

A L^AT_EX class for preparing manuscripts for submissions to the OA journal ‘Enterprise Modelling and Information Systems Architectures – An International Journal’ (EMISA)

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1 Introduction

Enterprise Modelling and Information Systems Architectures – An International Journal (EMISA) is a publisher-independent, peer-reviewed scholarly open access journal (<http://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 L^AT_EX package currently maintained by Stefan Strecker (stefan.strecker@fernuni-hagen.de) and Martin Sievers (martin.sievers@schoenerpublizieren.de).

The EMISA L^AT_EX document class is provided for preparing manuscripts for submission to EMISA, and for preparing accepted submissions for publication as well as for typesetting the final publication by the editorial office. Articles in EMISA are published online at <http://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 three doctoral students. Editorial work at EMISA is best described as a volunteer effort for the scientific community. Please 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 L^AT_EX package consists of the EMISA L^AT_EX class `emisa.cls`, the biblatex bibliography style `emisa.bbx` and the biblatex citation style `emisa.cbx`. The package also includes the present instructions and guidelines for authors on formatting the source files of the manuscript to achieve a pleasing and typographically consistent visual appearance of the manuscript. The package is available from the COMPREHENSIVE T_EX ARCHIVE NETWORK (CTAN, <https://ctan.org>) and should be available for

installation through the respective T_EX distribution’s package installer. For a manual installation, run `pdflatex emisa.ins` and `pdflatex emisa.dtx` twice, and copy the resulting files to the same directory (folder) in which the source files for the manuscript will be maintained.

3 Instructions and guidelines

This document provides instructions and style guidelines for authors. The instructions and guidelines address main aspects of scholarly writing (e. g. citations, references, figures, tables, source code and pseudocode listings). 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 appearance in accordance with the journal’s style specifications.

It is recommended to use these instructions and guidelines as a checklist before submitting your manuscript to the journal’s online submission system at <http://emisa-journal.org>. Note that these instructions are *not* intended as a general introduction to L^AT_EX2e and corresponding tools (see, for example, <https://www.ctan.org/tex-archive/info/lshort/english/> for ‘The not so Short Introduction to L^AT_EX’).

4 Preliminary remarks

The EMISA document class is derived from the standard L^AT_EX article class, and produces a customised two-column layout with bibliographic information about the manuscript in a multi-line page header (including the name of the journal, volume and issue number, year, title as well as author names) on A4-sized paper.

The EMISA class builds on a number of standard L^AT_EX packages available in distributions such as T_EXLive and MikT_EX. It is highly recommended to install the *full* set of packages for the used distribution to make the required packages available to the EMISA class. Alternatively, missing packages may be installed on-the-fly.

The list of required packages for using the EMISA class is rather comprehensive (see `emisa.cls`) but the class implementation has taken care to use only packages commonly included in T_EX distributions such as T_EXLive and MikT_EX. Among the packages required by the EMISA class are `geometry`, `newtxtext`, `newtxmath`, `newtxtt`, `ntheorem`, `amsthm`, `booktabs`, `tabularx` (see `emisa.cls` for a comprehensive overview).

UTF-8 The production process at the EMISA editorial office is based entirely on L^AT_EX, and runs `pdfLATEX` and `biber` to produce the final proof and publication 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 the bibliography file(s). 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 line-drawing figures are submitted as vector graphics (*not* bitmap graphics) in PDF format, and that all other (non-schematic) figures are submitted in PDF, JPEG or PNG format.

5 Class Options

- `british` British English is the language of choice for publishing in EMISA. The class option ‘british’ is preloaded by default to obtain the correct hyphenation for British English (as provided by the `babel` package). The class option *may be* used with the EMISA class to exemplify the use of British English. Example: `\documentclass[british]{emisa}`. This is the standard option.
- `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 the EMISA journal. Example: `\documentclass[referee]{emisa}`.

6 Author information

- `\author` Each author is added using the macro `\author{\langle author name \rangle}` followed by the corresponding address
- `\address` `\address{\langle author’s address (line 1) \rangle \dots \langle line 2 \rangle \dots}`. If you have multiple authors with the same address, please use `\address{\langle author’s address \rangle}` only for the first one of those and `\address[\langle letter of address \rangle]{\langle \rangle}` for all others.
- `\author*` There has to be one corresponding author stated by `\author*{\langle author’s name \rangle}{\langle email address \rangle}`.

7 Title, subtitle, abstract, and keywords

- `\title` The mandatory title and optional subtitle of a manuscript are typeset using `\title{\langle title \rangle}` and
- `\subtitle` `\subtitle{\langle subtitle \rangle}`. EMISA defines a `\title{\langle title \rangle}` and `\subtitle{\langle subtitle \rangle}` command
- `\abstract` for typesetting the manuscript title and subtitle. The abstract of the manuscript is typeset using
- `\keywords` `\abstract{\langle abstract \rangle}`. Each manuscript should provide an abstract of about 200 words. Keywords describing the manuscript are typeset using `\keywords{\langle keywords \rangle}` and concatenated using `\and`. For example, `\keywords{keyword1 \and keyword2}`. At least three keywords should be provided.

8 Additional information on the first (title) page

- `\acknowledgments` Acknowledgements, for example, of collaborators, funding agencies etc. may be added using `\acknowledgments{\langle acknowledgements \rangle}`. The acknowledgements are typeset in a footnote on the first page following the corresponding author’s email address.
- `\authornote` Additional information for reviewers and readers may be added in a footnote on the titlepage using `\authornote{\langle author note \rangle}`. This is typically used for stating earlier publications (e. g. in conference proceedings) on which the present manuscript is based.

9 Regular text

A few conventional rules apply to writing regular text: for publication in the EMISA journal.

- ▷ Manuscripts should *not* make use of outdated L^AT_EX commands such as `\em` but rather use the L^AT_EX2_ε 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 `~` to connect before `\ref{<label>}`, i. e., `Sec. ~\ref{label}` rather than the problematic: `Sec. \ref{label}`.
- ▷ 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.
 - Use `non-proportional font` for language concepts, meta types, meta classes etc., e.g., `\texttt{AbstractGoalType}` to produce AbstractGoalType.
 - Use the sans-serif font face for type-level concepts etc., e.g., `\textsf{Goal}` to produce Goal.

10 Abbreviations and initialisms

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

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

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

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

11 Quotation marks

`\enquote` It is highly recommended to use the `\enquote{<quotation>}` command to produce correct quotation

marks in British English. Note that the command can be nested and will produce correct primary and secondary quotation marks in British English, for example `\enquote{A quote \enquote{with in a quote}}`. Alternatively, the correct Unicode characters can be used, i. e., Unicode 2018 and Unicode 2019 for the primary quotation marks, and Unicode 201C as well as Unicode 201D for the secondary quotation marks. or \LaTeX command `\lq` for the opening primary quotation mark, and Unicode 2019 or \LaTeX command `\rq` for the closing primary quotation mark.

12 Citations and references section

`\parencite` The EMISA journal uses its own author-year citation style predefined for the `biblatex` package
`\textcite` (`emisa.cbx`), and its own style for formatting entries in the list of references (`emisa.bbx`). Con-
`\cite` sult the `biblatex` package documentation 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: `... is known \parencite[5]{Knuth1986}` produces ‘... is known (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.

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 3 megapixels or at least 2048 pixels wide.

