leftarrow n$

4: **while** $N \neq 0$ **do**

5:    **if** N is even **then**

6:      $X \leftarrow X \times X$

7:      $N \leftarrow N/2$

8:    **else** $\{N$ is odd$\}$

9:      $y \leftarrow y \times X$

10:      $N \leftarrow N - 1$

11:    **end if**

12: **end while**

If you want your algorithm to be a floating object, you can surround it with `algorithm`:

```
\begin{algorithm}
\caption{Calculate $y = x^n$}
\label{alg1}
\begin{algorithmic}
...
\end{algorithmic}
\end{algorithm}
```

For more details, please have a look at the documentation [2].

17 Commands for use by the editorial office staff only

\editor   Enter the corresponding editor (or editorial board member) for the article, in the format 'first letter of the first name fullstop tilde last name'. Example: `\editor{A.~Smith}` , `\editor{A.~Smith and B.~Meyer}`

\received   Enter the date of initial reception of the manuscript by the editorial office in the following format. Example: `\received{31~March 2014}`

\accepted   Enter the date of the acceptance decision of the manuscript and the number of review rounds in the following format. Example: `\accepted[3]{10~January 2016}`

\volume   Enter the number of the volume in which the article is published. Example: `\volume{11}`

\issue   Enter the issue number and issue year of the article. Format example: `\issue{1}{2016}`

\specialissuetitle   Enter the title of the Special Issue to which the article belongs if any. Note that the prefix 'Special Issue on' is added automatically. Example: `\specialissuetitle{Multilevel Modelling}`

Note that volume, issue number and issue date and, optionally, the title of the special issue appear in the multiline page headline of the article.

\CCBYNCSAFour   \CCBYNCSAThree   If an article is licensed under a Creative Commons BY-NC-SA 4.0 or 3.0 licence, the reference to the licence can be automatically displayed at the end of the article by adding `\CCBYNCSAFour` and `\CCBYNCSAThree`, respectively.

\license, \licence   Alternatively, enter a license text using the `\license` (or `\licence`) commands. Example: `\license{This work is licensed under LPPL 1.3c.}`

18 Example file for both, authors and editorial office

```
% Use the option [draft] to mark overfull lines.
\documentclass[british]{emisa}
% The following package imports are recommended, but not obligatory;
% you might want take a look into their respective manuals if you want
    to how they can be used:
\usepackage{amsmath,amssymb,mathtools}
```

```latex
\usepackage{algorithmic,algorithm}
% Additional package imports go here:
% The document begins here:
\begin{document}
% Optionally, set the style for typesetting source code listings (see
    listings package).
% \lstset{language=Java}
% Take note of the following article environment!
\begin{article}{%
% Enter your bibliography database file here.
% Make sure to use UTF-8 character encoding in the bibliography data
    bases,
% and add the .bib extension for the biblatex package!
\bibliography{emisa.bib}
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% For editorial office only: Start
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Add editorial meta data to appear in the multiline page headline.
\editor{Enter corresponding editor here}
\received{Enter date of manuscript reception here}
\accepted[1]{Enter number of review rounds and date of acceptance here.}
\volume{11} % volume number
\issue{1}{31~Jan~2016} % issue number and issue date
\specialissuetitle{Title of special issue if publication belongs to a
    special issue}
% Add license information at end of article, either
\CCBYNCSAFour % or \CCBYNCSAThree or \license
\license{Enter your license text here}
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% For editorial office only: End
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Enter bibliographic meta data about publication
\title[Insert shorttitle for page headline]{Enter full title here}
\subtitle{Enter subtitle here, or leave empty}
\author*{FirstName LastName of corresponding author}{email@address.org}
\address{Enter affiliation of first (corresponding) author here. Note
    that only the starred version of author* accepts a second argument
    requiring an email address for the corresponding author.}
\author{FirstName LastName}
\address{Enter affiliation of second and further authors here. Add
    further authors following this scheme.}
% Enter abstract, keywords, acknowledgements, author note
\abstract{Enter abstract here}
\keywords{Enter at a minimum three keywords here. Keyword1 \and Keyword2
     \and Keyword3}
\acknowledgements{Enter acknowledgements here.}
\authornote{If your submission is based on a prior publication and
    revises / extends this work, enter a corresponding note here (This
    work is based on ...) but DO NOT cite the prior work during the
```

```latex
      reviewing process. INSTEAD provide full citations of all prior
      publications to the editors during the submission process (use the
      text field in the online submission system).}
% Take note of the following closing bracket!
}


\section{Introduction}\label{sec:introduction}
Enter your text here.


\subsection{Subsection title}\label{sec:somelabel}
% Example of a single-column figure (spanning only a single column).
% You can add an optional argument to influence the float placement,
% which is htbp by default.
\begin{figure}
\centering
\includegraphics[width=\columnwidth]{<filename>}
\caption{Enter your single-column figure caption here.}
\label{fig:unique-label}
\end{figure}


% Example of a double-column figure (spanning both columns)
\begin{figure*}[htb]
\centering
\includegraphics[width=\textwidth]{<filename>}
\caption{Enter your double-column figure caption here.}
\label{fig:unique-label}
\end{figure*}


% Example of a double-column table. Tables should NOT be typeset in a
    single column!
% Note the use of \toprule, \midrule, and \bottomrule!
% DO NOT use vertical rules in tables!
\begin{table*}[tb]
\centering
\caption{Enter your table caption above the table here.}
\begin{tabular}{llllll}
\toprule
column head1 & column head2 & column head3 & column head4 & column head5
     & column head6\\
\midrule
cell1 & cell2 & cell3 & cell4 & cell5 & cell6\\
cell1 & cell2 & cell3 & cell4 & cell5 & cell6\\
cell1 & cell2 & cell3 & cell4 & cell5 & cell6\\
cell1 & cell2 & cell3 & cell4 & cell5 & cell6\\
cell1 & cell2 & cell3 & cell4 & cell5 & cell6\\
\bottomrule
\end{tabular}
\label{tab:unique-label}
\end{table*}
```

```
% Example of a double-column source code listing.
\begin{java}[caption={Enter your double-column listing caption here.},%
                label={lst:helloworld}]
/**
 * The HelloWorldApp class implements an application that
 * simply prints "Hello World!" to standard output.
 */
class HelloWorldApp {
    public static void main(String[] args) {
        System.out.println("Hello World!"); // Display the string.
    }
}
\end{java}

% Example of a pseudo-code with algorithmic.
\begin{algorithmic}
\WHILE{$r > kRadius/2$}
\STATE $r \leftarrow r-1$
\STATE $a \leftarrow \sqrt{kernel[0][r]}/(kRadius-r)$;
\IF{$a < sqrtSlope$}
\STATE $sqrtSlope \leftarrow a$
\ELSE
\STATE break
\ENDIF
\ENDWHILE
\end{algorithmic}

% Formatting the bibliographic data base:
% Please make sure to properly enter all data for each entry
% in the bibliographic database (.bib).
% Pay special attention to formatting names and page numbers,
% see the following example:
%@ARTICLE{key1,
%   author = {{van der Aalst}, W. M. P.
%   and {van Hee}, K. M.
%   and {van Werf}, J. M.
%   and Verdonk, M.},
%   title = {{Auditing 2.0: Using
%   Process Mining to Support
%   Tomorrow's Auditor}},
%   journal = {Computer},
%   year = {2010},
%   volume = {43},
%   pages = {90--93},
%   number = {3}
%}
\printbibliography
\end{article}
```

```
\end{document}
```

References

[1] Package afterpage: Execute command after the next page break. 19.2.2

[2] Package algorithms: A suite of tools for typesetting algorithms in pseudo-code. 16

[3] Package babel: Multilingual support for Plain TeX or LaTeX. 19.2

[4] Package biblatex: Bibliographies in LaTeX using BibTeX for sorting only. 12, 19.2.1

[5] Package booktabs: Publication quality tables in LaTeX. 14

[6] Package calc: Simple arithmetic in LaTeX commands. 19.2.2

[7] Package caption: Customising captions in floating environments. 19.2

[8] Package csquotes: Context sensitive quotation facilities. 11, 19.2.1

[9] Package environ: A new interface for environments in LaTeX. 19.2.2

[10] Package eso-pic: Add picture commands (or backgrounds) to every page. 19.2.2, 19.9.3

[11] Package float: Improved interface for floating objects. 19.2

[12] Package geometry: Flexible and complete interface to document dimensions. 19.2.2

[13] Package graphicx: Enhanced support for graphics. 19.2.1

[14] Package hyperref: Extensive support for hypertext in LaTeX. 19.3

[15] Typeset source code listings using LaTeX. 15

[16] Package microtype: An interface to the micro-typographic features of pdfTeX. 19.2

[17] Package paralist: Enumerate and itemize within paragraphs. 19.2.2

[18] The LaTeX 2_ε Sources. 19.10

[19] Package tabularx: Tabulars with adjustable-width columns. 14

[20] Package textcomp: LaTeX support for the Text Companion fonts. 19.2

[21] Package twoopt: Definitions with two optional arguments. 19.2.2

[22] Package xcolor: Driver-independent color extensions for LaTeX and pdfLaTeX. 19.2.1

[23] Package xspace: Define commands that appear not to eat spaces. 19.2.2

19   Implementation

Here, the code of the LATEX class emisa begins.

```
1 ⟨*class⟩
```

19.1   Options

\@clearglobaloption   We need a macro to remove options from the global to avoid side-effects

```
 2 \def\@clearglobaloption#1{%
 3   \def\@tempa{#1}%
 4   \def\@tempb{\@gobble}%
 5   \@for\next:=\@classoptionslist\do
 6     {\ifx\next\@tempa
 7        \message{Cleared  option \next\space from global list}%
 8      \else
 9        \edef\@tempb{\@tempb,\next}%
10      \fi}%
11   \let\@classoptionslist\@tempb
12   \expandafter\ifx\@tempb\@gobble
13     \let\@classoptionslist\@empty
14   \fi}
```

british option
UKenglish option

```
15 \DeclareOption{british}{%
16    \PassOptionsToPackage{british}{babel}
17    \PassOptionsToPackage{english=british}{csquotes}
18    \@clearglobaloption{british}}
19 \DeclareOption{UKenglish}{%
20    \PassOptionsToPackage{british}{babel}
21    \PassOptionsToPackage{english=british}{csquotes}
22    \@clearglobaloption{british}}
```

american option
USenglish option

```
23 \DeclareOption{american}{%
24    \PassOptionsToPackage{american}{babel}
25    \PassOptionsToPackage{english=american}{csquotes}
26    \@clearglobaloption{american}}
27 \DeclareOption{USenglish}{%
28    \PassOptionsToPackage{american}{babel}
29    \PassOptionsToPackage{english=american}{csquotes}
30    \@clearglobaloption{american}}
```

draft option
final option
@draft switch

If the user requests draft we mark any overfull boxes. There is more interesting stuff to be added to this option; one could think of altered running titles or watermarks, for example.

As this option is handed along the package chain it might have other effects, too.

```
31 \newif\if@draft
```

```
32 \DeclareOption{draft}{%
33    \@drafttrue
34    \overfullrule 10pt
35 }%
36 \DeclareOption{final}{%
37    \@draftfalse
38    \overfullrule\z@
39 }%
```

The options `referee` and `review` switch to *referee mode*. In referee mode some information at the titlepage are removed in order to allow an anonymous submission.

```
40 \newif\if@referee
41 \DeclareOption{referee}{\@refereetrue}
42 \DeclareOption{noreferee}{\@refereefalse}
43 \DeclareOption{review}{\@refereetrue}
44 \DeclareOption{noreview}{\@refereefalse}
```

Switches cover production on or off. If `cover` is given then the four cover pages (outer and inner pages of front and back, respectively) are produced and added to the document.

```
45 \newif\if@cover
46 \def\coveron{\@covertrue}
47 \def\coveroff{\@coverfalse}
48 \DeclareOption{cover}{\coveron}
49 \DeclareOption{nocover}{\coveroff}

50 \newif\if@microtype
51 \@microtypetrue
52 \DeclareOption{nomicrotype}{\@microtypefalse}
```

Completing option handling, by now unprocessed option are handed over to the base class article and the class options list is processed from the left to the right.

```
53 \PassOptionsToClass{a4paper,twoside,11pt}{article}%
54 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}}%
55 \ExecuteOptions{british,final,noreferee,nocover,oneside,openany}%
56 \ProcessOptions*\relax%

57 \IfFileExists{latexrelease.sty}%
58    {\RequirePackage[latest]{latexrelease}}%
59    {\RequirePackage{fixltx2e}}%
```

19.2 Loading the base class and packages

This class is build upon the LaTeX standard class article.

```
60 \LoadClass{article}[2001/06/01]%

61 \RequirePackage[utf8]{inputenc}%
```

This loads font definitions for text and mathematics. The package allows the user to select font encodings, and for each encoding provides an interface to 'font-encoding-specific' commands for each font. Its most powerful effect is to enable hyphenation to operate on texts containing any character in the font. It is distributed as part of the LaTeX 2_ε distribution.

```
62 \RequirePackage[T1]{fontenc}%
```

Since many PostScript fonts only implement a subset of the TS1 encoding which contains text symbols for use with the T1-encoded text fonts, many commands only produce black blobs of ink. The textcomp package is supplied as a part of the LaTeX base distribution to resolve the resulting problems [20].

```
63 \RequirePackage[full]{textcomp}%
```

The microtype package provides a LaTeX interface to the micro-typographic extensions of pdfTeX: most prominently, character protrusion and font expansion, furthermore the adjustment of interword spacing and additional kerning, as well as hyphenatable letterspacing (tracking) and the possibility to disable all or selected ligatures [16]. It allows to apply these features to customisable sets of fonts, and to configure all micro-typographic aspects of the fonts in a straight-forward and flexible way. Settings for various fonts are provided.

```
64 \if@microtype
65     \RequirePackage[final,tracking=smallcaps,expansion=alltext,protrusion=true]{microtype}%
66     \SetTracking{encoding=*,shape=sc}{50}%
67 \else
68     \ClassWarning{emisa}{Package `microtype' not loaded!%
69         \MessageBreak Output will differ from final result in the journal!%
70         \MessageBreak Please consult the documentation, if you%
71         \MessageBreak get an error when loading microtype}
72 \fi%
```

babel is a package providing an environment in which documents can be typeset in a language other than US English, or in more than one language [3].

```
73 \RequirePackage{babel}%
```

This style option improves the interface for defining floating objects such as figures and tables in LaTeX [11]. It adds the notion of a 'float style' that governs appearance of floats. New kinds of floats may be defined using a \newfloat command analogous to \newtheorem. This style option also incorporates the functionality of David Carlisle's style option here, giving floating environments a [H] option which means *Put it here!* (as opposed to the standard [h] option which means *Put it here if possible, or otherwise at the next page if no alternative position is specified.*).

```
74 \RequirePackage{float}
```

The caption package gives the user the possibility to control the look & feel of the captions from floating environments like figure and table. Furthermore it does similar to the caption stuff coming from other packages (like the longtable or supertabular package) [7].

For more information on that see the english, russian, or german user documentation.

```
75 \RequirePackage[font={small}]{caption}
```

19.2.1 Colour and graphics

`graphicx` as part of the graphics package provides a key-value interface for optional arguments to the `\includegraphics` command [13].

```
76 \RequirePackage{graphicx}%
```

The package `xcolor` is a color extension for LaTeX and pdfLaTeX that provides easy driver-independent access to several kinds of colors, tints, shades, tones, and mixes of arbitrary colors by means of color expressions [22].

```
77 \RequirePackage[fixinclude,table]{xcolor}%
```

The `biblatex` package [4] is a complete reimplementation of the bibliographic facilities provided by LaTeX in conjunction with BibTeX. It redesigns the way in which LaTeX interacts with BibTeX at a fairly fundamental level. With biblatex, BibTeX is only used to sort the bibliography and to generate labels. Instead of being implemented in BibTeX's style files, the formatting of the bibliography is entirely controlled by TeX macros. Good working knowledge in LaTeX should be sufficient to design new bibliography and citation styles. There is no need to learn BibTeX's postfix stack language. Just like the bibliography styles, all citation commands may be freely (re)defined.

Apart from the features unique to `biblatex`, the package also incorporates core features of the following packages: babelbib, backref, bibtopic, bibunits, chapterbib, cite, citeref, inlinebib, mlbib, multibib, natbib, splitbib. There are also some conceptual parallels to the `amsrefs` package. The biblatex package supports split bibliographies, multiple bibliographies within one document, and separate lists of bibliographic shorthands. Bibliographies may be subdivided into parts (by chapter, by section, etc.) and/or segmented by topics (by type, by keyword, etc.). The package is fully localized and can interface with the `babel` package.

This package requires e-TeX and the `etoolbox` package. Installing the `csquotes` package is recommended.

```
78 \RequirePackage{etoolbox}%
```

We use it with these options:

`style=emisa` sets the base name of the bibliography and citation format files; thus we use `emisa.bbx` and `emisa.cbx` that are defined below.

`natbib=true` enables the use of `natbib` citation commands with `biblatex`.

`maxcitenames=3` Author lists with more than two entries are abbreviated with 'et al.'. Note that in the bibliography listing author lists won't be shortened at all.[1]

`terseinits` If Initials are given with (false) or without (true) punctuation and whitespace.

`isbn=false` In bibliographies, no ISBNS, . . .

`url=false` . . . no URLs, . . .

`doi=false` . . . no DOIs, . . .

`eprint=false` . . . and no ePrint marks are displayed.

`dashed=false` Identical author entries of consecutive bibliography entries don't get replaced by a dash (beginning with the second one).