14 Tables

`tabularx`

15 Source code listings

`sourcecode` For marking up source code listings, the EMISA class uses the `lstlistings` package (see the package documentation for further information), and provides two customised \LaTeX environments: `\sourcecode` and `\java XXX`. Hier kenne ich die Befehle zur Erstellung der Befehlsform nicht, `\env` gibt es nicht XXX. 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. 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. An example illustrates the use of both environments:

XXX enter two examples here XXX

16 Pseudocode and algorithms

`algorithm` EMISA offers some environments for a comfortable integration of source code examples.
`algorithmcxe`

17 Example file

```
\documentclass[british]{emisa}

\usepackage{blindtext}
\usepackage{booktabs}

\begin{document}
\lstset{language=TeX}
\begin{article}{%
% Enter your bibliography database file here. Make sure to use UTF-8
% character encoding!
\bibliography{emisa.bib}
\title[Insert shorttitle for headlines here]{Enter full title here}
\subtitle{Enter subtitle here, or leave empty}
\author*{FirstName LastName}{email@address.org}
\address{Enter affiliation of first and corresponding author here. Note
that only the starred version of author* accepts a second argument
providing an email address for the corresponding author.}
\author{FirstName LastName}
\address{Enter affiliation of second author here. Add further authors
following the source code scheme.}

\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 the prior work, enter a note on all prior publications with
    full citation.}
%, \eg this article extends an earlier conference publication published in
    the conference proceedings, see \cite{.}
}
```

```
\section{Introduction}
\label{intro}
```

Enter your text here \parencite{Mittelbach.2004}. Remember to use \texttt{biber} instead of \texttt{bibtex} for processing the bibliography (.bib) file(s). \textcite{Mittelbach.2004} provide an introduction to \LaTeX{} which should be complemented by more recent readings (\ie certain parts of \cite{Mittelbach.2004} are probably outdated). Note the differences when using \verb|\parencite{}| or \verb|\textcite{}| or \verb|\cite{}| in the examples above. See Sec.~\ref{sec:bib} for advice on how to enter bibliographic data in the .bib file.

```
\section{Floating objects ('floats')}\label{sec:1}
Enter your text here.
```

```
\subsection{Subsection title}\label{sec:2}
Provide a unique label for each section, table, figure, listing and
algorithm for referencing purposes (see, \eg, Sec.~\ref{sec:3} and Tab
.~\ref{enter-a-unique-label-here}).
```

```
\subsection{Figures}\label{sec:3}
\begin{figure}[htbp]
\centering
\includegraphics[width=\columnwidth]{figure.pdf}
\caption{Enter your single-column figure caption here.}
\label{default}
\end{figure}
```

```
\begin{figure*}[htb]
\centering
\includegraphics[width=\textwidth]{figure.pdf}
\caption{Enter your double-column figure caption here.}
\label{default}
\end{figure*}
```

```
\blindtext
```

```
\subsection{Tables}\label{sec:tables}
Typeset tables as floats in double-columns using \verb|\begin{table*}|, see
Tab.~\ref{tab:unique-label} for an example.
```

```
\begin{table*}[tb]
\centering
```

```

\caption{Enter your table caption above the table here.}
\begin{tabular}{l l l l l l}
\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*}

```

```

%\blindtext[2]\ Lorem ipsum hoc nunc.\footnote{Use footnotes only when
absolutely necessary.}

```

```

%\blindtext[1]

```

```

\section{Formatting the bibliography}\label{sec:bib}

```

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 Listing~\ref{lst:1} for an example (\cite{key1}) formatted properly in the references section (use \verb|--| between page numbers and \verb|{|} around multiple word surnames!).

```

\begin{lstlisting}[float,caption={Enter your single-column listing caption
here.},label={lst:1}]
@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}
}
\end{lstlisting}

```

```

\section{Source code listings}\label{sec:listings}

```


For typesetting source code listings, use the `\verb|sourcecode|`, `\verb|java|` or `\verb|pseudocode|` environments provided by the document class. All three environments are customized from the `lstlistings` package.

See Listing~\ref{lst:2} for an example of a double-column listing.

```
\begin{lstlisting}[float=*htbp,caption={Enter your double-column listing
caption here. Note that the listing width is too wide. Correct by
entering a newline before, \eg, 'Tomorrow'.},label={lst:2}]
@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}
}
\end{lstlisting}

%\blindtext[3]

\section{Formatting pseudocode}\label{sec:algorithm}
XXX Nutzung von algorithm-Umgebung illustrieren XXX

\printbibliography
\end{article}
\end{document}
```

References

- [1] Package `textcomp`: \LaTeX support for the Text Companion fonts. 18.2
- [2] Package `microtype`: An interface to the micro-typographic features of `pdf \TeX` . 18.2
- [3] Package `babel`: Multilingual support for Plain \TeX or \LaTeX . 18.2
- [4] Package `float`: Improved interface for floating objects. 18.2
- [5] Package `caption`: Customising captions in floating environments. 18.2
- [6] Package `graphicx`: Enhanced support for graphics. 18.2.1
- [7] Package `xcolor`: Driver-independent color extensions for \LaTeX and `pdf \LaTeX` . 18.2.1
- [8] Package `biblatex`: Bibliographies in \LaTeX using `Bib \TeX` for sorting only. 18.2.1
- [9] Package `csquotes`: Context sensitive quotation facilities. 18.2.1
- [10] Package `twoopt`: Definitions with two optional arguments. 18.2.2
- [11] Package `environ`: A new interface for environments in \LaTeX . 18.2.2
- [12] Package `paralist`: Enumerate and itemize within paragraphs. 18.2.2
- [13] Package `afterpage`: Execute command after the next page break. 18.2.2
- [14] Package `xspace`: Define commands that appear not to eat spaces. 18.2.2
- [15] Package `calc`: Simple arithmetic in \LaTeX commands. 18.2.2
- [16] Package `geometry`: Flexible and complete interface to document dimensions. 18.2.2
- [17] Package `eso-pic`: Add picture commands (or backgrounds) to every page. 18.2.2, 18.9.3
- [18] Package `hyperref`: Extensive support for hypertext in \LaTeX . 18.3
- [19] The \LaTeX 2 _{ϵ} Sources. 18.10

18 Implementation

Here, the code of the \LaTeX class `emisa` begins.

```
1 <*class>
```

18.1 Options

`british` option

```
2 \PassOptionsToPackage{british}{babel}
```

`draft` option 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.

`@draft` switch

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

```
3 \newif\if@draft
4 \DeclareOption{draft}{%
5   \@drafttrue
6   \overfullrule 10pt
7 }%
8 \DeclareOption{final}{%
9   \@draftfalse
10  \overfullrule\z@
11 }%
```

`referee` option 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.

`review` option

```
12 \newif\if@referee
```

`noreview` option

```
13 \DeclareOption{referee}{\@refereetrue}
```

`@referee` switch

```
14 \DeclareOption{noreview}{\@refereefalse}
```

```
15 \DeclareOption{review}{\@refereetrue}
```

```
16 \DeclareOption{noreview}{\@refereefalse}
```

`cover` option 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.

`\coveron`

```
17 \newif\if@cover
```

`\coveroff`

```
18 \def\coveron{\@covertrue}
```

`@cover` switch

```
19 \def\coveroff{\@coverfalse}
```

```
20 \DeclareOption{cover}{\coveron}
```

```
21 \DeclareOption{ncover}{\coveroff}
```

```
22 \newif\if@microtype
```

```
23 \@microtypetrue
```

```
24 \DeclareOption{nomicrotype}{\@microtypefalse}
```

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

```

25 \PassOptionsToClass{a4paper,twoside,11pt}{article}%
26 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}}%
27 \ExecuteOptions{final,noreferee,nocover,oneside,openany}%
28 \ProcessOptions*\relax%

29 \IfFileExists{latexrelease.sty}%
30   {\RequirePackage[latest]{latexrelease}}%
31   {\RequirePackage{fixltx2e}}%

```

18.2 Loading the base class and packages

This class is built upon the \LaTeX standard class `article`.

```

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

33 \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.

```

34 \RequirePackage[T1]{fontenc}%

```

Since many PostScript fonts only implement a subset of the T1 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 [1].

```

35 \RequirePackage[full]{textcomp}%

```

The `microtype` package provides a \LaTeX interface to the micro-typographic extensions of `pdf \LaTeX` : 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 [2]. 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.

```

36 \if@microtype
37   \RequirePackage{microtype}%
38 \else
39   \ClassWarning{emisa}{Package ‘microtype’ not loaded!%
40     \MessageBreak Output will differ from final result in the journal!%
41     \MessageBreak Please consult the documentation, if you%
42     \MessageBreak get an error when loading microtype}
43 \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].

```

44 \RequirePackage{babel}%

```

This style option improves the interface for defining floating objects such as figures and tables in \LaTeX [4]. 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.*).

```
45 \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) [5].

For more information on that see the [english](#), [russian](#), or [german](#) user documentation.

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

18.2.1 Colour and graphics

`graphicx` as part of the `graphics` package provides a key-value interface for optional arguments to the `\includegraphics` command [6].

```
47 \RequirePackage{graphicx}%
```

The package `xcolor` is a color extension for \LaTeX and $\pdf\LaTeX$ that provides easy driver-independent access to several kinds of colors, tints, shades, tones, and mixes of arbitrary colors by means of color expressions [7].

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

The `biblatex` package [8] is a complete reimplement 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 $e\text{-}\TeX$ and the `etoolbox` package. Installing the `csquotes` package is recommended.

```
49 \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).

```
50 \RequirePackage[%
51     style=emisa,%
52     natbib=true,%
53     backend=biber,%
54 ]{biblatex}

55 \ExecuteBibliographyOptions{%
56     maxcitenames=3,%
57     maxbibnames=999,%
58     terseinits=false,%
59     isbn=false,%
60     url=true,%
61     doi=false,%
62     eprint=false,%
63     dashed=false,%
64     bibencoding=inputenc,%
65     sorting=anyt,%
66     hyperref=true%
67 }%
```

This package provides advanced facilities for inline and display quotations [9]. 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.

```
68 \RequirePackage[babel=once,english=british]{csquotes}
```

18.2.2 Helpers

`twoopt` provides commands to define macros with *two* optional parameters. This package is part of the *Oberdiek* bundle [10].

```
69 \RequirePackage{twoopt}%
```

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

environ provides a new method of defining environments [11].

```
70 \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 L^AT_EX environments itemize and enumerate can be extended to use a similar optional argument [12].

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.

```
71 \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.

```
72 \let\itemize\compactitem
73 \let\enditemize\endcompactitem
74 \let\enumerate\compactenum
75 \let\endenumerate\endcompactenum
76 \let\description\compactdesc
77 \let\enddescription\endcompactdesc
```

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

```
78 \setdefaultenum{1.}{a}{i.}{A}%
79 \setdefaultleftmargin{1em}{0.9em}{0.7em}{0.5em}{0.4em}{0.3em}%
80 \setlength{\plitemsep}{3\p@}%
81 \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 [13].

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 T_EX 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 [14].

calc adds infix expressions to perform arithmetic on the arguments of the L^AT_EX commands \setcounter, \addtocounter, \setlength, and \addtolength [15].

All three packages are part of the tools bundle in the L^AT_EX required distribution.

```
82 \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 [16].

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 pdf \LaTeX).

```
83 \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 [17].

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

18.2.3 Scripts, fonts, and maps

```
85 \RequirePackage{newtxtext}
86 \RequirePackage{newtxmath}
87 \RequirePackage[zerostyle=b, straightquotes]{newtxtt}
88 \if@microtype
89     \UseMicrotypeSet[protrusion]{basicmath} % disable protrusion for tt fonts
90 \fi%
```

To make figures and ligatures searchable when using pdf \TeX ≥ 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 l^cd^f-typetools) and *zapfdingbats.txt*, plus a few exceptions.

```
91 \InputIfFileExists{glyphtounicode}%
92     {\ClassInfo{emisa}{Reading file 'glyphtounicode.tex'}
93     \pdfgentounicode=1}%
94     {\ClassWarning{emisa}{Couldn't find file 'glyphtounicode.tex'}}%

95 \RequirePackage{booktabs}
96 \RequirePackage{listings}
97 \lstset{basicstyle=\ttfamily\small}
98 \RequirePackage{amsmath}
99 \RequirePackage[amsmath, standard, hyperref]{ntheorem}
```

18.3 Hypertext

The hyperref package [18] has to loaded as late as feasible so it can intercept changes to standard macros by other packages.

```
100 \RequirePackage{url}
101 \urlstyle{same}
102 \RequirePackage[%
103     colorlinks,
104     breaklinks,
105     pdfview=Fit,
106     bookmarksopen,
107     bookmarksnumbered,
```



```

108 linkcolor=black,
109 anchorcolor=black,
110 citecolor=black,
111 filecolor=black,
112 urlcolor=black,
113 hyperfootnotes=false
114 ]{hyperref}%

115 \RequirePackage{doclicense}

```

18.4 Tools

`\@ifempty` These determinate if an argument ist empty (or not) and to act consequently. An argument is ,empty‘, `\@ifarg` iff it contains nothing or just whitespace. All three macros first test their first argument. If it is empty `\@ifnoarg` `\@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⟩}

116 \begingroup
117   \catcode'\Z=3
118   \long\gdef\@M@T@#1#2Z#3#4#5\@nil{#4}
119   \long\gdef\@ifempty#1{\@M@T@#1ZZ\@secondoftwo\@firstoftwo\@nil}
120   \long\gdef\@ifarg#1{\@M@T@#1ZZ\@firstofone\@gobble\@nil}
121   \long\gdef\@ifnoarg#1{\@M@T@#1ZZ\@gobble\@firstofone\@nil}
122 \endgroup

```

18.5 Basic page layout

The geometry options using the keyval ($\langle key \rangle = \langle value \rangle$) 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.

```

123 \geometry{%
124   a4paper,%
125   portrait,%
126   twoside,%
127   ignoreall,%
128   hcentering,%
129   textwidth      = 162.5mm,%
130   textheight     = 220mm,%
131   heightrounded,%
132   columnsep      = 12.5mm,%
133   top            = 47mm,%

```

```

134 headheight      = 16mm,%
135 headsep         = 13mm,%
136 marginparwidth  = 15mm,%
137 marginparsep    = 5mm,%
138 footskip        = 16mm%
139 }%
140 \marginparpush 5mm%

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

142 \parindent=4mm%

143 \smallskipamount=.5\baselineskip
144 \medskipamount=2\smallskipamount
145 \bigskipamount=2\medskipamount

146 \flushbottom

147 \abovedisplayskip=.5\baselineskip plus .33\baselineskip
148                               minus .33\baselineskip
149 \belowdisplayskip=\abovedisplayskip
150 \abovedisplayshortskip= 0pt plus .33\baselineskip
151 \belowdisplayshortskip=.5\baselineskip plus .33\baselineskip
152                               minus .33\baselineskip

```

18.6 Scripts

`\pageheadfont` Assigning scripts to text elements.

`\pagenumfont` Page head and foot:

```

\pagefootfont 153 \def\pageheadfont{\normalfont}%
               154 \def\pagenumfont{\pageheadfont\bfseries}%
               155 \def\pagefootfont{\pageheadfont}%

```

`\authorfont` The elements of the article titles:

```

\titlefont 156 \def\authorfont{\normalfont\Large}%
\subtitelfont 157 \def\titlefont{\normalfont\bfseries\LARGE\boldmath}%
\abstractfont 158 \def\subtitelfont{\normalfont\bfseries\Large\boldmath}%
               159 \def\abstractfont{\normalfont\itshape}%

```

`\affiliationfont` The elements of the affiliation box:

```

\affiliationauthorfont 160 \def\affiliationfont{\normalfont}
\affiliationaddressfont 161 \def\affiliationauthorfont{\bfseries}
\affiliationemailfont 162 \def\affiliationaddressfont{\mdseries}
                     163 \def\affiliationemailfont{\mdseries}%

```

`\sectionfont` Section headlines:

```

\sec@font 164 \def\sectionfont{%
\para@font 165 \normalfont
           166 \bfseries
           167 \boldmath}%

```

```

168 \def\sec@font{\sectionfont\large}%
169 \def\para@font{\sectionfont}%

```

`\captionfont` Captions:

```

170 \def\captionfont{\normalfont\small\itshape}

```

18.7 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):

```

covertextrcolor color
171 \definecolor{coverbgcolor}{cmyk}{0.15,0.1,0.09,0}%
172 \definecolor{covertextrcolor}{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
`boxframecolor` color background of text boxes like that one used in `\editorialboard` (100% grey = black and 20% grey,
`boxbgcolor` color respectively).

```

173 \definecolor{headtextcolor}{gray}{0.5}%
174 \definecolor{boxframecolor}{gray}{1}%
175 \definecolor{boxbgcolor}{gray}{0.8}%

```

18.8 Double line spacing

```

\displayskipstretch
\setdisplayskipstretch
176 \newcommand{\displayskipstretch}{\baselinestretch}
177 \newcommand{\setdisplayskipstretch}[1]{\def\displayskipstretch{#1}}

```

`\setstretch` Line space commands.

```

178 \newcommand{\setstretch}[1]{%
179 \def\baselinestretch{#1}%
180 \@currsize
181 }

```

`\@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 L^AT_EX, `\@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.