---

[1]That is, they *will* be shortened if there are more than 999 authors. That should occur not that often, though.

```
79  \RequirePackage[%
80      style=emisa,%
81      natbib=true,%
82      backend=biber,%
83  ]{biblatex}

84  \ExecuteBibliographyOptions{%
85      maxcitenames=2,%
86      maxbibnames=999,%
87      terseinits=false,%
88      isbn=false,%
89      url=true,%
90      doi=false,%
91      eprint=false,%
92      dashed=false,%
93      bibencoding=inputenc,%
94      sorting=anyt,%
95      hyperref=true,%
96      uniquename=minfull,%
97      uniquelist=false%
98  }%
```

This package provides advanced facilities for inline and display quotations [8]. Quotation marks are switched automatically if quotations are nested and can adjust to the current language. There are additional facilities designed to cope with the more specific demands of academic writing, especially in the humanities and the social sciences. All quote styles as well as the optional active quotes are freely configurable.

```
99  \RequirePackage[autostyle=once]{csquotes}
```

19.2.2 Helpers

twoopt provides commands to define macros with *two* optional parameters. This package is part of the *Oberdiek* bundle [21].

```
100  \RequirePackage{twoopt}%
```

environ provides a new method of defining environments [9].

```
101  \RequirePackage{environ}%
```

paralist provides a few new list environments. Itemized and enumerated lists can be typesetted within paragraphs, as paragraphs and in a compact version. Most environments have optional arguments to format the labels. Additionally, the LaTeX environments itemize and enumerate can be extended to use a similar optional argument [17].

The options' meanings are as follows:

neveradjust   The width of the labels is never adjusted, not even for environments where you defined the labels manually using the optional argument.

defblank   The two environments inparablank and asparablank will be defined.

flushright   The labels in the four lists mentioned above are set flush right.

```
102 \RequirePackage[neveradjust,defblank,flushright]{paralist}%
```

We make the traditional list environments equal the compact ones so there is no visual difference and they are both modifiable easily.

```
103 \let\itemize\compactitem
104 \let\enditemize\endcompactitem
105 \let\enumerate\compactenum
106 \let\endenumerate\endcompactenum
107 \let\description\compactdesc
108 \let\enddescription\endcompactdesc
```

These macros are imported from paralist, setting standard enumeration marks and list indentations.

```
109 \setdefaultenum{1.}{a)}{i.}{A}%
110 \setdefaultleftmargin{1em}{0.9em}{0.7em}{0.5em}{0.4em}{0.3em}%
111 \setlength{\plitemsep}{3\p@}%
112 \setlength{\pltopsep}{6\p@}
```

afterpage implements a command that causes the commands specified in its argument to be expanded after the current page is output [1].

The xspace package provides a single command that looks at what comes after it in the command stream, and decides whether to insert a space to replace one "eaten" by the TEX command decoder. The decision is based on what came after any space, not on whether there was a space (which is unknowable): so if the next thing proves to be punctuation, the chances are there was no space, but if it's a letter, there's probably a need for space [23].

calc adds infix expressions to perform arithmetic on the arguments of the LATEX commands \setcounter, \addtocounter, \setlength, and \addtolength [6].

All three packages are part of the tools bundle in the LATEX required distribution.

```
113 \RequirePackage{afterpage,xspace,calc}%
```

geometry provides an easy and flexible user interface to customize page layout, implementing auto-centering and auto-balancing mechanisms so that the users have only to give the least description for the page layout [12].

An important feature is the package's ability to communicate the paper size it's set up to the output (whether via DVI \specials or via direct interaction with pdfLATEX).

```
114 \RequirePackage{geometry}%
```

eso-pic adds one or more user commands to LATEX's shipout actions, making it easy to add some picture commands to any and every page at absolute positions [10].

```
115 \RequirePackage{eso-pic}%
```

```
116 \RequirePackage{placeins}%
```

19.2.3 Scripts, fonts, and maps

```
117  \RequirePackage{newtxtext}
118  \RequirePackage{newtxmath}
119  \RequirePackage[zerostyle=b,straightquotes]{newtxtt}
120  \if@microtype
121      \UseMicrotypeSet[protrusion]{basicmath} % disable protrusion for tt fonts
122  \fi%
```

To make figures and ligatures searchable when using pdfTeX ≥ 1.40, glyph-to-unicode translation must be enabled. The default table `glyphtounicode.tex` contains mappings from glyph names to corresponding unicode for embedded fonts. It covers the AGL (Adobe Glyph List), names from `texglyphlist.txt` (part of lcdf-typetools) and `zapfdingbats.txt`, plus a few exceptions.

```
123  \InputIfFileExists{glyphtounicode}%
124      {\ClassInfo{emisa}{Reading file `glyphtounicode.tex`}
125       \pdfgentounicode=1}%
126      {\ClassWarning{emisa}{Couldn't find file `glyphtounicode.tex`}}%
127      \RequirePackage{booktabs}
128      \RequirePackage{listings}
129      \lstset{basicstyle=\ttfamily\small}
130      \lstnewenvironment{java}[1][]
131          {\lstset{language=Java,float=*htbp,#1}}
132          {}
133      \lstnewenvironment{java*}[1][]
134          {\lstset{language=Java,float=htbp,#1}}
135          {}
136      \lstnewenvironment{sourcecode}[1][]
137          {\lstset{float=*htbp,#1}}
138          {}
139      \lstnewenvironment{sourcecode*}[1][]
140          {\lstset{float=htbp,#1}}
141          {}
142      \RequirePackage{amsmath}
143      \RequirePackage[amsmath,standard,hyperref]{ntheorem}
```

19.3 Hypertext

The hyperref package [14] has to loaded as late as feasible so it can intercept changes to standard macros by other packages.

```
144  \RequirePackage{url}
145  \urlstyle{same}
146  \RequirePackage[%
147    colorlinks,
148    breaklinks,
149    pdfview=Fit,
150    bookmarksopen,
151    bookmarksnumbered,
152    linkcolor=black,
```

```
153    anchorcolor=black,
154    citecolor=black,
155    filecolor=black,
156    urlcolor=black,
157    hyperfootnotes=false
158    ]{hyperref}%

159  \RequirePackage{doclicense}
```

19.4   Tools

\@ifempty \
\@ifarg \
\@ifnoarg

These determinate if an argument ist empty (or not) and to act consequently. An argument is ‚empty‘, iff it contains nothing or just whitespace. All three macros first test their first argument. If it is empty \@ifempty then executes the second one, otherwise the third one. \@ifnoarg und \@ifarg execute their respective second argument iff the the first one is (not) empty.

Syntax:

\@ifempty{⟨*arg*⟩}{⟨*Action_if_empty*⟩}{⟨*Action_if_not_empty*⟩}
\@ifnoarg{⟨*arg*⟩}{⟨*Action_if_empty*⟩}
\@ifarg{⟨*arg*⟩}{⟨*Action_if_not_empty*⟩}

```
160  \begingroup
161    \catcode`\Z=3
162    \long\gdef\@M@T@#1#2Z#3#4#5\@nil{#4}
163    \long\gdef\@ifempty#1{\@M@T@#1ZZ\@secondoftwo\@firstoftwo\@nil}
164    \long\gdef\@ifarg#1{\@M@T@#1ZZ\@firstofone\@gobble\@nil}
165    \long\gdef\@ifnoarg#1{\@M@T@#1ZZ\@gobble\@firstofone\@nil}
166  \endgroup
```

19.5   Basic page layout

The geometry options using the keyval (⟨*key*⟩ = ⟨*value*⟩) interface can be set either in the optional argument to the \usepackage command, or in the argument of the \geometry macro. In either case, the argument consists of a list of comma-separated keyval options. \geometry acts cumulative; so multiple use just appends options to the list.

```
167  \geometry{%
168    a4paper,%
169    portrait,%
170    twoside,%
171    ignoreall,%
172    hcentering,%
173    textwidth      = 162.5mm,%
174    textheight     = 220mm,%
175    heightrounded,%
176    columnsep      = 12.5mm,%
177    top            = 47mm,%
178    headheight     = 16mm,%
```

```
179     headsep         = 13mm,%
180     marginparwidth  = 15mm,%
181     marginparsep    = 5mm,%
182     footskip        = 16mm%
183     }%
184 \marginparpush 5mm%

185 \AtBeginDocument{\baselineskip=13.6pt plus 0.5pt}%

186 \parindent=4mm%

187 \smallskipamount=.5\baselineskip
188 \medskipamount=2\smallskipamount
189 \bigskipamount=2\medskipamount

190 \flushbottom

191 \abovedisplayskip=.5\baselineskip plus .33\baselineskip
192                                     minus .33\baselineskip
193 \belowdisplayskip=\abovedisplayskip
194 \abovedisplayshortskip= 0pt plus .33\baselineskip
195 \belowdisplayshortskip=.5\baselineskip plus .33\baselineskip
196                                     minus .33\baselineskip
```

19.6   Scripts

\pageheadfont   Assigning scripts to text elements.
\pagenumfont   Page head and foot:
\pagefootfont
```
197 \def\pageheadfont{\normalfont}%
198 \def\pagenumfont{\pageheadfont\bfseries}%
199 \def\pagefootfont{\pageheadfont}%
```

\authorfont   The elements of the article titles:
\titlefont
\subtitlefont
\abstractfont
```
200 \def\authorfont{\normalfont\Large}%
201 \def\titlefont{\normalfont\bfseries\LARGE\boldmath}%
202 \def\subtitlefont{\normalfont\bfseries\Large\boldmath}%
203 \def\abstractfont{\normalfont\itshape}%
```

\affiliationfont   The elements of the affiliation box:
\affiliationauthorfont
\affiliationaddressfont
\affiliationemailfont
```
204 \def\affiliationfont{\normalfont}
205 \def\affiliationauthorfont{\bfseries}
206 \def\affiliationaddressfont{\mdseries}
207 \def\affiliationemailfont{\mdseries}%
```

\sectionfont   Section headlines:
\sec@font
\para@font
```
208 \def\sectionfont{%
209     \normalfont
210     \bfseries
211     \boldmath}%
212 \def\sec@font{\sectionfont\large}%
```

```
213  \def\para@font{\sectionfont}%
```

\captionfont Captions:

```
214  \def\captionfont{\normalfont\small\itshape}
```

19.7 Colours

These are the colour definitions for a couple of elements.

coverbgcolor color The colours of the cover background (near 25% grey) and cover text (such as headlines, near 75% grey):
covertextcolor color

```
215  \definecolor{coverbgcolor}{cmyk}{0.15,0.1,0.09,0}%
216  \definecolor{covertextcolor}{cmyk}{0.77,0.76,0.70,0.61}%
```

headtextcolor color These are the colours of the grey elements in column titles (50% grey) and of the frame and the background
boxframecolor color of text boxes like that one used in \editorialboard (100% grey = black and 20% grey, respectively).
boxbgcolor color

```
217  \definecolor{headtextcolor}{gray}{0.5}%
218  \definecolor{boxframecolor}{gray}{1}%
219  \definecolor{boxbgcolor}{gray}{0.8}%
```

19.8 Double line spacing

\displayskipstretch
\setdisplayskipstretch
```
220  \newcommand{\displayskipstretch}{\baselinestretch}
221  \newcommand{\setdisplayskipstretch}[1]{\def\displayskipstretch{#1}}
```

\setstretch Line space commands.

```
222  \newcommand{\setstretch}[1]{%
223    \def\baselinestretch{#1}%
224    \@currsize
225  }
```

\@setsize Modification of the LaTeX command \@setsize. Stretch the baseline *before* calculating the strut size.
This improves spacing below tabular environments etc., probably.

The meanings of the arguments to \@setsize appear to be (whatever these may signify):

Syntax:

\@setsize{⟨*current size*⟩}{⟨*font baselineskip*⟩}{⟨*ignored (!)*⟩}{⟨*font size*⟩}

Note that \@setsize (in modern LaTeX, \@setfontsize, which is called by \@setsize) seems to be
the only place in purely modern LaTeX where \@currsize is set, and ltxguide.cls seems to be the
only file in the LaTeX base distribution that uses it.

```
226  \def\@setsize#1#2#3#4{%
227    \@nomath#1%
228    \let\@currsize#1%
229    \baselineskip #2%
230    \baselineskip=\baselinestretch\baselineskip
```

```
231  \parskip=\baselinestretch\parskip
232  \setbox\strutbox \hbox{%
233    \vrule height.7\baselineskip
234         depth.3\baselineskip
235         width\z@}%
236  \skip\footins=\baselinestretch\skip\footins
237  \normalbaselineskip\baselineskip#3#4}
```

Fix up spacing before and after displayed math (arraystretch seems to do a fine job for inside LaTeX displayed math, since array and eqnarray seem to be affected as expected).

```
238  \everydisplay\expandafter{%
239    \the\everydisplay
240    \abovedisplayskip    \displayskipstretch\abovedisplayskip
241    \belowdisplayskip    \displayskipstretch\belowdisplayskip
242    \abovedisplayshortskip  \displayskipstretch\abovedisplayshortskip
243    \belowdisplayshortskip  \displayskipstretch\belowdisplayshortskip
244  }
```

19.9 Document markup

19.9.1 Declaring issue data

The following macros save their argument(s) to internal variables for later usage:

\journalname The journal name.

```
245  \def\journalname#1{\@bsphack\def\@journalname{#1}\@esphack}%
246  \journalname{Enterprise Modelling and Information Systems Architectures}%
```

\issn The International Standard Serial Number (ISSN) is the standardized international code which allows the identification of any serial publication, including electronic serials, independently of its country of publication, of its language or alphabet, of its frequency, medium, etc.; see the ISSN web site.

Here we have two of them, one for print and one for online issues.

```
247  \long\def\issn#1{\@bsphack\long\def\@issn{#1}\@esphack}%
248  \issn{%ISSN 1860-6059 (Print)\par
249       ISSN 1866-3621 (Online)}%
```

\volume Volume number.

```
250  \def\volume#1{\@bsphack\def\@volume{#1}\@esphack}%
251  \volume{\textcolor{red}{0}}%
```

\issue Issue number and date.

```
252  \def\issue#1#2{\@bsphack
253    \def\@issue{#1}%
254    \def\@issuedate{#2}%
255    \@esphack}%
256  \issue{\textcolor{red}{0}}{\textcolor{red}{month 0000}}%
```

`\specialissuetitle`	If the current issue is a *special issue*, the respective title goes here.
`\specialissuetitle*`	
`\specialissuetitleprefix`	

```
257 \def\specialissuetitle{\@ifstar\@sspit\@spit}%
258 \newcommand{\@spit}[2][]{%
259   \@bsphack
260   \@ifempty{#2}%
261     {\let\@specialissuetitle\relax}%
262     {\@ifempty{#1}%
263       {\def\@specialissuetitle{\@specialissuetitleprefix#2}}%
264       {\def\@specialissuetitle{#1\space#2}}}%
265   \@esphack}%
266 \newcommand{\@sspit}[2][]{%
267   \@bsphack
268   \@ifempty{#2}%
269     {\let\@specialissuetitle\relax}%
270     {\def\@specialissuetitle{#2}}%
271   \@esphack}%
272 \newcommand{\specialissuetitleprefix}[1]{%
273   \@bsphack
274   \@ifempty{#1}%
275     {\let\@specialissuetitleprefix\relax}%
276     {\def\@specialissuetitleprefix{#1\space}}%
277   \@esphack}%
278 \specialissuetitle{}%
279 \specialissuetitleprefix{Special Issue on}%
```

`\copyrightyear`	Copyright owner and year.
`\copyrightholder`	

```
280 \def\copyrightyear#1{\@bsphack\def\@copyrightyear{#1}\@esphack}%
281 \copyrightyear{\the\year}%
282 \def\copyrightholder#1{\@bsphack\def\@copyrightholder{#1}\@esphack}%
283 \copyrightholder{\textcolor{red}{\copyright{}holder}}%
```

`\title`	Title, subtitle, and author information for the current article.
`\subtitle`	
`\author`	These macros are a bit special as they accept up to *two* optional arguments together with the obligatory one. The optional arguments are for the running-title (*short*) and the table-of-contents (*ToC*) versions, respectively, of the main entry, if there is any:

Syntax:

$\texttt{\textbackslash title}[\langle \textit{short\_title} \rangle][\langle \textit{ToC\_title} \rangle]\{\langle \textit{title} \rangle\}$

$\texttt{\textbackslash subtitle}[\langle \textit{short\_subtitle} \rangle][\langle \textit{ToC\_subtitle} \rangle]\{\langle \textit{subtitle} \rangle\}$

$\texttt{\textbackslash author}[\langle \textit{short\_author} \rangle][\langle \textit{ToC\_author} \rangle]\{\langle \textit{author} \rangle\}$

If *no* optional argument is given the obligatory argument will appear in all the respective places.

If *one* optional argument is given then its' value replaces both the *short* and the *ToC* entries.

If *two* optional arguments are given then the value of the first one becomes the *short* headline (et al.) entry, and the second one is reproduced in the table of contents.