```

182 \def\@setsize#1#2#3#4{%
183 \nomath#1%
184 \let\@currsize#1%

```

```

185 \baselineskip #2%
186 \baselineskip=\baselinestretch\baselineskip
187 \parskip=\baselinestretch\parskip
188 \setbox\strutbox \hbox{%
189     \vrule height.7\baselineskip
190         depth.3\baselineskip
191         width\z@}%
192 \skip\footins=\baselinestretch\skip\footins
193 \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).

```

194 \everydisplay\expandafter{%
195     \the\everydisplay
196     \abovedisplayskip \displayskipstretch\abovedisplayskip
197     \belowdisplayskip \displayskipstretch\belowdisplayskip
198     \abovedisplayshortskip \displayskipstretch\abovedisplayshortskip
199     \belowdisplayshortskip \displayskipstretch\belowdisplayshortskip
200 }

```

18.9 Document markup

18.9.1 Declaring issue data

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

`\journalname` The journal name.

```

201 \def\journalname#1{\@bsphack\def\@journalname{#1}\@esphack}%
202 \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.

```

203 \long\def\issn#1{\@bsphack\long\def\@issn{#1}\@esphack}%
204 \issn{%ISSN 1860-6059 (Print)\par
205     ISSN 1866-3621 (Online)}%

```

`\volume` Volume number.

```

206 \def\volume#1{\@bsphack\def\@volume{#1}\@esphack}%
207 \volume{\textcolor{red}{0}}%

```

`\issue` Issue number and date.

```

208 \def\issue#1#2{\@bsphack
209     \def\@issue{#1}%
210     \def\@issuedate{#2}%

```

```

211 \esphack}%
212 \issue{\textcolor{red}{0}}{\textcolor{red}{month 0000}}}%

```

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

```

\specialissuetitle*
\specialissuetitleprefix
213 \def\specialissuetitle{\@ifstar\@sspit\@spit}%
214 \newcommand{\@spit}[2][{}]{%
215 \bsphack
216 \@ifempty{#2}%
217 {\let\@specialissuetitle\relax}%
218 {\@ifempty{#1}%
219 {\def\@specialissuetitle{\@specialissuetitleprefix#2}}%
220 {\def\@specialissuetitle{#1\space#2}}}%
221 \esphack}%
222 \newcommand{\@sspit}[2][{}]{%
223 \bsphack
224 \@ifempty{#2}%
225 {\let\@specialissuetitle\relax}%
226 {\def\@specialissuetitle{#2}}%
227 \esphack}%
228 \newcommand{\specialissuetitleprefix}[1]{%
229 \bsphack
230 \@ifempty{#1}%
231 {\let\@specialissuetitleprefix\relax}%
232 {\def\@specialissuetitleprefix{#1\space}}%
233 \esphack}%
234 \specialissuetitle{}%
235 \specialissuetitleprefix{Special Issue on}%

```

\copyrightyear Copyright owner and year.

```

\copyrightholder
236 \def\copyrightyear#1{\bsphack\def\@copyrightyear{#1}\esphack}%
237 \copyrightyear{\the\year}%
238 \def\copyrightholder#1{\bsphack\def\@copyrightholder{#1}\esphack}%
239 \copyrightholder{\textcolor{red}{\copyright}{holder}}}%

```

\title Title, subtitle, and author information for the current article.

\subtitle 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:

```

\title[⟨short_title⟩][⟨ToC_title⟩]{⟨title⟩}
\subtitle[⟨short_subtitle⟩][⟨ToC_subtitle⟩]{⟨subtitle⟩}
\author[⟨short_author⟩][⟨ToC_author⟩]{⟨author⟩}

```

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.

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.

```

240 \renewcommandtwoopt*{\title}[3][[]]{%
241   \@bsphack
242   \def\@title{#3}%
243   \ifempty{#1}{\def\@shorttitle{\@title}}{\def\@shorttitle{#1}}%
244   \ifempty{#2}{\def\@toctitle{\@shorttitle}}{\def\@toctitle{#2}}%
245   \@esphack}%
246 \newcommandtwoopt*{\subtitle}[3][[]]{%
247   \@bsphack
248   \def\@subtitle{#3}%
249   \ifempty{#1}{\def\@shortsubtitle{\@subtitle}}{\def\@shortsubtitle{#1}}%
250   \ifempty{#2}{\def\@tocsubtitle{\@shortsubtitle}}{\def\@tocsubtitle{#2}}%
251   \@esphack}%
252 \def\email#1{%
253   \ifx\@email\@empty
254     \def\@email{#1}
255   \else
256     \ClassError{emisa}{There can only be one corresponding author!}{}
257   \fi}%
258 \renewcommand{\author}{\@ifstar{\@authorstar}{\@authornostar}}
259 \newcommand*{\@authornostar}[1]{%
260   \@bsphack
261   \if@referee
262     \def\@authors{}%
263     \def\@shortauthors{}
264   \else
265     \gdef\@address@sep{}%
266     \ifx\@authors\@empty
267       \protected@xdef\@authors{#1}
268       \protected@xappto\@shortauthors{#1}
269     \else
270       \protected@xappto\@authors{,\space #1}
271       \protected@xappto\@shortauthors{,\space #1}
272     \fi%
273   \fi
274   \@esphack}%
275 \newcommandtwoopt*{\@authorstar}[3][[]]{%
276   \@bsphack
277   \if@referee
278     \def\@authors{}%
279     \def\@shortauthors{}%
280     \def\@tocauthors{}%
281     \def\@email{}%
282   \else
283     \gdef\@address@sep{}%

```

```

284 \ifx\@authors\@empty
285 \protected@xdef\@authors{#3\textsuperscript{*,}}
286 \protected@xappto\@shortauthors{#3}
287 \else
288 \protected@xappto\@authors{,\space #3\textsuperscript{*,}}
289 \protected@xappto\@shortauthors{,\space #3}
290 \fi%
291 \@ifempty{#1}{\def\@shortauthor{\@shortauthors}}{\def\@shortauthor{#1}}%
292 \@ifempty{#2}{\def\@tocauthor{\@shortauthors}}{\def\@tocauthor{#2}}%
293 \fi
294 \@esphack
295 \@ifnextchar\bgroup\email{\ClassError{emisa}{Please provide an E-mail address for the corre
296 \newcommand{\keywords}[1]{
297 \@bsphack
298 \def\and{\unskip\ \textbullet\ }%
299 \def\@keywords{#1}%
300 \@esphack}%
301 \newcommand{\authornote}[1]{
302 \@bsphack
303 \def\@authornote{#1}%
304 \@esphack}%
305 \newcommand{\editor}[1]{
306 \@bsphack
307 \def\@articleinfo@name{#1}%
308 \@esphack}%
309 \newcommand{\received}[1]{
310 \@bsphack
311 \def\@articleinfo@rdate{#1}%
312 \@esphack}%
313 \newcommand{\accepted}[2][1]{
314 \@bsphack
315 \def\@articleinfo@rounds{#1}
316 \def\@articleinfo@adate{#2}%
317 \@esphack}%
318 \newcommand{\doitext}{DOI:}
319 \newcommand*{\outdoi}{%
320 \begingroup
321 \lccode'\~='#\relax
322 \lowercase{\def~{#}}%
323 \lccode'\~='_\relax
324 \lowercase{\def~{\_}}%
325 \lccode'\~='<\relax
326 \lowercase{\def~{\textless}}%
327 \lccode'\~='>\relax
328 \lowercase{\def~{\textgreater}}%
329 \lccode'\~='0\relax
330 \catcode'\#=\active
331 \catcode'\_=\active
332 \catcode'\<=\active

```

```

333 \catcode'\>=\active
334 \@outdoi
335 }
336 \def\@outdoi#1{%
337 \let#\relax
338 \let_\relax
339 \let\textless\relax
340 \let\textgreater\relax
341 \edef\x{\toks0={{#1}}}%
342 \x
343 \edef\#{@percentchar23}%
344 \edef\_{_}%
345 \edef\textless{\@percentchar3C}% instead of {\string<} for Apple
346 \edef\textgreater{\@percentchar3E}% instead of {\string>} for Apple
347 \edef\x{\toks1={\noexpand\href{http://dx.doi.org/#1}}}%
348 \x
349 \edef\x{\endgroup\doitext\the\toks1 \the\toks0}%
350 \x
351 }
352 \newcommand*{\doi}[1]{
353 \@bsphack
354 \def\@doi{#1}
355 \@esphack}%
356 \newcommand{\acknowledgements}[1]{
357 \@bsphack
358 \def\acknowledgements{#1}
359 \@esphack}%
360 \newif\if@license
361 \newcommand{\licence}[1]{%
362 \@bsphack
363 \def\@licence{#1}
364 \@esphack}%
365 \let\license\licence
366 \newcommand{\CCBYNCSThree}{%
367 \@license
368 \def\doclicense@type{CC}%
369 \def\doclicense@modifier@uppercase{BY-NC-SA}%
370 \def\doclicense@versionUsed{3.0}%
371 }%
372 \newcommand{\CCBYNCSThree}{%
373 \@license
374 \def\doclicense@type{CC}%
375 \def\doclicense@modifier@uppercase{BY-NC-SA}%
376 \def\doclicense@versionUsed{4.0}%
377 }%
378 \newcounter{addresses}
379 \renewcommand{\theaddresses}{\alph{addresses}}
380 \newcommand{\address}[2][1]{%
381 \@bsphack

```