27

If *both* optional arguments are given but the first one is left empty then the *short* entry defaults also to the main value, and only the *ToC* entry is changed.

```
284  \renewcommandtwoopt*{\title}[3][][]{%
285    \@bsphack
286    \def\@title{#3}%
287    \@ifempty{#1}{\def\@shorttitle{\@title}}{\def\@shorttitle{#1}}%
288          \@ifempty{#2}{\def\@toctitle{\@shorttitle}}{\def\@toctitle{#2}}%
289    \@esphack}%
290  \newcommandtwoopt*{\subtitle}[3][][]{%
291    \@bsphack
292    \def\@subtitle{#3}%
293    \@ifempty{#1}{\def\@shortsubtitle{\@subtitle}}{\def\@shortsubtitle{#1}}%
294    \@ifempty{#2}{\def\@tocsubtitle{\@shortsubtitle}}{\def\@tocsubtitle{#2}}%
295    \@esphack}%
296  \def\email#1{%
297    \ifx\@email\@empty
298        \def\@email{#1}
299    \else
300        \ClassError{emisa}{There can only be one corresponding author!}{}
301    \fi}%
302  \renewcommand{\author}{\@ifstar{\@authorstar}{\@authornostar}}
303  \newcommand*{\@authornostar}[1]{%
304    \@bsphack
305    \if@referee
306      \def\@authors{}%
307      \def\@shortauthors{}
308    \else
309        \gdef\@address@sep{}%
310        \ifx\@authors\@empty
311            \protected@xdef\@authors{#1}
312            \protected@xappto\@shortauthors{#1}
313        \else
314            \protected@xappto\@authors{,\space #1}
315            \protected@xappto\@shortauthors{,\space #1}
316        \fi%
317    \fi
318    \@esphack}%
319  \newcommandtwoopt*{\@authorstar}[3][][]{%
320      \@bsphack
321      \if@referee
322        \def\@authors{}%
323        \def\@shortauthors{}%
324        \def\@tocauthors{}%
325        \def\@email{}%
326      \else
327        \gdef\@address@sep{}%
328        \ifx\@authors\@empty
329            \protected@xdef\@authors{#3\textsuperscript{*,}}
```

```latex
330        \protected@xappto\@shortauthors{#3}
331      \else
332        \protected@xappto\@authors{,\space #3\textsuperscript{*,}}
333        \protected@xappto\@shortauthors{,\space #3}
334      \fi%
335      \@ifempty{#1}{\def\@shortauthor{\@shortauthors}}{\def\@shortauthor{#1}}%
336      \@ifempty{#2}{\def\@tocauthor{\@shortauthors}}{\def\@tocauthor{#2}}%
337    \fi
338    \@esphack
339    \@ifnextchar\bgroup\email{\ClassError{emisa}{Please provide an email address for the correspo
340 \newcommand{\keywords}[1]{
341    \@bsphack
342    \def\and{\unskip\ \textbullet\ }%
343    \def\@keywords{#1}%
344    \@esphack}%
345 \newcommand{\authornote}[1]{
346    \@bsphack
347    \if@referee
348      \def\@authornote{}%
349    \else
350      \def\@authornote{#1}%
351    \fi%
352    \@esphack}%
353 \newcommand{\editor}[1]{
354    \@bsphack
355    \def\@articleinfo@name{#1}%
356    \@esphack}%
357 \newcommand{\received}[1]{
358    \@bsphack
359    \def\@articleinfo@rdate{#1}%
360    \@esphack}%
361 \newcommand{\accepted}[2][]{
362    \@bsphack
363    \def\@articleinfo@rounds{#1}
364    \def\@articleinfo@adate{#2}%
365    \@esphack}%
366 \newcommand{\doitext}{DOI:}
367 \newcommand*{\outdoi}{%
368  \begingroup
369  \lccode`\~=`\#\relax
370  \lowercase{\def~{\#}}%
371  \lccode`\~=`\_\relax
372  \lowercase{\def~{\_}}%
373  \lccode`\~=`\<\relax
374  \lowercase{\def~{\textless}}%
375  \lccode`\~=`\>\relax
376  \lowercase{\def~{\textgreater}}%
377  \lccode`\~=0\relax
378  \catcode`\#=\active
```

```latex
379    \catcode`\_=\active
380    \catcode`\<=\active
381    \catcode`\>=\active
382    \@outdoi
383 }
384 \def\@outdoi#1{%
385    \let\#\relax
386    \let\_\relax
387    \let\textless\relax
388    \let\textgreater\relax
389    \edef\x{\toks0={{#1}}}%
390    \x
391    \edef\#{\@percentchar23}%
392    \edef\_{\_}%
393    \edef\textless{\@percentchar3C}% instead of {\string<} for Apple
394    \edef\textgreater{\@percentchar3E}% instead of {\string>} for Apple
395    \edef\x{\toks1={\noexpand\href{http://dx.doi.org/#1}}}%
396    \x
397    \edef\x{\endgroup\doitext\the\toks1 \the\toks0}%
398    \x
399 }
400 \newcommand*{\doi}[1]{
401    \@bsphack
402    \def\@doi{#1}
403    \@esphack}%
404 \newcommand{\acknowledgements}[1]{
405    \@bsphack
406    \def\@acknowledgements{#1}
407    \@esphack}%
408 \newif\if@licenseset
409 \newcommand{\licence}[1]{%
410    \@bsphack
411    \def\@licence{#1}
412    \@esphack}%
413 \let\license\licence
414 \newcommand{\CCBYNCSAThree}{%
415    \@licensesettrue%
416    \def\doclicense@type{CC}%
417    \def\doclicense@modifier@uppercase{BY-NC-SA}%
418    \def\doclicense@versionUsed{3.0}%
419 }%
420 \newcommand{\CCBYNCSAFour}{%
421    \@licensesettrue%
422    \def\doclicense@type{CC}%
423    \def\doclicense@modifier@uppercase{BY-NC-SA}%
424    \def\doclicense@versionUsed{4.0}%
425 }%
426 \newcounter{addresses}
427 \renewcommand{\theaddresses}{\alph{addresses}}
```

```
428 \newcommand{\address}[2][]{%
429     \@bsphack
430     \if@referee
431         \def\@addresses@list{}
432     \else
433         \@ifempty{#2}{%
434             \@ifempty{#1}{}{%
435                 \protected@xappto\@authors{\textsuperscript{\@address@sep #1}}
436                 \gdef\address@sep{,}%
437         }}{%
438                 \stepcounter{addresses}
439                 \protected@xappto\@authors{\textsuperscript{\@address@sep\theaddresses}}
440                 \gdef\@address@sep{,}%
441                 \ifx\@addresses@list\@empty
442                     \protected@xdef\@addresses@list{\textsuperscript{\theaddresses}\ #2}
443                 \else
444                     \protected@xappto\@addresses@list{\newline\textsuperscript{\theaddresses}\ #2}
445                 \fi}
446     \fi
447     \@esphack}%
448 \title{}%
449 \subtitle{}%
450 \author{}%
451 \address{}
452 \keywords{}%
453 \authornote{}%
454 \editor{}%
455 \received{}%
456 \accepted{}%
457 \doi{}%
458 \licence{}
459 \acknowledgements{}%
460 \def\abstract#1{\@bsphack\def\@abstract{#1}\@esphack}%
461 \abstract{}%
462 \def\@authors{}
463 \def\@shortauthor{}
464 \def\@shortauthors{}
465 \def\@tocauthor{}
466 \def\@tocauthors{}
467 \def\@email{}
468 \def\@addresses@list{}
```

\abstract   This accepts the abstract text.

```
469 \def\abstract#1{\@bsphack\def\@abstract{#1}\@esphack}%
470 \abstract{}%
```

\outputarticleappendix   The articleappendix and articleappendix* environments collect the material given within them
\@articleappendix   inside an article environment. The collected material is accumulated and output at the article's
\@wrap@articleappendix
articleappendix
articleappendix*

31

very end. The basic form `articleappendix` begins a new page per instance while the starred form `articleappendix*` does not. Each appendix is wrapped into its own group so things remain local.

```
471  \DeclareRobustCommand{\outputarticleappendix}{%
472    {%
473      \appendix
474  \@articleappendix
475  \global\let\@articleappendix\relax
476    }%
477  }%
478  \long\def\@wrap@articleappendix#1{\gappto{\@articleappendix}{{#1}}}
479  \newenvironment{articleappendix}{%
480    \gappto{\@articleappendix}{\clearpage}%
481    \Collect@Body\@wrap@articleappendix}{}
482  \newenvironment{articleappendix*}{%
483    \Collect@Body\@wrap@articleappendix}{}
484  \let\@articleappendix\relax

485  \def\@makefnmark{\textsu{\@thefnmark}\ }%
486  \renewcommand\@makefntext[1]{%
487      \parindent 1em%
488      \noindent%
489      \@makefnmark#1}%
```

19.9.2 Page styles

This is the standard page style:

Page Head: three lines of text, `\textwidth` wide and aligned to the inner and outer text body borders, respectively, each above a black horizontal line at full sheet width. The text entries comprise:

Line 1, inner side: journal name;
         outer side: no text.

Line 2, inner side: volume/number/issue date, text colour is 50% grey;
         outer side: no text.

Line 3, inner side:
         ▷ left pages: section name;
         ▷ common right pages: author's name(s);
         ▷ editorial content, both sides: section or category name;
         text colour is 50% grey;

         outer side: page number in bold type, coloured black, shifted by an amount of `\headpageoffset` to the outer edge of the page.

Page foot: Mostly empty; sometimes in editorial content sections it shows a black horizontal line from the outer text edge to the inner sheet edge (spine).

`\headwidth`
`\headmargin` Basic lengths for head and foot elements. `\headwidth` is the overall width of the headbox equalling the page width plus a bleed of three millimeters. It is logically restricted to `\textwidth` by substracting `\headmargin` at both sides.

\bleed   *Bleed* is a printing term that refers to printing beyond the edge of the sheet after trimming. The \bleed is a measure describing the (small) amount of space by which objects on the border of your document will extend. Please note that this length is not added automatically, but has to be added manually.

\footrulewidth   The width of the foot rule. As it is drawn asymmetrically (running from the outer text edge to the spine) it has to be a bit smaller than the head box.

\headfootruleheight   This is the width of all lines in head and foot.

```
490 \newlength{\headwidth}%
491 \newlength{\bleed}%
492 \newlength{\headmargin}%
493 \newlength{\footrulewidth}%
494 \newlength{\headfootruleheight}%
495 \setlength{\bleed}{3mm}%
496 \setlength{\headfootruleheight}{0.4mm}%
```

We want to be able to change \bleed in the preamble so we delay the calculations until \begin{document}.

```
497 \AtBeginDocument{%
498   \setlength{\headwidth}{\paperwidth+2\bleed}%
499   \setlength{\headmargin}{0.5\headwidth-0.5\textwidth}%
500   \setlength{\footrulewidth}{0.5\headwidth+0.5\textwidth}}%
```

\headbox   The main formatting routine for the running head is a `tabular*` environment.

```
501 \newcommand{\headbox}[6]{\bgroup%
502   \setstretch{1}%
503   \reset@font\pageheadfont
504   \tabcolsep\z@
505   \arrayrulewidth\headfootruleheight
506   \hskip-\headmargin
507   \begin{tabular*}{\headwidth}[b]%
508     {@{\rule{\headmargin}{\z@}}%
509     >{\rule[-1.25mm]{\z@}{5mm-\arrayrulewidth}}%
510     l@{\extracolsep{\textwidth minus 1fill}}r%
511     @{\rule{\headmargin}{\z@}}}
512     #1 & #2\\
513     \hline
514     #3 & #4\\
515     \hline
516     #5 & #6\\
517     \hline
518   \end{tabular*}%
519   \hskip-\headmargin
520   \egroup
521 }%
```

\theheadvolume
\headpageoffset
\theoddheadpage
\theevenheadpage

These macros are used to assemble the page head, . . .

```
522 \newcommand{\theheadvolume}{%
523   \begingroup\hypersetup{urlcolor=headtextcolor}\textcolor{headtextcolor}{Vol.\,\@volume, No.\,\@
```

```
524  \newlength{\headpageoffset}%
525  \setlength{\headpageoffset}{10mm}%
526  \def\theoddheadpage{%
527    \rlap{\makebox[\headpageoffset][r]{\pagenumfont\thepage}}}%
528  \def\theevenheadpage{%
529    \llap{\makebox[\headpageoffset][l]{\pagenumfont\thepage}}}%
```

@footrule switch   ... and these are for the page foot.

\footruleoff
\footruleon
\footrule

```
530  \newif\if@footrule%
531  \def\footruleoff{\global\@footrulefalse}%
532  \def\footruleon{\global\@footruletrue}%
533  \def\footrule#1{%
534    \if@footrule
535      \makebox[\textwidth][#1]{%
536        \reset@font
537        \rule[\headfootruleheight]{\footrulewidth}{\headfootruleheight}%
538        }\fi}%
```

\headmarkstyle   Sets the content marks in the running titles.

\markhead
\markarticle
\markeditorial

```
539  \def\headmarkstyle#1{\@bsphack
540    \def\@headmarkstyle{#1}%
541    \@esphack}%
542  \headmarkstyle{\color{headtextcolor}}%
543  \def\markhead#1#2{\@bsphack
544    \gdef\@evenmark{#1}%
545    \gdef\@oddmark{#2}%
546    \@esphack}%
547  \def\markarticle{\markhead{\@shortauthor}{\@shorttitle}}%
548  \def\markeditorial{\markhead{\@shorttitle}{\@shorttitle}}%
```

\ps@emisa   Finally that all being thrown together gives the basic page style.

```
549  \def\ps@emisa{%
550    \def\@oddhead{%
551      \headbox{\@journalname}{}%
552              {\theheadvolume}{}%
553              {{\@headmarkstyle\@oddmark}}{\theoddheadpage}%
554    }%
555    \def\@evenhead{%
556      \headbox{}{\@journalname}%
557              {}{\theheadvolume}%
558              {\theevenheadpage}{{\@headmarkstyle\@evenmark}}%
559    }%
560    \let\@oddmark\relax
561    \let\@evenmark\relax
562    \def\@oddfoot{\footrule{r}}%
563    \def\@evenfoot{\footrule{l}}%
564  }%
```

\ps@emisaarticle   We have two minimally different page styles:
\ps@emisaeditorial

▷ `\ps@emisaarticle` for author-named articles, showing the author's names on the left and the article title on the right side;

▷ `\ps@emisaeditorial` for editorial material, showing the the article title on both sides.

```
565 \def\ps@emisaarticle{%
566   \ps@emisa
567   \markarticle
568   \footruleoff
569 }%

570 \def\ps@emisaeditorial{%
571   \ps@emisa
572   \markeditorial
573   \footruleon
574 }%

575 \AtEndOfClass{\pagestyle{emisa}}%
```

19.9.3 Cover and advertisement pages

`\basecoverfont`
`\covervolumefont`
`\covertitlefont`

These are the font and size definitions for cover pages. We are using the sansserif script from the Libertine package, called *Linux Biolinum*, in two different sizes with the title font being bold.

```
576 \def\basecoverfont{\normalfont\sffamily}%
577 \def\covervolumefont{%
578   \basecoverfont\fontsize{6mm}{6mm}\selectfont}%
579 \def\covertitlefont{%
580   \basecoverfont\bfseries\fontsize{11mm}{16.5mm}\selectfont}%
```

`\coverIbgname`
`\coverIVbgname`
`\sigmobislogoname`
`\gislogoname`

These are names for background graphics and logos. As these are subject to be changed from time to time these adjustments are put into the base config file, too.

```
581 \def\coverIbgname{U1_bg}%
582 \def\coverIVbgname{U4_bg}%
583 \def\sigmobislogoname{SIG-MOBIS-logo-300}%
584 \def\sigEMISAlogoname{EMISA-Logo-svg}%
585 \def\gislogoname{GIS-logo_with_text-300}%
```

`\AtPageDeadCenter`
`\page@empty`

`\AtPageDeadCenter` centers its argument horizontally and vertically around the geometric page center. This macro is to be used inside some eso-pic ShipoutPicture.

```
586 \newcommand{\AtPageDeadCenter}[1]{%
587   \AtPageCenter{\makebox[\z@][c]{%
588     \raisebox{-0.5\totalheight}[\z@][\z@]{#1}}}%
589 }%
590 \def\page@empty{\relax}%
```

`\pagebg` Background color for one whole page plus bleed.

```
591 \newcommand{\pagebg}[1]{%
592   \AtPageDeadCenter{%
593     \textcolor{#1}{\rule{\paperwidth+2\bleed}{\paperheight+2\bleed}}}}%
```

\thispagebackground	\thispagebackground put its obligatory argument into the background of the running page. If there is a non-empty optional argument it will be interpreted as the style of this page (using \thispagestyle).

```
594 \newcommand{\thispagebackground}[2][]{%
595   \@ifarg{#1}{\thispagestyle{#1}}%
596   \AddToShipoutPicture*{%
597     \unitlength 1mm\relax%
598     {#2}%
599 }}%
```

\picturepage	\picturepage additionally empties and flushes the running page, thus producing a picture-only page.

```
600 \newcommand{\picturepage}[2][empty]{%
601   \thispagebackground[#1]{#2}%
602   \null\clearpage
603 }%
```

\inputpagegraphic	This loads a picture file to generate a picture-only page from.

```
604 \newcommandtwoopt*{\inputpagegraphic}[3][empty][]{%
605   \thispagebackground[#1]{\includegraphics[width=\paperwidth,#2]{#3}}%
606   \null\clearpage
607 }%
```

\coverpage	\coverpage is a special form of the \picturepage:

```
608 \newcommand{\coverpage}[2][]{%
609   \@ifarg{#1}{\setcounter{page}{#1}}%
610   \picturepage{#2}%
611 }%
```

\thecovervolumeline \thecovertitle	These represent the

```
612 \newcommand{\thecovervolumeline}{%
613   \parbox[t]{130mm}{%
614     \raggedright
615     \color{covertextcolor}\covervolumefont%
616     Volume\space\@volume
617     \enspace\rule[-1mm]{0.5mm}{6mm}\enspace
618     No.\,\@issue\space\textbf{\@issuedate}\\[3mm]%
619     \@specialissuetitle
620   }%
621 }%
622 \def\thecovertitle{%
623   \parbox[t][30mm][s]{174mm}{%
624     \color{covertextcolor}%
625     \covertitlefont
626     \raggedright\@journalname\par
627     \vskip8mm
628     \covervolumefont
629     \raggedleft
630     \textbf{An International Electronic Journal\,}}}
```

\sigmobispage	This macro holds the complete announcement page on the *GI-SIG-MoBIS portal* to be published on the third cover page (backcover, inside).