```

382 \if@referee
383 \def\addresses@list{}
384 \else
385 \@ifempty{#2}{%
386 \@ifempty{#1}{}{%
387 \protected@xappto\authors{\textsuperscript{\@address@sep #1}}
388 \gdef\address@sep{,}%
389 }}{%
390 \stepcounter{addresses}
391 \protected@xappto\authors{\textsuperscript{\@address@sep\theaddresses}}
392 \gdef\address@sep{,}%
393 \ifx\addresses@list\empty
394 \protected@xdef\addresses@list{\textsuperscript{\theaddresses}\ #2}
395 \else
396 \protected@xappto\addresses@list{\newline\textsuperscript{\theaddresses}\ #2}
397 \fi}
398 \fi
399 \@esphack}%
400 \title{}%
401 \subtitle{}%
402 \author{}%
403 \address{}
404 \keywords{}%
405 \authornote{}%
406 \editor{}%
407 \received{}%
408 \accepted{}%
409 \doi{}%
410 \licence{}
411 \acknowledgements{}%
412 \def\abstract#1{\@bsphack\def\@abstract{#1}\@esphack}%
413 \abstract{}%
414 \def\authors{}
415 \def\shortauthor{}
416 \def\shortauthors{}
417 \def\toauthor{}
418 \def\toauthors{}
419 \def@email{}
420 \def\addresses@list{}

```

\abstract This accepts the abstract text.

```

421 \def\abstract#1{\@bsphack\def\@abstract{#1}\@esphack}%
422 \abstract{}%

```

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

```

423 \DeclareRobustCommand{\outputarticleappendix}{%
424   {%
425     \appendix
426     \@articleappendix
427     \global\let\@articleappendix\relax
428   }%
429 }%
430 \long\def\@wrap@articleappendix#1{\gappto{\@articleappendix}{\{#1\}}}
431 \newenvironment{articleappendix}{%
432   \gappto{\@articleappendix}{\clearpage}%
433   \Collect@Body\@wrap@articleappendix}{%
434 \newenvironment{articleappendix*}{%
435   \Collect@Body\@wrap@articleappendix}{%
436 \let\@articleappendix\relax
437 \def\@makefnmark{\textsu{\@thefnmark}\ }%
438 \renewcommand\@makefnmark[1]{%
439   \parindent 1em%
440   \noindent%
441   \@makefnmark#1}%

```

18.9.2 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` 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 subtracting `\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.

```

442 \newlength{\headwidth}%
443 \newlength{\bleed}%
444 \newlength{\headmargin}%
445 \newlength{\footrulewidth}%
446 \newlength{\headfootruleheight}%
447 \setlength{\bleed}{3mm}%
448 \setlength{\headfootruleheight}{0.4mm}%

```

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

```

449 \AtBeginDocument{%
450   \setlength{\headwidth}{\paperwidth+2\bleed}%
451   \setlength{\headmargin}{0.5\headwidth-0.5\textwidth}%
452   \setlength{\footrulewidth}{0.5\headwidth+0.5\textwidth}%

```

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

```

453 \newcommand{\headbox}[6]{\bgroup%
454   \setstretch{1}%
455   \reset@font\pageheadfont
456   \tabcolsep\z@
457   \arrayrulewidth\headfootruleheight
458   \hskip-\headmargin
459   \begin{tabular*}{\headwidth}[b]%
460     {@{\rule{\headmargin}{\z@}}%
461     >{\rule[-1.25mm]{\z@}{5mm-\arrayrulewidth}}%
462     l@{\extracolsep{\textwidth minus 1fill}}r%
463     @{\rule{\headmargin}{\z@}}}
464     #1 & #2\\
465     \hline
466     #3 & #4\\
467     \hline
468     #5 & #6\\
469     \hline
470   \end{tabular*}%
471   \hskip-\headmargin
472   \egroup
473 }%

```

`\theheadvolume` These macros are used to assemble the page head, ...

`\headpageoffset`

```

474 \newcommand{\theheadvolume}{%

```

`\theoddheadpage`

```

475   \begingroup\hypersetup{urlcolor=headtextcolor}\textcolor{headtextcolor}{Vol.\,\@volume, No.\,}

```

`\theevenheadpage`

```

476 \newlength{\headpageoffset}%
477 \setlength{\headpageoffset}{10mm}%
478 \def\theoddheadpage{%
479   \rlap{\makebox[\headpageoffset][r]{\pagenumfont\thepage}}}%

```

```

480 \def\theevenheadpage{%
481   \llap{\makebox[\headpageoffset][l]{\pagenumfont\thepage}}}%

@footrule switch ... and these are for the page foot.
\footruleoff 482 \newif\if@footrule%
\footruleon 483 \def\footruleoff{\global\@footrulefalse}%
\footrule 484 \def\footruleon{\global\@footruletrue}%
485 \def\footrule#1{%
486   \if@footrule
487     \makebox[\textwidth][#1]{%
488       \reset@font
489       \rule[\headfootruleheight]{\footrulewidth}{\headfootruleheight}%
490     }\fi}%

\headmarkstyle Sets the content marks in the running titles.
\markhead 491 \def\headmarkstyle#1{\@bsphack
\markarticle 492 \def\@headmarkstyle{#1}%
\markeditorial 493 \@esphack}%
494 \headmarkstyle{\color{headtextcolor}}%
495 \def\markhead#1#2{\@bsphack
496   \gdef\@evenmark{#1}%
497   \gdef\@oddmark{#2}%
498   \@esphack}%
499 \def\markarticle{\markhead{\@shortauthor}{\@shorttitle}}%
500 \def\markeditorial{\markhead{\@shorttitle}{\@shorttitle}}%

\ps@emisa Finally that all being thrown together gives the basic page style.
501 \def\ps@emisa{%
502   \def\@oddhead{%
503     \headbox{\@journalname}{}%
504     {\theheadvolume}{}%
505     {\@headmarkstyle\@oddmark}{\theoddheadpage}%
506   }%
507   \def\@evenhead{%
508     \headbox{}{\@journalname}%
509     {}{\theheadvolume}%
510     {\theevenheadpage}{\@headmarkstyle\@evenmark}}%
511   }%
512   \let\@oddmark\relax
513   \let\@evenmark\relax
514   \def\@oddfoot{\footrule{r}}%
515   \def\@evenfoot{\footrule{l}}%
516 }%

\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.

```

```

517 \def\ps@emisaarticle{%
518   \ps@emisa
519   \markarticle
520   \footruleoff
521 }%

522 \def\ps@emisaeditorial{%
523   \ps@emisa
524   \markeditorial
525   \footruleon
526 }%

527 \AtEndOfClass{\pagestyle{emisa}}%

```

18.9.3 Cover and advertisement pages

<p><code>\basecoverfont</code></p> <p><code>\covervolumefont</code></p> <p><code>\covertitlefont</code></p>	<p>These are the font and size definitions for cover pages. We are using the sansserif script from the Libertine package, called <i>Linux Biolinum</i>, in two different sizes with the title font being bold.</p> <pre> 528 \def\basecoverfont{\normalfont\sffamily}% 529 \def\covervolumefont{% 530 \basecoverfont\fontsize{6mm}{6mm}\selectfont}% 531 \def\covertitlefont{% 532 \basecoverfont\bfseries\fontsize{11mm}{16.5mm}\selectfont}% </pre>
<p><code>\coverIbname</code></p> <p><code>\coverIVbname</code></p> <p><code>\sigmobislogoname</code></p> <p><code>\gislogoname</code></p>	<p>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.</p> <pre> 533 \def\coverIbname{U1_bg}% 534 \def\coverIVbname{U4_bg}% 535 \def\sigmatobislogoname{SIG-MOBIS-logo-300}% 536 \def\sigEMISAlagoname{EMISA-Logo-svg}% 537 \def\gislogoname{GIS-logo_with_text-300}% </pre>
<p><code>\AtPageDeadCenter</code></p> <p><code>\page@empty</code></p>	<p><code>\AtPageDeadCenter</code> centers its argument horizontally and vertically around the geometric page center.</p> <p>This macro is to be used inside some <code>eso-pic ShipoutPicture</code>.</p> <pre> 538 \newcommand{\AtPageDeadCenter}[1]{% 539 \AtPageCenter{\makebox[\z@][c]{% 540 \raisebox{-0.5\totalheight}{\z@}{\z@}{#1}}}% 541 }% 542 \def\page@empty{\relax}% </pre>
<p><code>\pagebg</code></p>	<p>Background color for one whole page plus bleed.</p> <pre> 543 \newcommand{\pagebg}[1]{% 544 \AtPageDeadCenter{% 545 \textcolor{#1}{\rule{\paperwidth+2\bleed}{\paperheight+2\bleed}}}% </pre>

`\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`).