\sigmobispage holds just the contents of the SIG-Mobis ad. It produces a box with an outer width of *zero points* and a height as specified by the inner `minipage` environment. When used as an advertising page it has to be *centered horizontally and vertically* in the page area. This is achieved most easily by using the \AtPageDeadCenter utility macro (see section 19.9.3) from eso-pic [10]. |

```
631 \def\sigmobispage{%
632   \makebox[\z@][c]{%
633     \begin{minipage}[c][260mm][s]{\textwidth}
634       \sigmobispagehead
635       \medskip
636
637       The GI-SIG-MoBIS portal provides numerous resources on enterprise
638       modelling research, such as a full-text digital library, a
639       bibliography, conference announcements, a glossary and evaluation
640       reports.  It is intended to establish the premier forum for an
641       international community in enterprise modelling.  The new version
642       is based on a Content Management System allowing authorized users
643       to conveniently upload content.  A \BibTeX{} interface allows for
644       conveniently integrating bibliographic data.  Information about
645       this journal, such as guidelines for authors, tables of content
646       and full-text access to articles (for GI-SIG-MobIS members only)
647       are also available on the~portal.
648       \par
649       \medskip
650
651       \begin{center}
652         \includegraphics{GI-SIG-MOBIS_portal}
653       \end{center}
654
655       \medskip
656
657       GI encourages everybody who wants to participate in the
658       evolution of this community knowledge base to contribute to any of
659   the categories covered by the portal. Please contact Michael He\ss{}
660   (\href{mailto:m.hess@uni-duisburg-essen.de}{m.hess@uni-duisburg-essen.de})
661   for further~information.
662
663       \vfill
664
665       \sigmobispagefoot
666     \end{minipage}%
667   }%
668 }
```

\sigmobispagehead	Elements of \sigmobispage.
\sigmobispagefoot	
| \sigmobispagerule | ```
669 \def\sigmobispagerule#1{%
``` |

```
670 \parbox[c][23mm][s]{\linewidth}{%
671   \centering
672   \textcolor{gray}{\rule{.92\linewidth}{1mm}}%
673   \par\vfill
674   \raisebox{-.4\height}[.5\totalheight][.5\totalheight]{\huge#1}%
675   \par\vfill
676   \textcolor{gray}{\rule{.92\linewidth}{1mm}}}\par}%
677 \def\sigmobispagehead{\sigmobispagerule{SIG-MoBIS Portal}}
678 \def\sigmobispagefoot{\sigmobispagerule{http://wi-mobis.gi-ev.de/}}
```

\coverI Each of these prepares one of the cover pages.
\coverII
\coverIII
\coverIV

```
679 \def\coverI#1{\@ifempty{#1}%
680   {\let\@coverI\relax}%
681   {\def\@coverI{\coverpage[-2]{#1}}}}%
682 \def\coverII#1{\@ifempty{#1}%
683   {\let\@coverII\relax}%
684   {\def\@coverII{\coverpage[-1]{#1}}}}%
685 \def\coverIII#1{\@ifempty{#1}%
686   {\let\@coverIII\relax}%
687   {\def\@coverIII{\coverpage{#1}}}}%
688 \def\coverIV#1{\@ifempty{#1}%
689   {\let\@coverIV\relax}%
690   {\def\@coverIV{\coverpage{#1}}}}%
```

So we prepare the four cover pages.

```
691 \coverI{%
692   \pagebg{coverbgcolor}%
693   \AtPageUpperLeft{%
694     \raisebox{-\totalheight}{\includegraphics{\coverIbgname}}}%
695   \AtPageUpperLeft{\put(17,-28){\mbox{%
696     \includegraphics[height=19mm]{\sigmobislogoname}%
697     \hspace{5mm}%
698     \includegraphics[height=14.75mm]{\sigEMISAlogoname}%
699     }}%
700   }%
701   \AtPageLowerLeft{\put(166,9){\includegraphics{\gislogoname}}}%
702   \AtPageLowerLeft{\put(17,44){\thecovervolumeline}}%
703   \AtTextLowerLeft{\put(-28,36){\framebox(200,62)[c]{}}}%
704   \AtPageLowerLeft{\put(17,112){\thecovertitle}}%
705 }%
706 \coverII{\page@empty}%
707 \coverIII{\AtPageCenter{\sigmobispage}}%
708 \coverIV{%
709   \pagebg{coverbgcolor}%
710   \AtPageLowerLeft{%
711     \raisebox{167mm}{\includegraphics{\coverIVbgname}}}%
712   \AtPageLowerLeft{%
713     \put(6,9){\parbox[b]{10cm}{\raggedright\large\sffamily\@issn}}}%
714   \AtPageLowerLeft{%
```

```
715    \put(166,9){\includegraphics{GIS-logo_with_text-300}}}%
716  }%
717  \if@cover
718    \AtBeginDocument{%
719      \@coverI\@coverII
720      \setcounter{page}{1}%
721    }%
722    \AtEndDocument{%
723      \@coverIII\@coverIV
724    }%
725  \fi
```

\graphicspath The picture files used above have to be found. Normally they should be somewhere on the TeX $PATH, probably in the same directory where EMISA is situated. As least as we are in Beta state one might put them into the local subdirectory figs_base/; we provide for that by including the following line in the config file.

```
726  \graphicspath{{/figs_base/},{./figs_base/}}
```

19.9.4 Formatting common articles

\c@article The article and editorialcontent environments maintain their own (common) counter. Although it is not referenced anywhere at the moment of writing it is used to reset a couple of other counters with every new one of those environments.

```
727  \newcounter{article}%
728  \@addtoreset{section}{article}%
729  \@addtoreset{footnote}{article}%
730  \@addtoreset{figure}{article}%
731  \@addtoreset{table}{article}%
```

article This encapsulates each article.

```
732  \newenvironment{article}[1]{%
733    \clearpage
734    \refstepcounter{article}%
735    \pagestyle{emisaarticle}%
736    \col@number=\tw@\relax
737    #1\relax
738    \l@article
```

Every article is its own bibliographical unit.

```
739    \begin{refsection}%
740    \maketitle
741    \ignorespaces
742    }{%
743    \end{refsection}%
744    \outputarticleappendix\FloatBarrier\par%
745    \vspace{\baselineskip}%
746    \noindent\ignorespaces
```

```
747    \if@licenseset
748      \begin{minipage}{\columnwidth}
749      \parbox[t]{\dimexpr 0.975\columnwidth-\doclicense@imagewidth\relax}{\vskip 0pt\raggedright\
750      \hfill%
751      \parbox[t]{\doclicense@imagewidth}{\vskip 0pt\doclicenseImage}%
752      \end{minipage}%
753    \else
754      \ifx\@licence\@empty\relax\else\par\noindent\@licence\fi%
755    \fi%
756    \onecolumn
757    \ignorespacesafterend}%
```

19.9.5 Formatting editorial content

\edit@setup   This adjusts the basic page makeup for editorial material.

```
758 \newcommandtwoopt{\edit@setup}[3][][]{%
759    \title[#1][#2]{#3}
760    \pagestyle{emisaeditorial}
```

Here, section titles are a bit larger than otherwise.

```
761    \def\sec@font{\sectionfont\Large}%
762    \def\para@font{\sectionfont}%
763    \setcounter{section}{0}%
764 }%
```

editorialcontent   This encapsulates editorial content entries.

```
765 \newenvironment{editorialcontent}[1]{%
766    \onecolumn
767    \refstepcounter{article}%
768    \edit@setup{#1}%
769    \l@editorialcontent
770    \raisebox{5.5mm}[10mm][0pt]{\sec@font\@title}\\
```

Every editorialcontent is its own bibliographical unit.

```
771    \begin{refsection}%
772    \ignorespaces
773    }{%
774    \end{refsection}%
775    \onecolumn
776    \ignorespacesafterend}%
```

19.9.6 Standard editorial content environments

Several types of standardized editorial contents.

editorial   This encapsulates editorials.
\editorialname
```
777 \def\editorialname{Editorial Preface}%
```

```
778 \newenvironment{editorial}[1][\editorialname]{%
779   \clearpage
780   \edit@setup{#1}%
781   \twocolumn[{\raisebox{5.5mm}[10mm][0pt]{\sec@font\@title}}]%
782   \l@editorialcontent
```

Every `editorial` is its own bibliographical unit.

```
783   \begin{refsection}%
784   \ignorespaces
785   }{%
786   \end{refsection}%
787   \onecolumn
788   \ignorespacesafterend}%
```

cfp Call for papers.

\cfpname
```
789 \def\cfpname{Call for Papers}%
790 \newenvironment{cfp}[1][\cfpname]%
791   {\editorialcontent{#1}}%
792   {\endeditorialcontent}%
```

\imprint Imprint.

\imprintname
\imprintbody
```
793 \newcommandtwoopt{\imprint}[2][\@imprintname][\@imprintbody]{%
794   \onecolumn
795   \edit@setup[#1]{\@journalname}%
796   \l@editorialcontent
797   \raisebox{5.5mm}[10mm][0pt]{\sec@font\@title}\\
798   \ignorespaces
799   #2
800   \onecolumn\ignorespacesafterend}%
801 \def\imprintname#1{\@bsphack\def\@imprintname{#1}\@esphack}%
802 \long\def\imprintbody#1{\@bsphack\def\@imprintbody{#1}\@esphack}%

803 \imprintname{Imprint}%
804 \imprintbody{%
805   The journal \emph{\@journalname} is the official journal of the
806   Special Interest Group on Modelling Business Information Systems
807   within the German Informatics Society (GI-SIG MoBIS).
808
809   The journal Enterprise Modelling and Information Systems
810   Architectures is intended to provide a forum for those who prefer a
811   design-oriented approach.  As the official journal of the German
812   Informatics Society (GI-SIG-MoBIS), it is dedicated to promote the
813   study and application of languages and methods for enterprise
814   modelling -- bridging the gap between theoretical foundations and
815   real world requirements.  The journal is not only aimed at
816   researchers and students in Information Systems and Computer
817   Science, but also at information systems professionals in industry,
818   commerce and public administration who are interested in innovative
819   and inspiring concepts.
```

```
820
821    The journal's editorial board consists of scholars and practitioners
822    who are renowned experts on various aspects of developing, analysing
823    and deploying enterprise models.  Besides Information Systems, they
824    cover various fields of Computer Science.
825
826    \section*{Subscription Information}
827
828    The journal is distributed free of charge for members of the
829    GI-SIG-MoBIS. Membership can be acquired through the German
830    Informatics Society (http://www.gi-ev.de/verein/mitgliedschaft/).
831    Single issues, priced at EUR\,25 each (plus shipment), can be ordered
832    online (http://www.fg-mobis.gi-ev.de/).}
```

\editorialboard   Outputs the Editorial Board page.

\editorialboardname   Sets the name of the Editorial Board for use in the table of contents and in \editorialboard.

\editorialboardbody   Sets the contents of the Editorial Board for use in \editorialboard.

The vertical size of the Editorial Board will exceed page height if there are more than about 48 name entries and/or other material. To prevent that the grey box is scaled down to a height of \editorialboxmaxheight if its natural size is bigger than that.

```
833    \newsavebox{\@editorial@box}%
834    \newlength{\editorialboxmaxheight}%
835    \setlength{\editorialboxmaxheight}{\textheight+10mm}%
836    \newcommandtwoopt{\editorialboard}[2]%
837     [\@editorialboardname][\@editorialboardbody]{%
838      \clearpage
839      \edit@setup[#1]{#1}%
840      \l@editorialcontent
841      \savebox{\@editorial@box}{%
842        \vbox{\centering%
843    \fboxsep=5mm
844    \fcolorbox{boxframecolor}{boxbgcolor}{%
845    \begin{minipage}[t]{110mm}
846      \raggedright
847      #2
848    \end{minipage}}\\*
849    }%
850      }%
851    \raisebox{15mm-\totalheight}[5mm][0mm]{\makebox[\textwidth][c]{%
852        \ifdim\ht\@editorial@box>\editorialboxmaxheight
853    \resizebox{!}{\editorialboxmaxheight}{\usebox{\@editorial@box}}%
854    \else
855      \usebox{\@editorial@box}%
856    \fi
857      }}\\*
858      \raisebox{-\textheight}[0mm][0mm]{\makebox[\textwidth][l]{%
859      \parbox[t]{\textwidth}{\raggedleft\bfseries\@issn}%
```

42

```latex
860 }}%
861   \onecolumn\ignorespacesafterend
862 }%
863 \def\editorialboardname#1{%
864   \@bsphack\def\@editorialboardname{#1}\@esphack}%
865 \long\def\editorialboardbody#1{%
866   \@bsphack\def\@editorialboardbody{#1}\@esphack}%
867 \editorialboardname{Editorial Board}%
868 \editorialboardbody{%
869   \section*{\@title}\vskip1mm
870   {\Large Editors in Chief\\[1mm]}
871   Ulrich Frank, University of Duisburg-Essen\\
872   Manfred Reichert, Ulm University\\[1mm]
873   {\Large Associate Editors\\[1mm]}
874   Wil van der Aalst, Eindhoven University of Technology\\
875   Witold Abramowicz, Poznan University of Economics\\
876   Colin Atkinson, University of Mannheim\\
877   J\"org Becker, University of M\"unster\\
878   J\"org Desel, University of Hagen\\
879   Werner Esswein, Dresden University of Technology\\
880   Fernand Feltz, Centre de Recherche Public Gabriel Lippmann\\
881   Andreas Gadatsch, Bonn-Rhine-Sieg University of Applied Sciences\\
882   Martin Glinz, University of Zurich\\
883   Norbert Gronau, University of Potsdam\\
884   Wilhelm Hasselbring, University of Kiel\\
885   Brian Henderson-Sellers, University of Technology, Sydney\\
886   Stefan Jablonski, University of Bayreuth\\
887   Manfred Jeusfeld, Tilburg University\\
888   Reinhard Jung, University of St.\,Gallen\\
889   Dimitris Karagiannis, University of Vienna\\
890   John Krogstie, University of Trondheim\\
891   Thomas K\"uhne, Victoria University of Wellington\\
892   Frank Leymann, University of Stuttgart\\
893   Stephen W. Liddle, Brigham Young University\\
894   Peter Loos, Johannes Gutenberg-University of Mainz\\
895   Oscar Pastor L\'opez, Universidad Polit\`ecnica de Val\`encia\\
896   Heinrich C. Mayr, University of Klagenfurt\\
897   Jan Mendling, Vienna University of Economics and Business\\
898   Markus N\"uttgens, University of Hamburg\\
899   Andreas Oberweis, University of Karlsruhe\\
900   Erich Ortner, Darmstadt University of Technology\\
901   Erik Proper, Radboud University Nijmegen\\
902   Michael Rebstock, University of Applied Sciences Darmstadt\\
903   Stefanie Rinderle-Ma, University of Vienna\\
904   Michael Rosemann, Queensland University of Technology\\
905   Matti Rossi, Aalto University\\
906   Elmar J. Sinz, University of Bamberg\\
907   Friedrich Steimann, University of Hagen\\
908   Stefan Strecker, University of Hagen\\
```

```
909    Bernhard Thalheim, University of Kiel\\
910    Oliver Thomas, University of Osnabr\"uck\\
911    Juha-Pekka Tolvanen, University of Jyv\"askyl\"a\\
912    Klaus Turowski, University of Augsburg\\
913    Gottfried Vossen, University of M\"unster\\
914    Mathias Weske, University of Potsdam\\
915    Robert Winter, University of St.\,Gallen\\
916    Heinz Z\"ullighoven, University of Hamburg}%
```

\guidelines   Guidelines for Authors.
\guidelinesname
\guidelinesbody

```
917  \newcommandtwoopt{\guidelines}[2]%
918   [\@guidelinesname][\@guidelinesbody]{%
919   \onecolumn
920   \edit@setup{#1}%
921   \l@editorialcontent
922   \raisebox{5.5mm}[10mm][0pt]{\sec@font\@title}\\
923   \ignorespaces
924   #2
925   \onecolumn\ignorespacesafterend}%
926  \def\guidelinesname#1{%
927   \@bsphack\def\@guidelinesname{#1}\@esphack}%
928  \long\def\guidelinesbody#1{%
929   \@bsphack\def\@guidelinesbody{#1}\@esphack}%

930  \guidelinesname{Guidelines for Authors}%
931  \guidelinesbody{%
932   The journal serves to publish results of innovative research on all
933   facets of creating and analysing enterprise models and information
934   systems architectures.  For research papers, it is required to
935   satisfy academic standards in terms of originality, level of
936   abstraction and justification of results.  Experience reports serve
937   to describe and analyse success stories as well as practical
938   obstacles and resulting research challenges.  Topics covered by the
939   journal include, but are not restricted to the following subjects:
940   \begin{itemize}
941     \item  Languages and Methods for Enterprise Modelling
942     \item  Reusable Domain Models (Reference Models)
943     \item  Analysis and Design Patterns
944     \item  Modelling of Business Processes and Workflows
945     \item  Process-Oriented System Architectures
946     \item  Component-Oriented System Architectures
947     \item  Conceptual Modelling for Component-Oriented Design
948     \item  Ontologies for Enterprise Modelling
949     \item  Modelling for Enterprise Application Integration
950     \item  Modelling for Data Warehouses
951     \item  Modelling to support Knowledge Management
952     \item  Model-Driven Development
953     \item  Aspect-Oriented Design
954     \item  Agile Methods for Enterprise Modelling
```

```
955     \end{itemize}
956     Authors are asked for electronic submissions, which have to be sent
957     to the editor in chief as e-mail attachment.  In case of multiple
958     authors, it is required to name one author who acts as contact
959     person.  The submission should include a cover page with the paper's
960     title and the names, affiliations and e-mail addresses of all
961     authors.  The first page of the paper starts with the title and does
962     not carry the authors' names.  A manuscript must be either in MS
963     Word or PDF format.  It should not exceed 5.000 words -- this
964     includes an abstract of around 150 words.
965
966     Submitted papers will be reviewed within no more than two months.
967     The review process is double blind.  Authors who submit a manuscript
968     guarantee that it has not been published elsewhere, nor is intended
969     to be published elsewhere.  Papers that were accepted for
970     publication must be written according to the style defined for the
971     journal.  A comprehensive description as well as a corresponding
972     Word template is provided on the web portal of the GI-SIG-MobIS
973     (http://www.fg-mobis.gi-ev.de/).}
```

19.9.7 Making the title

\maketitle This takes a couple of prerequisites, then looks if we are in one- or twocolumn mode and finally outputs the information accordingly.

```
974  \def\maketitle{%
975    \begingroup
976    \let\footnoterule\relax
977    \let\footnote\thanks
978    \let\thefootnote\relax
979    \def\@makefnmark{\textsuperscript{\@thefnmark}}%
980    \ifnum\col@number=\@ne
981      \@maketitle
982    \else
983      \twocolumn[\@maketitle]%
984    \fi
985    \global\@topnum\z@
986    \@thanks
987    \endgroup
988    \setcounter{footnote}{0}%
989  }%
```

\@maketitle This assembles and outputs the article title.

```
990  \def\@maketitle{%
991    \bgroup
992    \normalfont
993    \pretolerance=9999
994    \parskip\z@
995    \parindent\z@
```

```
996     \if!\@title!
997     \else
998     {\raggedright
999         \titlefont\ignorespaces
1000        \strut\@title\strut\par}%
1001    \vskip2mm\relax
1002    \fi
1003    \if!\@subtitle!
1004    \vskip5mm\relax
1005    \else
1006    {\makebox[\textwidth][r]{%
1007      \begin{minipage}{\textwidth-15mm}
1008          \raggedright
1009          \subtitlefont\ignorespaces
1010          \strut\@subtitle\strut
1011      \end{minipage}}%
1012      \par}%
1013    \vskip5mm\relax
1014    \fi
1015    \if!\@authors!
1016    \else
1017    {\raggedright
1018     \authorfont\ignorespaces
1019     \strut\@authors
1020     \ifx\@email\@empty
1021         \ClassError{emisa}{There has to be one corresponding author!}{Please use \string\author* a
1022     \else
1023        \ignorespaces\makebox[0pt][l]{\footnote{*~Corresponding author.\newline E-mail.\ \url{\@ema
1024     \fi%
1025     \ifx\@acknowledgements\@empty
1026     \else
1027        \ignorespaces\makebox[0pt][l]{\footnote{\@acknowledgements}}%
1028     \fi%
1029     \strut\par}%
1030    \vskip2mm\relax
1031    \fi
1032    \if!\@addresses@list!
1033    \else
1034    {\raggedright
1035     \footnotesize\ignorespaces
1036     \strut\@addresses@list\strut\par}%
1037    \vskip8mm\relax
1038    \fi
1039    \if!\@authornote!
1040    \else
1041    \let\thefootnote\relax
1042    \ignorespaces\makebox[0pt][l]{\footnote{Note: \@authornote}}%
1043    \fi
1044    \if!\@abstract!
```

```
1045    \else
1046     {\abstractfont\ignorespaces
1047      \strut\textup{Abstract.\ }\@abstract\strut\par}%
1048      \vskip5mm\relax
1049    \fi
1050    \if!\@keywords!
1051      \vskip3mm\relax
1052    \else
1053     {\raggedright
1054      \ignorespaces
1055      \strut Keywords.\ \@keywords\strut\par}
1056      \vskip3mm\relax
1057    \fi
1058    \if!\@articleinfo@name!
1059      \if!\@articleinfo@rdate!
1060        \if!\@articleinfo@adate!
1061          \vskip\baselineskip\relax
1062        \fi
1063      \fi
1064    \else
1065     {\raggedright
1066      \small
1067      \ignorespaces
1068      \strut Communicated by\ \@articleinfo@name.%
1069      \if!\@articleinfo@rdate!%
1070      \else
1071        \space Received\ \@articleinfo@rdate.%
1072      \fi%
1073      \if!\@articleinfo@adate!%
1074      \else
1075        \space Accepted\ %
1076        \if!\@articleinfo@rounds!%
1077        \else%
1078          \ifnum\@articleinfo@rounds=1
1079            after \@articleinfo@rounds{} revision\space%
1080          \else
1081            after \@articleinfo@rounds{} revisions\space%
1082          \fi%
1083        \fi%
1084        on \@articleinfo@adate.
1085      \fi%
1086      \strut\par}
1087      \vskip5mm\relax
1088    \fi
1089    \egroup
1090 }
```

47

19.9.8 Sectioning

\@sect This internal macro facilitates the representation of unstarred sectioning commands using `\@startsection`.

Syntax:

`\@sect{⟨#1: name⟩}{⟨#2: level⟩}`
   `{⟨#3: indent⟩}{⟨#4: beforeskip⟩}{⟨#5: afterskip⟩}`
   `{⟨#6: style⟩}[⟨#7: toc-heading⟩]{⟨#8: heading⟩}`

Here is the meaning of all these parameters:

⟨**name**⟩ The name of the current sectioning level, e.g., «subsection».

⟨**level**⟩ The level number, describing the hierarchical depth of the current sectioning level named in –
   e.g., chapter = 1, section = 2, etc. This is used namely in the tabel of contents.

⟨**indent**⟩ The indentation of the heading, relative to the left margin. Positive values shift the heading to
   the right («inward»), negative values to the left («outward»).

⟨**beforeskip**⟩ The absolute value represents the space to leave above the heading. If the value is negative,
   the first paragraph indent following the heading is suppressed.

⟨**afterskip**⟩ If positive, then the section heading is typeset on its own line and the value determines the
   amount of vertical space to leave below the heading. If negative, then the section heading is typeset
   run-in and the absolute value determines the amount of horizontal space to leave between the heading
   and the following text.

⟨**style**⟩ Commands to set the output style. Since he June 1996 release of LaTeX 2ε the *last* command
   in this argument may be a command such as `\MakeUppercase` or `\fbox` that takes an argument.
   The section heading will be supplied as the argument to this command. So setting this to, say,
   «`\bfseries\MakeUppercase`» would produce bold, uppercase headings.

⟨**toc-heading**⟩ The optional string to be output in the table of contents (toc). If not given, the value from
   ⟨*heading*⟩ is used.

⟨**heading**⟩ The heading text to be output in the text body.

These parameters are used also in more high-level sectioning macros upto the familiar user level commands
defined below.

```
1091  \def\@sect#1#2#3#4#5#6[#7]#8{%
1092    \ifnum #2>\c@secnumdepth
1093      \let\@svsec\@empty
1094    \else
1095      \refstepcounter{#1}%
```

Since `\@seccntformat` might end with an improper `\hskip` which is scanning forward for `plus` or
`minus` we end the definition of `\@svsec` with `\relax` as a precaution.

```
1096      \protected@edef\@svsec{\@seccntformat{#1}}%
1097    \fi
1098    \@tempskipa #5\relax
1099    \ifdim \@tempskipa>\z@
```

If afterskip is positive, then its value denotes the amount of vertical skip to leave below the heading:

```
1100      \begingroup
1101        #6{\noindent%
```

48

```
1102        \@hangfrom{\hskip #3\relax\@svsec}%
1103          \raggedright
1104          \interlinepenalty\@M
1105          \strut#8\strut
1106          \@@par}%
1107       \endgroup
1108       \csname #1mark\endcsname{#7}%
1109       \addcontentsline{toc}{#1}{%
1110         \ifnum #2>\c@secnumdepth \else
1111           \protect\numberline{\csname the#1\endcsname}%
1112         \fi
1113         #7}%
1114    \else
```

If afterskip is negative, the its absolute value indicates the amount of horizontal skip to leave to the right of the run-in heading.

```
1115       \def\@svsechd{%
1116          #6{\hskip #3\relax
1117          \@svsec #8}%
1118          \csname #1mark\endcsname{#7}%
1119          \addcontentsline{toc}{#1}{%
1120            \ifnum #2>\c@secnumdepth \else
1121              \protect\numberline{\csname the#1\endcsname}%
1122            \fi
1123            #7}}%
1124    \fi
1125    \@xsect{#5}}
```

\@ssect   The mechanism is very similar for *starred* sectioning commands, but there are few parameters.

Syntax:

\@ssect{⟨#1: indent⟩}{⟨#2: beforeskip⟩}{⟨#3: afterskip⟩}
   {⟨#4: style⟩}{⟨#5: heading⟩}

See also the list on p. .

```
1126  \def\@ssect#1#2#3#4#5{%
1127    \@tempskipa #3\relax
1128    \ifdim \@tempskipa>\z@
1129      \begingroup
1130        #4{\noindent%
1131          \hskip #1\relax
1132          \noindent%
1133          \parbox[t]{\linewidth}{%
1134            \raggedright\interlinepenalty\@M#5\strut}\@@par}%
1135      \endgroup
1136    \else
1137      \def\@svsechd{#4{\hskip #1\relax #5}}%
1138    \fi
1139    \@xsect{#3}}
```

<table>
<tr><td>\@seccntformat</td><td>This formats the counters (including any whitespace) of sectioning headers.</td></tr>
</table>

```
1140 \def\@seccntformat#1{%
1141   \csname the#1\endcsname%
1142   \relax\ \ }%
```

\section These are the sectioning commands, all being built on top of \@startsection.

Syntax:

\@startsection{⟨#1: name⟩}{⟨#2: level⟩}
{⟨#3: indent⟩}{⟨#4: beforeskip⟩}{⟨#5: afterskip⟩}
{⟨#6: style⟩}

See also the list on p. .

All the user level sectioning commands are defined using \@startsection.

Normally the corresponding section level counter is incremented and printed out; the exact output is determined by the definition of the corresponding \the... macro. Additionally, the command uses the counter secnumdepth to determine the highest section level to be numbered at all. If an asterisk (*) follows the command, then the corresponding section level counter is *not* used and *no* [⟨*altheading*⟩] argument is allowed.

```
1143 \def\section{\@startsection{section}%
1144   {1}{\z@}%
1145   {-1\baselineskip plus -2mm minus -2mm}%
1146   {.5\baselineskip plus .25\baselineskip minus .125\baselineskip}%
1147   {\sec@font}}%
```

\subsection

```
1148 \def\subsection{\@startsection{subsection}%
1149   {2}{\z@}%
1150   {-3mm plus -2mm minus -1.5mm}%
1151   {.25\baselineskip  plus .125\baselineskip minus .125\baselineskip}%
1152   {\sec@font}}%
```

\subsubsection

```
1153 \def\subsubsection{\@startsection{subsubsection}%
1154   {3}{\z@}%
1155   {-3mm plus -2mm minus -1mm}%
1156   {1sp}%
1157   {\sec@font}}%
```

\paragraph

```
1158 \def\paragraph{\@startsection{paragraph}%
1159   {4}{\z@}%
1160   {-1.5mm plus -1mm minus -0.75mm}%
1161   {1sp}%
1162   {\para@font}}%
```

\subparagraph

```
1163  \def\subparagraph{\@startsection{subparagraph}%
1164    {5}{\z@}%
1165    {-1.5mm}%
1166    {-1em}%
1167    {\para@font}}%
```

19.9.9   The table of contents

\tableofcontents   This typesets the table of contents (ToC). First the page style is set and the title line is typeset, . . .

```
1168  \def\tableofcontents{%
1169    \onecolumn
1170    \pagestyle{emisaeditorial}%
1171    \footruleon
1172    \title{Table of Contents}%
1173    \null
1174    \vskip10mm
1175    \maketitle
1176    \vskip15mm
1177    \bgroup
```

. . . then, after some more adjustments, the entries are read from ⟨*jobname*⟩.toc using \@starttoc{toc} and output.

```
1178      \parindent\z@
1179      \parskip\z@
1180      \@starttoc{toc}%
1181    \egroup
1182    \onecolumn
1183    }
```

\l@article   These two routines output content lines to the ToC.

\l@editorialcontent

```
1184  \newcommand*\l@article{%
1185    \if!\@subtitle!
1186      \addtocentry{\@tocauthor}{\thepage}{\@toctitle}%
1187    \else
1188      \addtocentry{\@tocauthor}{\thepage}{\@toctitle\ --\ \@tocsubtitle}%
1189    \fi}%
1190  \newcommand*\l@editorialcontent{%
1191    \addtocentry{\@toctitle}{\thepage}{}}%
```

\addtocentry   \addtocentry adds an entry using the typical EMISA layout to the contents listing of choice (default: ToC).

```
1192  \newcommand*\addtocentry[4][toc]{%
1193    \addtocontents{#1}{\string\emisa@tocentry{#2}{#3}{#4}}}%
```

\emisa@tocentry \ \emisa@tocentry typesets that entry.

```
1194 \newcommand{\emisa@tocentry}[3]{%
1195   \makebox[\textwidth][l]{%
1196     \parbox[t]{72.5mm-\@pnumwidth}{\raggedright\textbf{#1}}%
1197     \makebox[\@pnumwidth][r]{\textbf{#2}}%
1198     \hfill
1199     \parbox[t]{85mm}{\raggedright#3}}%
1200   \vspace{3mm}}%
```

The output of ToC entries of level -1 (\part) and above is suppressed.

```
1201 \setcounter{tocdepth}{-2}
```

19.9.10 A few abbreviations

\ie \
\eg \
\cf \
\etal \
\emisa@abbrv \
\emisaabbrv \
\emisa@initialism \
\emisainitialism \
\OMG \
\BPM \
\BPMN \
\UML

Macros for a couple of abbreviations used quite frequently.

```
1202 \newcommand*{\emisa@abbrv}[1]{#1\@\xspace}
1203 \newcommand*{\emisaabbrv}[2]{\gdef#1{\emisa@abbrv{#2}}}
1204 \newcommand*{\emisa@initialism}[1]{\textsc{#1}\xspace}
1205 \newcommand*{\emisainitialism}[2]{\gdef#1{\emisa@initialism{#2}}}
1206 \newcommand*{\ie}{\emisa@abbrv{i.\,e.}}
1207 \newcommand*{\eg}{\emisa@abbrv{e.\,g.}}
1208 \newcommand*{\cf}{\emisa@abbrv{cf.}}
1209 \newcommand*{\etal}{\emisa@abbrv{et~al.}}
1210 \newcommand*{\OMG}{\emisa@initialism{omg}}
1211 \newcommand*{\BPM}{\emisa@initialism{bpm}}
1212 \newcommand*{\BPMN}{\emisa@initialism{bpmn}}
1213 \newcommand*{\UML}{\emisa@initialism{uml}}
```

19.9.11 Other macros defined by EMISA

\meta \
\type

Macros for convience

```
1214 \newcommand{\meta}[1]{{\ttfamily\small #1}} % designate a meta type (meta class)
1215 \newcommand{\type}[1]{\textsf{#1}} % designate a type (class)
```

19.10 Bibliographies

The infrastructure for that is already present in LaTeX [18, ltbibl.dtx] so we have to tinker with just a couple of things.

\bibliography \ biblatex defines this macro in a way that it prescribes the bibliography data base(s) globally for the whole of the document. As we need a means to use different bibliography data bases with different articles, we redefine \bibliography such that it (1) works globally (biblatex style), when used in the preamble; (2) works locally in the document body (as defined here); and (3) appends locally to any globally given bibliography data base(s).

Point 1 is met simply by postponing the redefinition until \begin{document}. That way we have the unchanged behaviour in the preamble and the new one after that.

Points 2 and 3 lead to redefining this macro the same way as it was (in principle; see the original definition in biblatex.sty) but limited to a local scope.

```
1216 \def\@tempa#1\do\addbibresource#2\nil{%
1217     \ifx\relax#2\relax
1218     \else
1219     \def\@tempa##1\do\addbibresource##2\nil{\def\@preamblecmds{##1##2}}%
1220     \expandafter\@tempa\@preamblecmds\nil
1221     \fi
1222 }
1223 \expandafter\@tempa\@preamblecmds\do\addbibresource\nil
1224 \AfterEndPreamble{%
1225     \DeclareRobustCommand{\bibliography}[1]{%
1226         \addbibresource{#1}}%
1227 }%
1228 \renewcommand{\fps@figure}{htbp}
1229 \renewcommand{\fps@table}{htbp}
1230 \tolerance 1414
1231 \hbadness 1414
1232 \emergencystretch 1.5em
1233 \hfuzz 0.3pt
1234 \widowpenalty=10000
1235 \displaywidowpenalty=10000
1236 \clubpenalty=5000
1237 \interfootnotelinepenalty=9999
1238 \brokenpenalty=2000
1239 \vfuzz \hfuzz
```

Here, the generation of the main class module is paused by the first tag (there are more pieces below); instead, generating a few biblatex-related code files starts with the second tag.

```
1240 ⟨/class⟩
1241 ⟨∗biblatex⟩
```

19.10.1 The EMISA **bibliography style**

A biblatex *bibliography style* is a set of macros used to output the entries in the bibliography. Bibliography styles are defined in files with the suffix bbx. The selected one is loaded at the end of the biblatex package.

Here we produce the EMISA bibliography style by the not so very surprising name emisa.bbx. This file will be generated on installation from the following code lines between the <*bbx> and </bbx> meta-tags.

```
1242 ⟨∗bbx⟩
```

We start by declaring the file name and date.

```
1243 \ProvidesFile{emisa.bbx}[2016/02/06 2.0 EMISA bibliography style]
```

53

The EMISA bibliography style is built on top of the standard style `authoryear.bbx` being loaded here …

```
1244 \RequireBibliographyStyle{authoryear}
```

… to be expanded and modified in the following.

\bibitemlabel The macro `\bibitemlabel` represents the formatting of the `\bibitem` labels.

```
1245 \newcommand*{\bibitemlabel}[1]{%
1246   \normalfont #1}
```

thebibliography The implementation of the `thebibliography` environment typically makes use of the generic list environment. First a few length registers needed internally are adjusted. Note the infix notation used in some declarations facilitated by the calc package.

```
1247 \defbibenvironment{bibliography}
1248 {\list{}%
1249   {\setlength{\labelwidth}{\z@}%
1250   \setlength{\leftmargin}{\z@}%
1251   \setlength{\itemindent}{-\leftmargin}%
1252   \setlength{\itemsep}{.5\baselineskip\@plus.2\baselineskip\@minus.2\baselineskip}%
1253   \setlength{\parsep}{\bibparsep}%
```

In the bibliography listings we want the name lists not to be abbreviated. Well, a name list containing more than 999 names *will* be abbreviated nevertheless; but then, having a name list *this* long might be a problem in itsself.

```
1254   }%
1255   \let\makelabel\bibitemlabel
```

Adjusting short lines in small paragraphs can be rather hard, so some tolerance is added here.