```

546 \newcommand{\thispagebackground}[2][]{%
547   \ifarg{#1}{\thispagestyle{#1}}%
548   \AddToShipoutPicture*{%
549     \unitlength 1mm\relax%
550     {#2}%
551   }%

```

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

```

552 \newcommand{\picturepage}[2][empty]{%
553   \thispagebackground[#1]{#2}%
554   \null\clearpage
555 }%

```

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

```

556 \newcommandtwopt*\inputpagegraphic}[3][empty][]{%
557   \thispagebackground[#1]{\includegraphics[width=\paperwidth,#2]{#3}}%
558   \null\clearpage
559 }%

```

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

```

560 \newcommand{\coverpage}[2][]{%
561   \@ifarg{#1}{\setcounter{page}{#1}}%
562   \picturepage{#2}%
563 }%

```

`\thecovervolumeline` These represent the

```

\thecovertitle
564 \newcommand{\thecovervolumeline}{%
565   \parbox[t]{130mm}{%
566     \raggedright
567     \color{covertextcolor}\covervolumefont%
568     Volume\space\@volume
569     \enspace\rule[-1mm]{0.5mm}{6mm}\enspace
570     No.\,\@issue\space\textbf{\@issuedate}\,[3mm]%
571     \@specialissuetitle
572   }%
573 }%
574 \def\thecovertitle{%
575   \parbox[t][30mm][s]{174mm}{%
576     \color{covertextcolor}%
577     \covertitlefont
578     \raggedright\@journalname\par
579     \vskip8mm
580     \covervolumefont
581     \raggedleft
582     \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 18.9.3) from `eso-pic` [17].

```
583 \def\sigmatobispage{%
584   \makebox[\z@][c]{%
585     \begin{minipage}[c][260mm][s]{\textwidth}
586       \sigmobispagehead
587       \medskip
588
589       The GI-SIG-MoBIS portal provides numerous resources on enterprise
590       modelling research, such as a full-text digital library, a
591       bibliography, conference announcements, a glossary and evaluation
592       reports. It is intended to establish the premier forum for an
593       international community in enterprise modelling. The new version
594       is based on a Content Management System allowing authorized users
595       to conveniently upload content. A \BibTeX{} interface allows for
596       conveniently integrating bibliographic data. Information about
597       this journal, such as guidelines for authors, tables of content
598       and full-text access to articles (for GI-SIG-MobIS members only)
599       are also available on the~portal.
600       \par
601       \medskip
602
603       \begin{center}
604         \includegraphics{GI-SIG-MOBIS_portal}
605       \end{center}
606
607       \medskip
608
609       GI encourages everybody who wants to participate in the
610       evolution of this community knowledge base to contribute to any of
611       the categories covered by the portal. Please contact Michael He\ss{}
612       (\href{mailto:m.hess@uni-duisburg-essen.de}{m.hess@uni-duisburg-essen.de})
613       for further~information.
614
615       \vfill
616
617       \sigmobispagefoot
618     \end{minipage}%
619   }%
620 }
```

`\sigmobispagehead` Elements of `\sigmobispage`.

`\sigmobispagefoot` `\def\sigmatobispagerule#1{%`
`\sigmobispagerule`

```

622 \parbox[c][23mm][s]{\linewidth}{%
623   \centering
624   \textcolor{gray}{\rule{.92\linewidth}{1mm}}%
625   \par\vfill
626   \raisebox{-.4\height} [.5\totalheight] [.5\totalheight]{\huge#1}%
627   \par\vfill
628   \textcolor{gray}{\rule{.92\linewidth}{1mm}}}\par}%
629 \def\sigmobispagehead{\sigmobispagerule{SIG-MoBIS Portal}}
630 \def\sigmobispagefoot{\sigmobispagerule{http://wi-mobis.gi-ev.de/}}

```

\coverI Each of these prepares one of the cover pages.

```

\coverII 631 \def\coverI#1{\@ifempty{#1}%
\coverIII 632   {\let\@coverI\relax}%
\coverIV 633   {\def\@coverI{\coverpage[-2]{#1}}}%
634 \def\coverII#1{\@ifempty{#1}%
635   {\let\@coverII\relax}%
636   {\def\@coverII{\coverpage[-1]{#1}}}%
637 \def\coverIII#1{\@ifempty{#1}%
638   {\let\@coverIII\relax}%
639   {\def\@coverIII{\coverpage{#1}}}%
640 \def\coverIV#1{\@ifempty{#1}%
641   {\let\@coverIV\relax}%
642   {\def\@coverIV{\coverpage{#1}}}%

```

So we prepare the four cover pages.

```

643 \coverI{%
644   \pagebg{coverbgcolor}%
645   \AtPageUpperLeft{%
646     \raisebox{-\totalheight}{\includegraphics{\coverIbname}}}%
647   \AtPageUpperLeft{\put(17,-28){\mbox{%
648     \includegraphics[height=19mm]{\sigmobislogoname}%
649     \hspace{5mm}%
650     \includegraphics[height=14.75mm]{\sigEMISAlgoname}%
651     }}}%
652   }%
653   \AtPageLowerLeft{\put(166,9){\includegraphics{\gislogoname}}}%
654   \AtPageLowerLeft{\put(17,44){\thecovervolumeline}}%
655   \AtTextLowerLeft{\put(-28,36){\framebox(200,62)[c]{}%
656   \AtPageLowerLeft{\put(17,112){\thecovertitle}}}%
657 }%
658 \coverII{\page@empty}%
659 \coverIII{\AtPageCenter{\sigmobispage}}%
660 \coverIV{%
661   \pagebg{coverbgcolor}%
662   \AtPageLowerLeft{%
663     \raisebox{167mm}{\includegraphics{\coverIVbname}}}%
664   \AtPageLowerLeft{%
665     \put(6,9){\parbox[b]{10cm}{\raggedright\large\sffamily\@issn}}}%
666   \AtPageLowerLeft{%

```



```

667     \put(166,9){\includegraphics{GIS-logo_with_text-300}}}%
668 }%

669 \if@cover
670   \AtBeginDocument{%
671     \@coverI\@coverII
672     \setcounter{page}{1}%
673   }%
674   \AtEndDocument{%
675     \@coverIII\@coverIV
676   }%
677 \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.

```

678 \graphicspath{{/figs_base/},{./figs_base/}}

```

18.9.4 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.

```

679 \newcounter{article}%
680 \@addtoreset{section}{article}%
681 \@addtoreset{footnote}{article}%
682 \@addtoreset{figure}{article}%
683 \@addtoreset{table}{article}%

```

`article` This encapsulates each article.

```

684 \newenvironment{article}[1]{%
685   \clearpage
686   \refstepcounter{article}%
687   \pagestyle{emisaarticle}%
688   \col@number=\tw@\relax
689   #1\relax
690   \l@article

```

Every article is its own bibliographical unit.

```

691   \begin{refsection}%
692   \maketitle
693   \ignorespaces
694   }{%
695   \end{refsection}%
696   \outputarticleappendix
697   \if@licenseet
698     \begin{minipage}{\textwidth}

```

```

699     \parbox[t]{\dimexpr .95\textwidth-\doclicense@imagewidth\relax}{\vskip 0pt\doclicenseLongT
700     \hfill%
701     \parbox[t]{\doclicense@imagewidth}{\vskip 0pt\doclicenseImage}%
702     \end{minipage}%
703 \else
704     \ifx\@licence\@empty\relax\else\par\noindent\@licence\fi%
705 \fi%
706 \onecolumn
707 \ignorespacesafterend}%

```

18.9.5 Formatting editorial content

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

```

708 \newcommandtwoopt{\edit@setup}[3][[]]{%
709     \title[#1][#2]{#3}
710     \pagestyle{emisaeditorial}

```

Here, section titles are a bit larger than otherwise.