```
1256   \tolerance 9999
1257   \emergencystretch 3em
1258   \hfuzz .5\p@
1259   \vfuzz\hfuzz
```

This is setting the normal (non-infinite) value of `\clubpenalty` for the whole of this environment, so we must reset its stored value also.

```
1260   \clubpenalty 4000
1261   \@clubpenalty\clubpenalty
1262   \widowpenalty 4000
```

This causes a «.» (period) not to produce an end-of-sentence space.

```
1263   \sfcode`\.\@m
```

Inside the bibliography we want no «and» in author lists.

```
1264   \renewcommand*{\finalnamedelim}{\addcomma\space}%
1265 }%
1266 {%
```

An empty `thebibliography` environment will cause a warning.

```
1267   \def\@noitemerr{\@latex@warning{Empty `thebibliography' environment}}%
1268   \endlist}
```

```
1269     {\item}
```

Formatting commands: punctuation and spacing, blocks and units   The following code is taken from `biblatex.def` and modified at several places (see comments). These are some basic and/or generic macros and might be superseded afterwards by definitions taken from `standard.cbx` or `authoryear.cbx`.

The major segments of a bibliography entry are ‚Äòblocks' and ‚Äòunits'. A block is the larger segment of the two, a unit is shorter or at most equal in length. For example, the values of fields such as title or note usually form a unit which is separated from subsequent data by a period or a comma. A block may comprise several fields which are treated as separate units, for example publisher, location, and year. An entry is segmented by inserting `\newblock` and `\newunit` commands at suitable places and `\finentry` at the very end. The actual printed output of these is defined in the corresponding `\...punct` macros.

The following commands add punctuation marks but automatically prevent doubling and remove preceding whitespace. Note that the behavior described below is the package default which is adjustable using `\DeclarePunctuationPairs`. Just the commands used in EMISA are discussed here.

\addperiod adds a period unless it is preceded by an abbreviation dot or any other punctuation mark. This command may also be used to turn a previously inserted abbreviation dot into a period, for example at the end of a sentence.

\addcomma adds a comma unless it is preceded by another comma, a semicolon, a colon, or a period.

\addcolon adds a colon unless it is preceded by a comma, a semicolon, another colon, or a period.

\isdot turns a previously inserted literal period into an abbreviation dot. In contrast to `\adddot`, nothing is inserted if this command is not preceded by a period.

The following macros insert space.

\addspace adds a breakable interword space.

\addhighpenspace adds a space penalized by the value of the `highnamepenalty` counter which holds a penalty affecting line-breaking in names; please refer to the biblatex manual for explanation. The counter is initialized to `\hyphenpenalty` at load-time. Higher values lower the number of linebreaks and vice versa. The traditional BibTEXbehavior (no linebreaks at highnamepenalty breakpoints) is reached by setting it to ‚Äòinfinite' ($\geq 10\,000$).

\addlowpenspace adds a space penalized by the value of the `lownamepenalty` counter, similar to `highnamepenalty`. The counter is initialized to 0.5 `\hyphenpenalty` at load-time.

`\newunitpunct`   The separator inserted between "‘units'" in the sense explained above. Here, the definition is just a space.

```
1270 \renewcommand*{\newunitpunct}{\space}
```

`\finentrypunct`   This inserts the punctuation printed at the very end of every bibliography entry. Here it is simply nothing.

```
1271 \renewcommand*{\finentrypunct}{\relax}
```

`\bibsetup` is a generic hook controlling the (low-level) layout of the bibliography and the list of shorthands. The default definition should work fine in most cases.

```
1272 \renewcommand*{\bibsetup}{%
1273   \interlinepenalty=5000\relax
```

```
1274    \widowpenalty=10000\relax
1275    \clubpenalty=10000\relax
1276    \biburlsetup
1277    \flushbottom
1278    \frenchspacing
1279    \sloppy}
```

The penalties above are not specific to biblatex but low-level TeX features.

▷ \interlinepenalty is the penalty assigned to page breaks within a paragraph (i. e., in this case, a bibliography entry);

▷ \clubpenalty is an additional penalty assigned to page breaks after the first line of a paragraph;

▷ \widowpenalty is an additional penalty assigned to page breaks before the last line of a paragraph.

Note that the value 10000 means «infinite» as far as TeX is concerned. Setting some penalty to 10000 will unconditionally suppress the respective breakpoint.

The net effect of the above settings is as follows. Breaking a bibliography entry across pages is discouraged, but not suppressed altogether. If a bibliography entry spans less than four lines, TeX will always keep it on one page. If it spans four or more lines, it may be broken across pages, provided that there are at least two lines on the page before and after the break.

These penalties should normally be used in conjunction with \raggedbottom. If you don't like that and remove \raggedbottom from the definition of \bibsetup, make sure to provide some stretchability between bibliography entries by setting \bibitemsep to a suitable value, e.g.:

\setlength{\bibitemsep}{0.5\baselineskip plus 0.5\baselineskip}

\biburlsetup   This is some local setup in order to use \url properly.

To ease the job of folding long URLs into narrow columns the following code allows linebreaks after numbers as a last resort. The macro also allows breaks after hyphens and adjusts \Urlmuskip to add some stretchability to URL strings.

```
1280  \renewcommand*{\biburlsetup}{%
1281    \Urlmuskip=0mu plus 2mu\relax
1282    \mathchardef\UrlBreakPenalty=200\relax
1283    \mathchardef\UrlBigBreakPenalty=100\relax
1284    \mathchardef\UrlEmergencyPenalty=9000\relax
1285    \appto\UrlSpecials{%
1286      \do\0{\mathchar`\0\penalty\UrlEmergencyPenalty}%
1287      \do\1{\mathchar`\1\penalty\UrlEmergencyPenalty}%
1288      \do\2{\mathchar`\2\penalty\UrlEmergencyPenalty}%
1289      \do\3{\mathchar`\3\penalty\UrlEmergencyPenalty}%
1290      \do\4{\mathchar`\4\penalty\UrlEmergencyPenalty}%
1291      \do\5{\mathchar`\5\penalty\UrlEmergencyPenalty}%
1292      \do\6{\mathchar`\6\penalty\UrlEmergencyPenalty}%
1293      \do\7{\mathchar`\7\penalty\UrlEmergencyPenalty}%
1294      \do\8{\mathchar`\8\penalty\UrlEmergencyPenalty}%
1295      \do\9{\mathchar`\9\penalty\UrlEmergencyPenalty}}%
1296    \def\UrlBreaks{%
```

```
1297    \do\.\do\@\do\/\do\\\do\!\do\_\do\|\do\;\do\>\do\]\do\)\do\}%
1298    \do\,\do\?\do\'\do\+\do\=\do\#\do\$\do\&\do\*\do\^\do\"}%
1299  \def\UrlBigBreaks{\do\:\do\-}%
```

URLs are typeset in sans-serif script.

```
1300  \def\UrlFont{\sffamily}%
1301  }
```

For further details please see the documentation of the url package as well as the comments inside `url.sty`.

Miscellaneous field formatting directives   This subsection introduces biblatex commands and utility macros used to define the formatting directives required by the data commands.

The following list shows a few frequently used ones; those more rarely used are described below.

\DeclareFieldFormat[⟨*entry type*⟩**]{**⟨*format*⟩**}{**⟨*code*⟩**}** defines the formatting code given in ⟨*code*⟩ to be executed by \printfield on processing the field ⟨*format*⟩. The value of the field will be passed to ⟨*code*⟩ as its first and only argument. If an ⟨*entry type*⟩ is specified, the format is specific to that type; otherwise it applies to all entry types defined. The name of the field currently being processed is available in \currentfield.

\DeclareFieldAlias[⟨*entry type*⟩**]{**⟨*alias*⟩**}[**⟨*format entry type*⟩**]{**⟨*format*⟩**}** declares ⟨*alias*⟩ to be an alias of the field format ⟨*format*⟩. If an ⟨*entry type*⟩ is specified, the alias is specific to that type. The ⟨*format entry type*⟩ is the entry type of the backend format. This is only required when declaring an alias of a type specific formatting directive.

\bibstring[⟨*wrapper*⟩**]{**⟨*key*⟩**}** prints the bibliography string identified by ⟨*key*⟩. The string will be capitalized as required. Depending on the abbreviate package option, \bibstring prints the short or the long version of the string. If bibliography strings are nested, i. e., if \bibstring is used in another string, it will behave like \bibxstring. If the ⟨*wrapper*⟩ argument is given, the string is passed to the ⟨*wrapper*⟩ for formatting. This is intended for font commands such as \emph.

\bibcpstring[⟨*wrapper*⟩**]{**⟨*key*⟩**}** Similar to \bibstring but the string is always capitalized.

\bibxstring{⟨*key*⟩**}** is a simplified but expandable version of \bibstring. Note that this variant does not capitalize automatically, nor does it hook into the punctuation tracker. It is intended for special cases in which strings are nested or an expanded bibliography string is required in a test.

The citetitle format is used to output the title field in citations.

```
1302  \DeclareFieldFormat{citetitle}{#1}
1303  \DeclareFieldFormat[article]{citetitle}{#1\isdot}
1304  \DeclareFieldFormat[inbook]{citetitle}{#1\isdot}
1305  \DeclareFieldFormat[incollection]{citetitle}{#1\isdot}
1306  \DeclareFieldFormat[inproceedings]{citetitle}{#1\isdot}
1307  \DeclareFieldFormat[patent]{citetitle}{#1\isdot}
1308  \DeclareFieldFormat[thesis]{citetitle}{#1\isdot}
1309  \DeclareFieldFormat[unpublished]{citetitle}{#1\isdot}
```

The following field formats are used for output in bibliographies.

```
1310  \DeclareFieldFormat{booktitle}{#1\isdot}
1311  \DeclareFieldFormat{journaltitle}{#1}
1312  \DeclareFieldFormat{issuetitle}{#1}
```

```
1313 \DeclareFieldFormat{maintitle}{#1}
1314 \DeclareFieldFormat{title}{#1}
1315 \DeclareFieldFormat[article]{title}{#1\isdot}
1316 \DeclareFieldFormat[inbook]{title}{#1\isdot}
1317 \DeclareFieldFormat[incollection]{title}{#1\isdot}
1318 \DeclareFieldFormat[inproceedings]{title}{#1\isdot}
1319 \DeclareFieldFormat[patent]{title}{#1\isdot}
1320 \DeclareFieldFormat[thesis]{title}{#1\isdot}
1321 \DeclareFieldFormat[unpublished]{title}{#1\isdot}
1322 \DeclareFieldFormat{url}{\url{#1}}
1323 \DeclareFieldFormat{urldate}{\bibstring{urlseen}\addcolon\space#1}
1324 \DeclareFieldAlias[misc]{note}{urldate}
1325 \DeclareFieldAlias[report]{note}{urldate}
1326 \DeclareFieldAlias[thesis]{note}{urldate}
1327 \DeclareFieldFormat{version}{\bibcpstring{version}~#1}
1328 \DeclareFieldFormat{volume}{\bibcpstring{volume}~#1}
1329 \DeclareFieldFormat{volumes}{#1~\bibcpstring{volumes}}
```

Formatting names and name lists   The following code morsels are taken from `biblatex.def` and modified.

The section employs special biblatex commands to (re)define or use macros in bibliography and citation styles.

\newbibmacro{⟨*name*⟩}[⟨*arguments*⟩][⟨*optional*⟩]{⟨*definition*⟩} defines a macro to be executed via \usebibmacro later. The syntax and argument handling of this command is very similar to \newcommand except that
  ▷ ⟨*name*⟩ may contain characters such as numbers and punctuation marks but no backslash, and
  ▷ \newbibmacro issues just a warning message if the macro is already defined, then falls back to \renewbibmacro.

\renewbibmacro{⟨*name*⟩}[⟨*arguments*⟩][⟨*optional*⟩]{⟨*definition*⟩} is similar to \newbibmacro but redefines ⟨*name*⟩. If the macro is undefined, \renewbibmacro issues a warning message and falls back to \newbibmacro.

\usebibmacro{⟨*name*⟩} executes the biblatex macro ⟨*name*⟩, as defined with \newbibmacro. If the macro takes any arguments, they are simply appended after ⟨*name*⟩. \usebibmacro is robust.

All the formatting directives for name lists get the following «arguments»:

#1 = last name
#2 = last name (initials)
#3 = first name
#4 = first name (initials)
#5 = name prefix, a.k.a. 'von part'
#6 = name prefix (initials)
#7 = name affix, a.k.a. 'junior part'
#8 = name affix (initials)

This declares the output format of name lists to be used by \printnames.

```
1330 \DeclareNameFormat{emisa:names}{%
1331   \usebibmacro{name:last-firstinit}{#1}{#4}{#5}{#7}%
1332   \usebibmacro{name:andothers}}}
```

This bibmacro formats the names of authors, editors or translators.

me:last-firstinit

bibmacro
```
1333 \newbibmacro*{name:last-firstinit}[4]{%
1334   \usebibmacro{name:delim}{#2#3#1}%
1335   \usebibmacro{name:hook}{#2#3#1}%
```

Formatting: name prefix ('von part'), ...

```
1336   \ifblank{#3}{}{%
1337     \mkbibnameprefix{#3}%\isdot
1338     \ifpunctmark{'}
1339       {}
1340       {\ifuseprefix{\addhighpenspace}{\addlowpenspace}}}%
```

... last name ...

```
1341   \mkbibnamelast{#1}\addhighpenspace
```

... name affix ('junior part'), ...

```
1342   \ifblank{#4}{}{\addlowpenspace\mkbibnameaffix{#4}\addlowpenspace}%
```

... and first name (initials).

```
1343   \ifblank{#2}{}{\mkbibnamefirst{#2}\isdot}%
1344 }%
```

in: bibmacro   This outputs the «in:» tag, as in bibliography entries for proceedings, collections, edited books and so on.

```
1345 \renewbibmacro*{in:}{%
1346   \printtext{%
1347     \bibcpstring{in}%
1348     \intitlepunct}}
```

Generic bibliography macros   In this subsection the generic bibmacros outputting the typical name fields in bibliographies are customised.

author bibmacro

```
1349 \renewbibmacro*{author}{%
1350   \ifthenelse{\ifuseauthor\AND\NOT\ifnameundef{author}}
1351     {\printnames{author}%
1352      \iffieldundef{authortype}
1353        {}
1354        {\setunit{\addspace}%
1355 \usebibmacro{authorstrg}}}
1356     {}}}
```

```
1357 \renewbibmacro*{editor}{%
1358   \ifthenelse{\ifuseeditor\AND\NOT\ifnameundef{editor}}
1359     {\printnames{editor}%
1360      \setunit{\addspace}%
1361      \usebibmacro{editorstrg}%
1362      \clearname{editor}}
1363     {}}
```

```
1364 \renewbibmacro*{editor+others}{%
1365   \ifthenelse{\ifuseeditor\AND\NOT\ifnameundef{editor}}
1366     {\printnames[emisa:names]{editor}%
1367      \setunit{\addspace}%
1368      \usebibmacro{editor+othersstrg}%
1369     \clearname{editor}}
1370     {}}
```

```
1371 \renewbibmacro*{translator}{%
1372   \ifthenelse{\ifusetranslator\AND\NOT\ifnameundef{translator}}
1373     {\printnames{translator}%
1374      \setunit{\addspace}%
1375      \usebibmacro{translatorstrg}%
1376      \clearname{translator}}
1377     {}}
```

```
1378 \renewbibmacro*{translator+others}{%
1379   \ifthenelse{\ifusetranslator\AND\NOT\ifnameundef{translator}}
1380     {\printnames{translator}%
1381      \setunit{\addspace}%
1382      \usebibmacro{translator+othersstrg}%
1383      \clearname{translator}}
1384     {}}
```

```
1385 \renewbibmacro*{editor+othersstrg}{%
1386   \iffieldundef{editortype}
1387     {\ifthenelse{\value{editor}>1\OR\ifandothers{editor}}
1388        {\def\abx@tempa{editors}}
1389        {\def\abx@tempa{editor}}}
1390     {\ifthenelse{\value{editor}>1\OR\ifandothers{editor}}
1391        {\edef\abx@tempa{\thefield{editortype}s}}
1392        {\edef\abx@tempa{\thefield{editortype}}}}%
1393   \let\abx@tempb=\empty
1394   \ifnamesequal{editor}{translator}
1395     {\appto\abx@tempa{tr}%
```

```
1396        \appto\abx@tempb{\clearname{translator}}}
1397      {}%
1398    \ifnamesequal{editor}{commentator}
1399      {\appto\abx@tempa{co}%
1400       \appto\abx@tempb{\clearname{commentator}}}
1401      {\ifnamesequal{editor}{annotator}
1402          {\appto\abx@tempa{an}%
1403 \appto\abx@tempb{\clearname{annotator}}}
1404          {}}%
1405    \ifnamesequal{editor}{introduction}
1406      {\appto\abx@tempa{in}%
1407       \appto\abx@tempb{\clearname{introduction}}}
1408      {\ifnamesequal{editor}{foreword}
1409          {\appto\abx@tempa{fo}%
1410 \appto\abx@tempb{\clearname{foreword}}}
1411          {\ifnamesequal{editor}{afterword}
1412              {\appto\abx@tempa{af}%
1413               \appto\abx@tempb{\clearname{afterword}}}
1414          {}}}%
1415    \ifbibxstring{\abx@tempa}
1416      {\bibstring[\mkbibparens]{\abx@tempa}%
1417       \abx@tempb}
1418      {\usebibmacro{editorstrg}}}%
```

emisa:url+urldate bibmacro

```
1419 \newbibmacro*{emisa:url+urldate}{%
1420    \iffieldundef{url}
1421      {\printfield{howpublished}}
1422      {\printfield{url}}
1423    \setunit*{\addperiod\space}\newblock
1424    \iffieldundef{urlyear}
1425      {\printfield{note}}
1426      {\printtext[urldate]{\printurldate}}}
```

isa:url+type+version+urldate

bibmacro
```
1427 \newbibmacro*{emisa:url+type+version+urldate}{%
1428    \iffieldundef{url}%
1429      {\printfield{url}}
1430      {\printfield{howpublished}}%
1431    \setunit*{\addcomma\space}\newblock
1432    \printfield{type}%
1433    \setunit*{\addcomma\space}\newblock
1434    \printfield{version}%
1435    \setunit*{\addcomma\space}\newblock
1436    \iffieldundef{urlyear}
1437      {\printfield{note}}
1438      {\printtext[urldate]{\printurldate}}}
```

This is the end of the code taken (and modified) from `biblatex.def`.

Code from `standard.bbx` The following code is taken from `standard.bbx` and modified at several places (see comments). This sections's definitions supersede those taken from `standard.cbx` and might in turn be superseded by the following code from `authoryear.bbx`.

finentry bibmacro

```
1439 \renewbibmacro*{finentry}{}%
```

article bibdriver

```
1440 \DeclareBibliographyDriver{article}{%
1441   \usebibmacro{bibindex}%
1442   \usebibmacro{begentry}%
1443   \usebibmacro{author/translator+others}%
1444   \setunit{\labelnamepunct}\newblock
1445   \usebibmacro{title}%
1446   \newunit
1447   \printlist{language}%
1448   \newunit\newblock
1449   \usebibmacro{bytranslator+others}%
1450   \newunit\newblock
1451   \printfield{version}%
1452   \setunit{\addperiod\space}%
1453   \usebibmacro{in:}%
1454   \usebibmacro{journal+issuetitle}%
1455   \newunit\newblock
1456   \usebibmacro{editor+others}%
1457   \newunit\newblock
1458   \usebibmacro{note+pages}%
1459   \newunit\newblock
1460   \iftoggle{bbx:isbn}
1461     {\printfield{issn}}
1462     {}%
1463   \newunit\newblock
1464   \usebibmacro{doi+eprint+url}%
1465   \newunit\newblock
1466   \usebibmacro{addendum+pubstate}%
1467   \newunit\newblock
1468   \usebibmacro{pageref}%
1469   \usebibmacro{finentry}}
```

book bibdriver

```
1470 \DeclareBibliographyDriver{book}{%
1471   \usebibmacro{bibindex}%
1472   \usebibmacro{begentry}%
1473   \usebibmacro{author/editor+others/translator+others}%
1474   \setunit{\labelnamepunct}\newblock
1475   \usebibmacro{maintitle+title}%
1476   \newunit
1477   \printlist{language}%
```

```
1478    \newunit\newblock
1479    \usebibmacro{editor+others}%
1480    \setunit{\addcomma\space}%
1481    \newblock
1482    \printfield{edition}%
1483    \setunit{\addperiod\space}%
1484    \newblock
1485    \usebibmacro{series+number}%
1486    \newunit
1487    \newblock
1488    \iffieldundef{maintitle}
1489      {\printfield{volume}%
1490       \printfield{part}}
1491      {}%
1492    \newunit
1493    \printfield{volumes}%
1494    \setunit{\addperiod\space}%
1495    \newblock
1496    \printfield{note}%
1497    \setunit{\addperiod\space}%
1498    \newblock
1499    \usebibmacro{publisher+location+date}%
1500    \newunit\newblock
1501    \usebibmacro{chapter+pages}%
1502    \newunit
1503    \printfield{pagetotal}%
1504    \newunit\newblock
1505    \iftoggle{bbx:isbn}
1506      {\printfield{isbn}}
1507      {}%
1508    \newunit\newblock
1509    \usebibmacro{doi+eprint+url}%
1510    \newunit\newblock
1511    \usebibmacro{addendum+pubstate}%
1512    \newunit\newblock
1513    \usebibmacro{pageref}%
1514    \usebibmacro{finentry}}
```

booklet bibdriver

```
1515    \DeclareBibliographyDriver{booklet}{%
1516    \usebibmacro{bibindex}%
1517    \usebibmacro{begentry}%
1518    \usebibmacro{author/editor+others/translator+others}%
1519    \setunit{\labelnamepunct}\newblock
1520    \usebibmacro{title}%
1521    \newunit
1522    \printlist{language}%
1523    \newunit\newblock
1524    \usebibmacro{editor+others}%
```

```
1525    \newunit\newblock
1526    \printfield{howpublished}%
1527    \newunit\newblock
1528    \printfield{type}%
1529    \newunit\newblock
1530    \printfield{note}%
1531    \newunit\newblock
1532    \usebibmacro{location+date}%
1533    \newunit\newblock
1534    \usebibmacro{chapter+pages}%
1535    \newunit
1536    \printfield{pagetotal}%
1537    \newunit\newblock
1538    \usebibmacro{doi+eprint+url}%
1539    \newunit\newblock
1540    \usebibmacro{addendum+pubstate}%
1541    \newunit\newblock
1542    \usebibmacro{pageref}%
1543    \usebibmacro{finentry}}
```

collection bibdriver

```
1544 \DeclareBibliographyDriver{collection}{%
1545    \usebibmacro{bibindex}%
1546    \usebibmacro{begentry}%
1547    \usebibmacro{editor+others}%
1548    \setunit{\labelnamepunct}\newblock
1549    \usebibmacro{maintitle+title}%
1550    \newunit
1551    \printlist{language}%
1552    \newunit\newblock
1553    \usebibmacro{editor+others}%
1554    \setunit{\addcomma\space}%
1555    \newblock
1556    \printfield{edition}%
1557    \setunit{\addperiod\space}%
1558    \newblock
1559    \usebibmacro{series+number}%
1560 \newunit
1561    \newblock
1562    \iffieldundef{maintitle}
1563      {\printfield{volume}%
1564       \printfield{part}}
1565      {}%
1566    \newunit
1567    \printfield{volumes}%
1568    \setunit{\addperiod\space}%
1569    \newblock
1570    \printfield{note}%
1571    \setunit{\addperiod\space}%
```

```
1572    \newblock
1573    \usebibmacro{publisher+location+date}%
1574    \newunit\newblock
1575    \usebibmacro{chapter+pages}%
1576    \newunit
1577    \printfield{pagetotal}%
1578    \newunit\newblock
1579    \iftoggle{bbx:isbn}
1580      {\printfield{isbn}}
1581      {}%
1582    \newunit\newblock
1583    \usebibmacro{doi+eprint+url}%
1584    \newunit\newblock
1585    \usebibmacro{addendum+pubstate}%
1586    \newunit\newblock
1587    \usebibmacro{pageref}%
1588    \usebibmacro{finentry}}
```

inbook bibdriver

```
1589  \DeclareBibliographyDriver{inbook}{%
1590    \usebibmacro{bibindex}%
1591    \usebibmacro{begentry}%
1592    \usebibmacro{author/translator+others}%
1593    \setunit{\labelnamepunct}\newblock
1594    \usebibmacro{title}%
1595    \newunit
1596    \printlist{language}%
1597    \newunit\newblock
1598    \usebibmacro{in:}%
1599    \usebibmacro{bybookauthor}%
1600    \newunit\newblock
1601    \usebibmacro{maintitle+booktitle}%
1602    \newunit\newblock
1603    \usebibmacro{editor+others}%
1604    \setunit{\addcomma\space}%
1605    \newblock
1606    \printfield{edition}%
1607    \newunit
1608    \iffieldundef{maintitle}
1609      {\printfield{volume}%
1610       \printfield{part}}
1611      {}%
1612    \newunit
1613    \printfield{volumes}%
1614    \newunit\newblock
1615    \usebibmacro{series+number}%
1616    \newunit\newblock
1617    \printfield{note}%
1618    \newunit\newblock
```

65

```
1619    \usebibmacro{publisher+location+date}%
1620    \newunit\newblock
1621    \usebibmacro{chapter+pages}%
1622    \newunit\newblock
1623    \iftoggle{bbx:isbn}
1624      {\printfield{isbn}}
1625      {}%
1626    \newunit\newblock
1627    \usebibmacro{doi+eprint+url}%
1628    \newunit\newblock
1629    \usebibmacro{addendum+pubstate}%
1630    \newunit\newblock
1631    \usebibmacro{pageref}%
1632    \usebibmacro{finentry}}
```

incollection bibdriver

```
1633  \DeclareBibliographyDriver{incollection}{%
1634    \usebibmacro{bibindex}%
1635    \usebibmacro{begentry}%
1636    \usebibmacro{author/translator+others}%
1637    \setunit{\labelnamepunct}\newblock
1638    \usebibmacro{title}%
1639    \setunit{\addcomma\space}%
1640    \printlist{language}%
```

Period after title, if any

```
1641    \setunit{\addperiod\space}%
1642    \usebibmacro{in:}%
1643    \usebibmacro{editor+others}%
1644    \setunit{\addspace}%
1645    \newblock
1646    \usebibmacro{byauthor}%
1647    \newblock
1648    \usebibmacro{maintitle+booktitle}%
```

Colon after maintitle, if any

```
1649    \newblock
1650    \printfield{edition}%
1651    \setunit{\addperiod\space}%
1652    \newblock
1653    \usebibmacro{series+number}%
1654    \newunit
1655    \newblock
1656    \iffieldundef{maintitle}
1657      {\printfield{volume}%
1658       \printfield{part}}
1659      {}%
1660    \newunit
1661    \printfield{volumes}%
```

```
1662    \setunit{\addperiod\space}%
1663    \newblock
1664    \printfield{note}%
1665    \setunit{\addperiod\space}%
1666    \newblock
1667    \usebibmacro{publisher+location+date}%
1668    \setunit*{\addcomma\space}%
1669    \newblock
1670    \usebibmacro{chapter+pages}%
1671    \newunit\newblock
1672    \iftoggle{bbx:isbn}
1673      {\printfield{isbn}}
1674      {}%
1675    \newunit\newblock
1676    \usebibmacro{doi+eprint+url}%
1677    \newunit\newblock
1678    \usebibmacro{addendum+pubstate}%
1679    \newunit\newblock
1680    \usebibmacro{pageref}%
1681    \usebibmacro{finentry}}
```

inproceedings bibdriver

```
1682  \DeclareBibliographyDriver{inproceedings}{%
1683    \usebibmacro{bibindex}%
1684    \usebibmacro{begentry}%
1685    \usebibmacro{author/translator+others}%
1686    \setunit{\labelnamepunct}%
1687    \newblock
1688    \usebibmacro{title}%
1689    \setunit{\addcomma\space}%
1690    \printlist{language}%
1691    \newblock
1692    \usebibmacro{byauthor}%
```

Period after title, if any

```
1693    \setunit{\addperiod\space}%
1694    \usebibmacro{in:}%
1695    \usebibmacro{editor+others}%
1696    \setunit{\addspace}%
1697    \newblock
1698    \usebibmacro{byauthor}%
1699    \newblock
1700    \usebibmacro{maintitle+booktitle}%
```

Colon after maintitle, if any

```
1701    \newblock
1702    \usebibmacro{event+venue+date}%
1703    \setunit{\addperiod\space}%
1704    \newblock
```

```
1705    \usebibmacro{series+number}%
1706    \newunit
1707    \newblock
1708    \iffieldundef{maintitle}
1709      {\printfield{volume}%
1710       \printfield{part}}
1711      {}%
1712    \newunit
1713    \printfield{volumes}%
1714    \setunit{\addperiod\space}%
1715    \newblock
1716    \printfield{note}%
1717    \setunit{\addperiod\space}%
1718    \newblock
1719    \printlist{organization}%
1720    \setunit{\addperiod\space}%
1721    \newblock
1722    \usebibmacro{publisher+location+date}%
1723    \setunit{\addcomma\space}%
1724    \newblock
1725    \usebibmacro{chapter+pages}%
1726    \newunit\newblock
1727    \iftoggle{bbx:isbn}
1728      {\printfield{isbn}}
1729      {}%
1730    \newunit\newblock
1731    \usebibmacro{doi+eprint+url}%
1732    \newunit\newblock
1733    \usebibmacro{addendum+pubstate}%
1734    \newunit\newblock
1735    \usebibmacro{pageref}%
1736    \usebibmacro{finentry}}
```

manual bibdriver

```
1737  \DeclareBibliographyDriver{manual}{%
1738    \usebibmacro{bibindex}%
1739    \usebibmacro{begentry}%
1740    \usebibmacro{author/editor}%
1741    \setunit{\labelnamepunct}\newblock
1742    \usebibmacro{title}%
1743    \newunit
1744    \printlist{language}%
1745    \newunit\newblock
1746    \usebibmacro{byeditor}%
1747    \setunit{\addcomma\space}%
1748    \newblock
1749    \printfield{edition}%
1750    \newunit\newblock
1751    \usebibmacro{series+number}%
```

68

```
1752    \newunit\newblock
1753    \printfield{type}%
1754    \newunit
1755    \printfield{version}%
1756    \newunit
1757    \printfield{note}%
1758    \newunit\newblock
1759    \printlist{organization}%
1760    \newunit
1761    \usebibmacro{publisher+location+date}%
1762    \newunit\newblock
1763    \usebibmacro{chapter+pages}%
1764    \newunit
1765    \printfield{pagetotal}%
1766    \newunit\newblock
1767    \iftoggle{bbx:isbn}
1768      {\printfield{isbn}}
1769      {}%
1770    \newunit\newblock
1771    \usebibmacro{doi+eprint+url}%
1772    \newunit\newblock
1773    \usebibmacro{addendum+pubstate}%
1774    \newunit\newblock
1775    \usebibmacro{pageref}%
1776    \usebibmacro{finentry}}
```

misc bibdriver

```
1777  \DeclareBibliographyDriver{misc}{%
1778    \usebibmacro{bibindex}%
1779    \usebibmacro{begentry}%
1780    \usebibmacro{author/editor+others/translator+others}%
1781    \setunit{\labelnamepunct}\newblock
1782    \usebibmacro{title}%
1783    \newunit
1784    \printlist{language}%
```

Period after title, if any

```
1785    \setunit{\addperiod\space}%
1786    \usebibmacro{emisa:url+urldate}%
1787    \usebibmacro{finentry}}
```

online bibdriver

```
1788  \DeclareBibliographyDriver{online}{%
1789    \usebibmacro{bibindex}%
1790    \usebibmacro{begentry}%
1791    \usebibmacro{author/editor+others/translator+others}%
1792    \setunit{\labelnamepunct}\newblock
1793    \usebibmacro{title}%
1794    \newunit
```

```
1795    \printlist{language}%
1796    \newunit\newblock
1797    \usebibmacro{editor+others}%
1798    \newunit\newblock
1799    \printfield{version}%
1800    \newunit
1801    \printfield{note}%
1802    \newunit\newblock
1803    \printlist{organization}%
1804    \newunit\newblock
1805    \usebibmacro{date}%
1806    \newunit\newblock
1807    \iftoggle{bbx:eprint}
1808      {\usebibmacro{eprint}}
1809      {}%
1810    \newunit\newblock
1811    \usebibmacro{url+urldate}%
1812    \newunit\newblock
1813    \usebibmacro{addendum+pubstate}%
1814    \newunit\newblock
1815    \usebibmacro{pageref}%
1816    \usebibmacro{finentry}}
```

patent bibdriver

```
1817  \DeclareBibliographyDriver{patent}{%
1818    \usebibmacro{bibindex}%
1819    \usebibmacro{begentry}%
1820    \usebibmacro{author}%
1821    \setunit{\labelnamepunct}\newblock
1822    \usebibmacro{title}%
1823    \newunit
1824    \printlist{language}%
1825    \newunit\newblock
1826    \printfield{type}%
1827    \setunit*{\addspace}%
1828    \printfield{number}%
1829    \iflistundef{location}
1830      {}
1831      {\setunit*{\addspace}%
1832       \printtext[parens]{%
1833          \printlist[][-\value{listtotal}]{location}}}%
1834    \newunit\newblock
1835    \usebibmacro{byholder}%
1836    \newunit\newblock
1837    \printfield{note}%
1838    \newunit\newblock
1839    \usebibmacro{date}%
1840    \newunit\newblock
1841    \iftoggle{bbx:url}
```

```
1842        {\usebibmacro{url+urldate}}
1843      {}%
1844    \newunit\newblock
1845    \usebibmacro{addendum+pubstate}%
1846    \newunit\newblock
1847    \usebibmacro{pageref}%
1848    \usebibmacro{finentry}}
```

periodical bibdriver

```
1849  \DeclareBibliographyDriver{periodical}{%
1850    \usebibmacro{bibindex}%
1851    \usebibmacro{begentry}%
1852    \usebibmacro{editor}%
1853    \setunit{\labelnamepunct}\newblock
1854    \usebibmacro{title+issuetitle}%
1855    \newunit
1856    \printlist{language}%
1857    \newunit\newblock
1858    \usebibmacro{byeditor}%
1859    \newunit\newblock
1860    \printfield{note}%
1861    \newunit\newblock
1862    \iftoggle{bbx:isbn}
1863      {\printfield{issn}}
1864      {}%
1865    \newunit\newblock
1866    \usebibmacro{doi+eprint+url}%
1867    \newunit\newblock
1868    \usebibmacro{addendum+pubstate}%
1869    \newunit\newblock
1870    \usebibmacro{pageref}%
1871    \usebibmacro{finentry}}
```

proceedings bibdriver

```
1872  \DeclareBibliographyDriver{proceedings}{%
1873    \usebibmacro{bibindex}%
1874    \usebibmacro{begentry}%
1875    \usebibmacro{editor+others}%
1876    \setunit{\labelnamepunct}\newblock
1877    \usebibmacro{maintitle+title}%
1878    \newunit
1879    \printlist{language}%
1880    \newunit\newblock
1881    \usebibmacro{event+venue+date}%
1882    \newunit\newblock
1883    \usebibmacro{editor+others}%
1884    \setunit{\addperiod\space}%
1885    \newblock
```