```

711     \def\sec@font{\sectionfont\Large}%
712     \def\para@font{\sectionfont}%
713     \setcounter{section}{0}%
714 }%

```

`editorialcontent` This encapsulates editorial content entries.

```

715 \newenvironment{editorialcontent}[1]{%
716     \onecolumn
717     \refstepcounter{article}%
718     \edit@setup{#1}%
719     \l@editorialcontent
720     \raisebox{5.5mm}[10mm][0pt]{\sec@font\@title}\

```

Every `editorialcontent` is its own bibliographical unit.

```

721     \begin{refsection}%
722     \ignorespaces
723     }{%
724     \end{refsection}%
725     \onecolumn
726     \ignorespacesafterend}%

```

18.9.6 Standard editorial content environments

Several types of standardized editorial contents.

`editorial` This encapsulates editorials.

```

\editorialname 727 \def\editorialname{Editorial Preface}%

```

```

728 \newenvironment{editorial}[1][\editorialname]{%
729 \clearpage
730 \edit@setup{#1}%
731 \twocolumn[\raisebox{5.5mm}[10mm][0pt]{\sec@font\@title}}}%
732 \l@editorialcontent

```

Every editorial is its own bibliographical unit.

```

733 \begin{refsection}%
734 \ignorespaces
735 }{%
736 \end{refsection}%
737 \onecolumn
738 \ignorespacesafterend}%

```

cfp Call for papers.

```

\cfpname 739 \def\cfpname{Call for Papers}%
740 \newenvironment{cfp}[1][\cfpname]%
741 {\editorialcontent{#1}}%
742 {\endeditorialcontent}%

```

\imprint Imprint.

```

\imprintname 743 \newcommandtwoopt{\imprint}[2][\@imprintname][\@imprintbody]{%
\imprintbody 744 \onecolumn
745 \edit@setup{#1}{\@journalname}%
746 \l@editorialcontent
747 \raisebox{5.5mm}[10mm][0pt]{\sec@font\@title}\\
748 \ignorespaces
749 #2
750 \onecolumn\ignorespacesafterend}%
751 \def\imprintname#1{\@bsphack\def\@imprintname{#1}\@esphack}%
752 \long\def\imprintbody#1{\@bsphack\def\@imprintbody{#1}\@esphack}%

753 \imprintname{Imprint}%
754 \imprintbody{%
755 The journal \emph{\@journalname} is the official journal of the
756 Special Interest Group on Modelling Business Information Systems
757 within the German Informatics Society (GI-SIG MoBIS).
758
759 The journal Enterprise Modelling and Information Systems
760 Architectures is intended to provide a forum for those who prefer a
761 design-oriented approach. As the official journal of the German
762 Informatics Society (GI-SIG-MoBIS), it is dedicated to promote the
763 study and application of languages and methods for enterprise
764 modelling -- bridging the gap between theoretical foundations and
765 real world requirements. The journal is not only aimed at
766 researchers and students in Information Systems and Computer
767 Science, but also at information systems professionals in industry,
768 commerce and public administration who are interested in innovative
769 and inspiring concepts.

```

```

770
771 The journal's editorial board consists of scholars and practitioners
772 who are renowned experts on various aspects of developing, analysing
773 and deploying enterprise models. Besides Information Systems, they
774 cover various fields of Computer Science.
775
776 \section*{Subscription Information}
777
778 The journal is distributed free of charge for members of the
779 GI-SIG-MoBIS. Membership can be acquired through the German
780 Informatics Society (http://www.gi-ev.de/verein/mitgliedschaft/).
781 Single issues, priced at EUR\,25 each (plus shipment), can be ordered
782 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.

```

783 \newsavebox{\@editorial@box}%
784 \newlength{\editorialboxmaxheight}%
785 \setlength{\editorialboxmaxheight}{\textheight+10mm}%
786 \newcommandtwopt{\editorialboard}[2]%
787 [\@editorialboardname][\@editorialboardbody]{%
788   \clearpage
789   \edit@setup[#1]{#1}%
790   \l@editorialcontent
791   \savebox{\@editorial@box}{%
792     \vbox{\centering%
793       \fbboxsep=5mm
794       \fcolorbox{boxframecolor}{boxbgcolor}{%
795         \begin{minipage}[t]{110mm}
796           \raggedright
797           #2
798         \end{minipage}}\*
799       }%
800     }%
801     \raisebox{15mm-\totalheight}[5mm][0mm]{\makebox[\textwidth][c]{%
802       \ifdim\ht\@editorial@box>\editorialboxmaxheight
803         \resizebox{!}{\editorialboxmaxheight}{\usebox{\@editorial@box}}%
804       \else
805         \usebox{\@editorial@box}%
806       \fi
807     }}\*
808     \raisebox{-\textheight}[0mm][0mm]{\makebox[\textwidth][l]{%
809       \parbox[t]{\textwidth}{\raggedleft\bfseries\@issn}%

```

```

810 }}%
811 \onecolumn\ignorespacesafterend
812 }%
813 \def\editorialboardname#1{%
814 \@bsphack\def\@editorialboardname{#1}\@esphack}%
815 \long\def\editorialboardbody#1{%
816 \@bsphack\def\@editorialboardbody{#1}\@esphack}%

817 \editorialboardname{Editorial Board}%
818 \editorialboardbody{%
819 \section*{\@title}\vskip1mm
820 {\Large Editors in Chief\[\[1mm]}
821 Ulrich Frank, University of Duisburg-Essen\\
822 Manfred Reichert, Ulm University\[\[1mm]
823 {\Large Associate Editors\[\[1mm]}
824 Wil van der Aalst, Eindhoven University of Technology\\
825 Witold Abramowicz, Poznan University of Economics\\
826 Colin Atkinson, University of Mannheim\\
827 J\"org Becker, University of M\"unster\\
828 J\"org Desel, University of Hagen\\
829 Werner Esswein, Dresden University of Technology\\
830 Fernand Feltz, Centre de Recherche Public Gabriel Lippmann\\
831 Andreas Gadatsch, Bonn-Rhine-Sieg University of Applied Sciences\\
832 Martin Glinz, University of Zurich\\
833 Norbert Gronau, University of Potsdam\\
834 Wilhelm Hasselbring, University of Kiel\\
835 Brian Henderson-Sellers, University of Technology, Sydney\\
836 Stefan Jablonski, University of Bayreuth\\
837 Manfred Jeusfeld, Tilburg University\\
838 Reinhard Jung, University of St.\,Gallen\\
839 Dimitris Karagiannis, University of Vienna\\
840 John Krogstie, University of Trondheim\\
841 Thomas K\"uhne, Victoria University of Wellington\\
842 Frank Leymann, University of Stuttgart\\
843 Stephen W. Liddle, Brigham Young University\\
844 Peter Loos, Johannes Gutenberg-University of Mainz\\
845 Oscar Pastor L\'opez, Universidad Polit\'ecnica de Val\'encia\\
846 Heinrich C. Mayr, University of Klagenfurt\\
847 Jan Mendling, Vienna University of Economics and Business\\
848 Markus N\"uttgens, University of Hamburg\\
849 Andreas Oberweis, University of Karlsruhe\\
850 Erich Ortner, Darmstadt University of Technology\\
851 Erik Proper, Radboud University Nijmegen\\
852 Michael Rebstock, University of Applied Sciences Darmstadt\\
853 Stefanie Rinderle-Ma, University of Vienna\\
854 Michael Rosemann, Queensland University of Technology\\
855 Matti Rossi, Aalto University\\
856 Elmar J. Sinz, University of Bamberg\\
857 Friedrich Steimann, University of Hagen\\
858 Stefan Strecker, University of Hagen\\

```

859 Bernhard Thalheim, University of Kiel\\
 860 Oliver Thomas, University of Osnabr\\uck\\
 861 Juha-Pekka Tolvanen, University of Jyv\\askyl\\a\\
 862 Klaus Turowski, University of Augsburg\\
 863 Gottfried Vossen, University of M\\unster\\
 864 Mathias Weske, University of Potsdam\\
 865 Robert Winter, University of St.\\,Gallen\\
 866 Heinz Z\\ullighoven, University of Hamburg}%

\\guidelines Guidelines for Authors.