```
1886    \usebibmacro{series+number}%
1887    \newunit
1888    \newblock
1889    \iffieldundef{maintitle}
1890      {\printfield{volume}%
1891       \printfield{part}}
1892      {}%
1893    \newunit
1894    \printfield{volumes}%
1895    \setunit{\addperiod\space}%
1896    \newblock
1897    \printfield{note}%
1898    \setunit{\addperiod\space}%
1899    \newblock
1900    \printlist{organization}%
1901    \setunit{\addperiod\space}%
1902    \newblock
1903    \usebibmacro{publisher+location+date}%
1904    \newblock
1905    \usebibmacro{chapter+pages}%
1906    \newunit
1907    \printfield{pagetotal}%
1908    \newunit\newblock
1909    \iftoggle{bbx:isbn}
1910      {\printfield{isbn}}
1911      {}%
1912    \newunit\newblock
1913    \usebibmacro{doi+eprint+url}%
1914    \newunit\newblock
1915    \usebibmacro{addendum+pubstate}%
1916    \newunit\newblock
1917    \usebibmacro{pageref}%
1918    \usebibmacro{finentry}}
```

Technical reports

author
title
year
type
number
institution
address
url
note

report bibdriver

```
1919  \DeclareBibliographyDriver{report}{%
1920    \usebibmacro{bibindex}%
```

```
1921    \usebibmacro{begentry}%
1922    \usebibmacro{author}%
1923    \setunit{\labelnamepunct}\newblock
1924    \usebibmacro{title}%
1925    \setunit{\addperiod\space}%
1926    \printfield{type}%
1927    \newunit
1928    \printfield{number}%
1929    \setunit{\addperiod\space}%
1930    \printlist{institution}%
1931    \setunit*{\addperiod\space}\newblock
1932    \printlist{location}%
1933    \setunit*{\addperiod\space}\newblock
1934    \printfield{url}%
1935    \setunit*{\addperiod\space}\newblock
1936    \printfield{note}%
1937    \newunit\newblock
1938    \usebibmacro{finentry}}%
1939 \DeclareBibliographyAlias{techreport}{report}%
```

thesis bibdriver

```
1940 \DeclareBibliographyDriver{thesis}{%
1941    \usebibmacro{bibindex}%
1942    \usebibmacro{begentry}%
1943    \usebibmacro{author}%
1944    \setunit{\labelnamepunct}\newblock
1945    \usebibmacro{title}%
1946    \newunit
1947    \printlist{language}%
```

Period after title, if any

```
1948    \setunit{\addperiod\space}%
1949    \printfield{type}%
1950    \setunit*{\addcomma\space}%
1951    \usebibmacro{institution+location+date}%
1952    \setunit{\addperiod\space}%
1953    \usebibmacro{chapter+pages}%
1954    \newunit
1955    \printfield{pagetotal}%
1956    \newunit\newblock
1957    \printfield{url}%
1958    \setunit*{\addperiod\space}\newblock
1959    \printfield{note}%
1960    \newunit\newblock
1961    \usebibmacro{addendum+pubstate}%
1962    \newunit\newblock
1963    \usebibmacro{pageref}%
1964    \usebibmacro{finentry}}
```

```
1965 \DeclareBibliographyDriver{unpublished}{%
1966   \usebibmacro{bibindex}%
1967   \usebibmacro{begentry}%
1968   \usebibmacro{author}%
1969   \setunit{\labelnamepunct}\newblock
1970   \usebibmacro{title}%
1971   \newunit
1972   \printlist{language}%
1973   \newunit\newblock
1974   \printfield{howpublished}%
1975   \newunit\newblock
1976   \printfield{note}%
1977   \newunit\newblock
1978   \usebibmacro{date}%
1979   \newunit\newblock
1980   \iftoggle{bbx:url}
1981     {\usebibmacro{url+urldate}}
1982     {}%
1983   \newunit\newblock
1984   \usebibmacro{addendum+pubstate}%
1985   \newunit\newblock
1986   \usebibmacro{pageref}%
1987   \usebibmacro{finentry}}
```

```
1988 \renewbibmacro*{maintitle+booktitle}{%
1989   \iffieldundef{maintitle}
1990     {}
1991     {\usebibmacro{maintitle}%
1992     \addspace
1993     \newblock
1994     \iffieldundef{volume}
1995       {}
1996       {\printfield{volume}%
1997        \printfield{part}%
1998        \addspace
1999     }}%
2000   \usebibmacro{booktitle}%
2001   \newunit}
```

```
2002 \renewbibmacro*{journal+issuetitle}{%
2003   \usebibmacro{journal}%
2004   \setunit*{\addspace}%
2005   \iffieldundef{series}
2006     {}
2007     {\newunit
```

```
2008        \printfield{series}%
2009        \setunit{\addspace}}%
2010      \printfield{volume}%
2011      \printfield[parens]{number}%
2012      \setunit{\addcomma\space}%
2013      \printfield{eid}%
2014      \setunit{\addspace}%
2015      \usebibmacro{issue+date}%
2016      \setunit{\addcolon\space}%
2017      \usebibmacro{issue}%
2018      \newunit}
```

bibmacro

```
2019 \newbibmacro*{emisa:doi+eprint+url}{%
2020      \iftoggle{bbx:doi}
2021        {\printfield{doi}}
2022        {}%
2023      \newunit\newblock
2024      \iftoggle{bbx:eprint}
2025        {\usebibmacro{eprint}}
2026        {}%
2027      \newunit\newblock
2028      \iftoggle{bbx:url}
2029        {\usebibmacro{emisa:url+urldate}}
2030        {}}
```

This is the end of the code taken (and modified) from standard.bbx.

Code from authoryear.bbx The following code is taken from authoryear.bbx and modified at several places (see comments). The macros in this subsection will supersede any previous definition by the same name(s).

author bibmacro

```
2031 \renewbibmacro*{author}{%
2032      \ifthenelse{\ifuseauthor\AND\NOT\ifnameundef{author}}
2033        {\ifthenelse{\iffieldequals{fullhash}{\bbx@lasthash}\AND
2034                    \NOT\iffirstonpage\AND
2035                    \(\NOT\boolean{bbx@inset}\OR
2036                    \iffieldequalstr{entrysetcount}{1}\)}
2037          {\bibnamedash}
2038          {\usebibmacro{bbx:savehash}%
2039           \printnames[emisa:names]{author}%
2040           \iffieldundef{authortype}
2041            {\setunit{\addspace}}
2042            {\setunit{\addcomma\space}%
2043             \usebibmacro{authorstrg}%
2044             \setunit{\addspace}}}%
2045        }{%
```

75

```
2046        \global\undef\bbx@lasthash
2047        \usebibmacro{labeltitle}%
2048        \setunit*{\addspace}}%
2049      \usebibmacro{date+extrayear}}
```

bbx:editor bibmacro

```
2050  \renewbibmacro*{bbx:editor}[1]{%
2051    \ifthenelse{\ifuseeditor\AND\NOT\ifnameundef{editor}}
2052      {\ifthenelse{\iffieldequals{fullhash}{\bbx@lasthash}\AND
2053                   \NOT\iffirstonpage\AND
2054                   \(\NOT\boolean{bbx@inset}\OR
2055                   \iffieldequalstr{entrysetcount}{1}\)}
2056        {\bibnamedash}
2057        {\printnames[emisa:names]{editor}%
2058         \setunit{\addcomma\space}%
2059         \usebibmacro{bbx:savehash}}%
2060       \usebibmacro{#1}%
2061       \clearname{editor}%
2062       \setunit{\addspace}%
2063      }{\global\undef\bbx@lasthash
2064       \usebibmacro{labeltitle}%
2065       \setunit*{\addspace}%
2066      }%
2067  %    \usebibmacro{date+extrayear}%
2068    }
```

bbx:translator bibmacro

```
2069  \renewbibmacro*{bbx:translator}[1]{%
2070    \ifthenelse{\ifusetranslator\AND\NOT\ifnameundef{translator}}
2071      {\ifthenelse{\iffieldequals{fullhash}{\bbx@lasthash}\AND
2072                   \NOT\iffirstonpage\AND
2073  \(\NOT\boolean{bbx@inset}\OR
2074    \iffieldequalstr{entrysetcount}{1}\)}
2075        {\bibnamedash}
2076        {\printnames[emisa:names]{translator}%
2077  \setunit{\addcomma\space}%
2078  \usebibmacro{bbx:savehash}}%
2079       \usebibmacro{translator+othersstrg}%
2080       \clearname{translator}%
2081       \setunit{\addspace}}%
2082      {\global\undef\bbx@lasthash
2083       \usebibmacro{labeltitle}%
2084       \setunit*{\addspace}}%
2085    \usebibmacro{date+extrayear}}
```

blisher+location+date
bibmacro
```
2086  \renewbibmacro*{publisher+location+date}{%
2087    \printlist{publisher}%
```

76

```
2088    \setunit*{\addcomma\space}%
2089    \printlist{location}%
2090    \newunit}
```

stitution+location+date

bibmacro
```
2091 \renewbibmacro*{institution+location+date}{%
2092    \printlist{institution}%
2093    \setunit*{\addcomma\space}%
2094    \printlist{location}%
2095    \newunit}
```

This is the end of the code taken (and modified) from `authoryear.bbx`.

Localization

```
2096 \DefineBibliographyStrings{english}{%
2097 urlseen = {Last Access},
2098 techreport = {},%
2099 }%

2100 \DefineBibliographyStrings{german}{%
2101 urlseen = {Letzter Zugriff},%
2102 techreport = {},%
2103 }%

2104 \DefineBibliographyStrings{ngerman}{%
2105 urlseen = {Letzter Zugriff},%
2106 techreport = {},%
2107 }%
```

Unlocalization

```
2108 % year/month/day
2109 \protected\def\mkbibdateiso#1#2#3{%
2110    \iffieldundef{#1}{}{%
2111      \thefield{#1}%
2112      \iffieldundef{#2}{}{-}}%
2113    \iffieldundef{#2}{}{%
2114      \mkdatezeros{\thefield{#2}}%
2115      \iffieldundef{#3}{}{-}}%
2116    \mkdatezeros{\thefield{#3}}%
2117 }%

2118 \DefineBibliographyExtras{english}{\let\mkbibdateshort\mkbibdateiso}%
2119 \DefineBibliographyExtras{german}{\let\mkbibdateshort\mkbibdateiso}%
2120 \DefineBibliographyExtras{ngerman}{\let\mkbibdateshort\mkbibdateiso}%
```

Here, the EMISA bibliography style file `emisa.bbx` ends.

```
2121 ⟨/bbx⟩
```

19.10.2 The EMISA **citation style**

A citation style is a set of commands such as `\cite` which print different types of citations. Such styles are defined in files with the suffix `cbx`. The biblatex package loads the selected citation style file at the end of the package. Note that a small repertory of frequently used macros shared by several of the standard citation styles is also included in `biblatex.def`. This file is loaded at the end of the package as well, prior to the selected citation style.

The EMISA citation style is defined in the file `emisa.cbx` which is generated from the following code lines between the `<*cbx>` and `</cbx>` meta-tags.

2122 ⟨∗cbx⟩

2123 `\ProvidesFile{emisa.cbx}[2016/02/06 2.0 EMISA citation style]`
2124 `\RequireCitationStyle{authoryear-comp}`
2125 `\renewcommand*{\nameyeardelim}{\addspace}`

`\DeclareRangeChars` configures the `\ifnumerals` and `\ifpages` tests. The setup will also affect `\iffieldnums` and `\iffieldpages` as well as `\mkpageprefix` and `\mkpagetotal`. The argument is an undelimited list of characters which are to be considered as range indicators. The regular version of this command replaces the current setting, the starred version appends its argument to the current list. The default setting is {~,;-+/}, so strings like "3–5", "35+", "8/9" and so on will be considered as a range.

Here we add the character `f` to enable ranges like "123f" and "456ff".

2126 `\DeclareRangeChars*{f}`

Here, the EMISA citation style file `emisa.cbx` ends.

2127 ⟨/cbx⟩
2128 ⟨/biblatex⟩
2129 ⟨∗class⟩

Here, the LaTeX class EMISA ends.

2130 ⟨/class⟩

19.11   Examples and templates

19.11.1   Document templates

Here we add a couple of small document templates to ease the creation of documents: emisa-article-template.tex for article authors and emisa-issue-template.tex for copy editors. Both are generated from the following piece.

2131 ⟨∗template⟩
2132 ⟨∗article⟩
2133 `\documentclass[british]{emisa}`
2134 `%% You can use the following additional class options:`
2135 `%% referee, review -- Use for submission to peer-review process.`
2136 `%% draft -- mark overfull lines`
2137 `%% british, UKenglish -- British English hyphenation and quotation marks`
2138 `%% american, USenglish -- American English hyphenation and quotation marks`

```
2139 ⟨/article⟩
2140 ⟨issue⟩\documentclass[final,cover]{emisa}
2141 ⟨∗article | issue⟩
2142 %% The following package imports are recommended, but not obligatory;
2143 %% you might want take a look into their respective manuals if you
2144 %% don't know what they do.
2145 \usepackage{amsmath,amssymb,mathtools}
2146 \usepackage{algorithmic,algorithm}
2147 %% Additional package imports go here:
2148 %% \usepackage{}
2149 ⟨/article | issue⟩
2150 ⟨∗issue⟩
2151 %% Insert here issue data:
2152 \volume{}% Volume No.
2153 \issue{}{}% Issue No. and Issue Date
2154 %% If there are any bibliography data bases to be used globally
2155 %% please indicate here:
2156 \bibliography{}
2157 %% Insert here any (relative or absolute) path to be searched for
2158 %% graphics files:
2159 \graphicspath{{./figs_base/},{}}
2160 %% Here you can alter the cover pages; e.g. this:
2161 %% \coverII{\AtPageDeadCenter{Something}}
2162 %% typesets the word "Something" centered on the inner side of the
2163 %% front sheet.
2164 %% You can also delete any cover pages at all by defining them empty,
2165 %% see below:
2166 \coverII{}
2167 %% This outputs the SIG-MOBIS page on the inner side of the back
2168 %% sheet:
2169 \coverIII{\AtPageCenter{\sigmobispage}}
2170 ⟨/issue⟩
2171 ⟨∗article | issue⟩
2172 %% Here, the normal text begins.
2173 \begin{document}
2174 ⟨/article | issue⟩
2175 ⟨∗issue⟩
2176 \tableofcontents
2177
2178 \begin{editorial}
2179 %% Please insert editorial text here.
2180
2181 \end{editorial}
2182 ⟨/issue⟩
2183 ⟨∗article | issue⟩
2184 \begin{article}{%
2185 %% Please declare the title elements of your article here.  Unused
2186 %% elements can either be deleted or commented out, or else just let
2187 %% empty.  In either case they are not typeset.
```

```
2188 %% If the option referee or review is given, all author tags, address,
2189 %% e-mail and acknowledgements will be likewise omitted.
2190   \title[Insert shorttitle for page headline]{Enter full title here}
2191   \subtitle{Enter subtitle here, or leave empty}
2192   \author*{FirstName LastName of corresponding author}{email@address.org}
2193   \address{Enter affiliation of first (corresponding) author here.  Note that only the starred ve
2194   %% Author with a different address
2195   \author{FirstName LastName}
2196   \address{Enter affiliation of second and further authors here. Add further authors following th
2197   %% Author with an already used address
2198   \author{FirstName LastName}
2199   \address[Letter of already used address]{}
2200   %% Enter abstract, keywords, acknowledgements, authornotes
2201   \abstract{Enter abstract here}
2202   \keywords{Enter at a minimum three keywords here. Keyword1 \and Keyword2 \and Keyword3}
2203   \acknowledgements{Enter acknowledgements here.}
2204   \authornote{If your submission is based on a prior publication and revises / extends this work
2205   %% Please declare here the bibliography data base(s) you want to use
2206   %% in this article (make sure to add the file extension, e.g. .bib):
2207   \bibliography{}
2208   %% Take note of the following closing bracket!
2209   }
2210 ⟨/article | issue⟩
2211 ⟨∗issue⟩
2212   \editor{My self}
2213   \received{24 Octover 2014}
2214   \accepted[2]{1 November 2015}
2215   \doi{10.5073/EMISA.2011.11.1}
2216   \license{License information}
2217   %% or
2218   \CCBYNCSAThree
2219   %% or
2220   \CCBYNCSAFour
2221 ⟨/issue⟩
2222 ⟨∗article | issue⟩
2223 %% Please insert your article text here.
2224 \section{Introduction}
2225 \subsection{The research problem}
2226 %% Remember to provide a unique label for each section, table, figure, listing and algorithm for
2227 %%
2228 %% This directive typesets the bibliography.  To achieve this, one has
2229 %% to run the biber program on the corresponding auxiliary file
2230 %% generated in the previous LaTeX run; you can just use the job name
2231 %% (the name of this file without ".tex")", e.g.: biber emisa-author-template
2232 \printbibliography
2233 %
2234 \end{article}
2235 ⟨/article | issue⟩
2236 ⟨∗issue⟩
```

```latex
2237
2238 %% Please insert as much article environments here as are needed.
2239 \begin{article}{%
2240    \title{}
2241    \subtitle{}
2242    \author*{<Name>}{<Email address>}
2243    \address{address line 1\\address line 2}
2244    % Author with unique address
2245    \author{<Name>}
2246    \address{address line 1\\address line 2}
2247    % Author with the same address as another author
2248    \author{<Name>}
2249    \address[a]{}
2250    \abstract{<Insert abstract>}
2251    \keywords{Keyword 1 \and keyword 2 \and keyword 3}
2252    \authornote{This article extends an earlier conference paper, see ...}
2253    \acknowledgements{}
2254    \editor{My self}
2255    \received{24 Octover 2014}
2256    \accepted[2]{1 November 2015}
2257    \doi{10.5073/EMISA.2011.11.1}
2258    \bibliography{}
2259  }
2260
2261
2262 \printbibliography
2263 \end{article}
2264
2265 \begin{cfp}
2266 %% Please insert your Call for papers here.
2267 \end{cfp}
2268
2269 \imprint
2270 \editorialboard
2271 \guidelines
2272 ⟨/issue⟩
2273 ⟨article | issue⟩\end{document}
2274 ⟨/template⟩
```