\\guidelinesname 867 \\newcommandtwoopt{\\guidelines}[2]%
 \\guidelinesbody 868 [\\@guidelinesname][\\@guidelinesbody]{%
 869 \\onecolumn
 870 \\edit@setup{#1}%
 871 \\l@editorialcontent
 872 \\raisebox{5.5mm}[10mm][0pt]{\\sec@font\\@title}\\
 873 \\ignorespaces
 874 #2
 875 \\onecolumn\\ignorespacesafterend}%
 876 \\def\\guidelinesname#1{%
 877 \\@bsphack\\def\\@guidelinesname{#1}\\@esphack}%
 878 \\long\\def\\guidelinesbody#1{%
 879 \\@bsphack\\def\\@guidelinesbody{#1}\\@esphack}%
 880 \\guidelinesname{Guidelines for Authors}%
 881 \\guidelinesbody{%
 882 The journal serves to publish results of innovative research on all
 883 facets of creating and analysing enterprise models and information
 884 systems architectures. For research papers, it is required to
 885 satisfy academic standards in terms of originality, level of
 886 abstraction and justification of results. Experience reports serve
 887 to describe and analyse success stories as well as practical
 888 obstacles and resulting research challenges. Topics covered by the
 889 journal include, but are not restricted to the following subjects:
 890 \\begin{itemize}
 891 \\item Languages and Methods for Enterprise Modelling
 892 \\item Reusable Domain Models (Reference Models)
 893 \\item Analysis and Design Patterns
 894 \\item Modelling of Business Processes and Workflows
 895 \\item Process-Oriented System Architectures
 896 \\item Component-Oriented System Architectures
 897 \\item Conceptual Modelling for Component-Oriented Design
 898 \\item Ontologies for Enterprise Modelling
 899 \\item Modelling for Enterprise Application Integration
 900 \\item Modelling for Data Warehouses
 901 \\item Modelling to support Knowledge Management
 902 \\item Model-Driven Development
 903 \\item Aspect-Oriented Design
 904 \\item Agile Methods for Enterprise Modelling

```

905 \end{itemize}
906 Authors are asked for electronic submissions, which have to be sent
907 to the editor in chief as e-mail attachment. In case of multiple
908 authors, it is required to name one author who acts as contact
909 person. The submission should include a cover page with the paper's
910 title and the names, affiliations and e-mail addresses of all
911 authors. The first page of the paper starts with the title and does
912 not carry the authors' names. A manuscript must be either in MS
913 Word or PDF format. It should not exceed 5.000 words -- this
914 includes an abstract of around 150 words.
915
916 Submitted papers will be reviewed within no more than two months.
917 The review process is double blind. Authors who submit a manuscript
918 guarantee that it has not been published elsewhere, nor is intended
919 to be published elsewhere. Papers that were accepted for
920 publication must be written according to the style defined for the
921 journal. A comprehensive description as well as a corresponding
922 Word template is provided on the web portal of the GI-SIG-MobIS
923 (http://www.fg-mobis.gi-ev.de/).}

```

18.9.7 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.

```

924 \def\maketitle{%
925   \begingroup
926   \let\footnoterule\relax
927   \let\footnote\thanks
928   \let\thefootnote\relax
929   \def\@makefnmark{\textsuperscript{\@thefnmark}}%
930   \ifnum\col@number=\@ne
931     \@maketitle
932   \else
933     \twocolumn[\@maketitle]%
934   \fi
935   \global\@topnum\z@
936   \@thanks
937 \endgroup
938 \setcounter{footnote}{0}%
939 }%

```

`\@maketitle` This assembles and outputs the article title.

```

940 \def\@maketitle{%
941   \bgroup
942   \normalfont
943   \pretolerance=9999
944   \parskip\z@
945   \parindent\z@

```

```

946 \if!\@title!
947 \else
948 {\raggedright
949 \titlefont\ignorespaces
950 \strut\@title\strut\par}%
951 \vskip2mm\relax
952 \fi
953 \if!\@subtitle!
954 \vskip5mm\relax
955 \else
956 {\makebox[\textwidth][r]{%
957 \begin{minipage}{\textwidth-15mm}
958 \raggedright
959 \subtitlefont\ignorespaces
960 \strut\@subtitle\strut
961 \end{minipage}}}%
962 \par}%
963 \vskip5mm\relax
964 \fi
965 \if!\@authors!
966 \else
967 {\raggedright
968 \authorfont\ignorespaces
969 \strut\@authors
970 \ifx\@email\@empty
971 \ClassError{emisa}{There has to be one corresponding author!}{Please use \string\author*}
972 \else
973 \ignorespaces\makebox[0pt][l]{\footnote{*~Corresponding author.\newline E-mail.\ \url{\@email}}}%
974 \fi%
975 \ifx\@acknowledgements\@empty
976 \else
977 \ignorespaces\makebox[0pt][l]{\footnote{\@acknowledgements}}}%
978 \fi%
979 \strut\par}%
980 \vskip2mm\relax
981 \fi
982 \if!\@addresses@list!
983 \else
984 {\raggedright
985 \footnotesize\ignorespaces
986 \strut\@addresses@list\strut\par}%
987 \vskip8mm\relax
988 \fi
989 \if!\@authornote!
990 \else
991 \let\thefootnote\relax
992 \ignorespaces\makebox[0pt][l]{\footnote{Note: \@authornote}}}%
993 \fi
994 \if!\@abstract!

```



```

995 \else
996 {\abstractfont\ignorespaces
997 \strut\textup{Abstract.\ } \@abstract\strut\par}%
998 \vskip5mm\relax
999 \fi
1000 \if!\@keywords!
1001 \vskip3mm\relax
1002 \else
1003 {\raggedright
1004 \ignorespaces
1005 \strut Keywords.\ \@keywords\strut\par}
1006 \vskip3mm\relax
1007 \fi
1008 \if!\@articleinfo@name!
1009 \if!\@articleinfo@rdate!
1010 \if!\@articleinfo@adate!
1011 \vskip\baselineskip\relax
1012 \fi
1013 \fi
1014 \else
1015 {\raggedright
1016 \small
1017 \ignorespaces
1018 \strut Communicated by\ \@articleinfo@name.%
1019 \if!\@articleinfo@rdate!%
1020 \else
1021 \space Received\ \@articleinfo@rdate.%
1022 \fi%
1023 \if!\@articleinfo@adate!%
1024 \else
1025 \space Accepted\ %
1026 \if!\@articleinfo@rounds!%
1027 \else%
1028 \ifnum\@articleinfo@rounds=1
1029 after \@articleinfo@rounds{} revision\space%
1030 \else
1031 after \@articleinfo@rounds{} revisions\space%
1032 \fi%
1033 \fi%
1034 on \@articleinfo@adate.
1035 \fi%
1036 \strut\par}
1037 \vskip5mm\relax
1038 \fi
1039 \egroup
1040 }

```

18.9.8 Sectioning

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

Syntax:

```
\@sect{<#1: name>}{<#2: level>}{<#3: indent>}{<#4: before skip>}{<#5: after skip>}{<#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 table 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»).
- `<before skip>` 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.
- `<after skip>` 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 the June 1996 release of L^AT_EX 2_ε 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.

```
1041 \def\@sect#1#2#3#4#5#6[#7]#8{%
1042   \ifnum #2>\c@secnumdepth
1043     \let\@svsec\@empty
1044   \else
1045     \refstepcounter{#1}%
```

Since `\@secntformat` 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.

```
1046   \protected@edef\@svsec{\@secntformat{#1}}%
1047   \fi
1048   \@tempskipa #5\relax
1049   \ifdim \@tempskipa>\z@
```

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

```
1050   \begingroup
1051     #6{\noindent%
```

```

1052      \@hangfrom{\hskip #3\relax\@svsec}%
1053      \raggedright
1054      \interlinepenalty\@M
1055      \strut#8\strut
1056      \@par}%
1057 \endgroup
1058 \csname #1mark\endcsname{#7}%
1059 \addcontentsline{toc}{#1}{%
1060   \ifnum #2>\c@secnumdepth \else
1061     \protect\numberline{\csname the#1\endcsname}%
1062   \fi
1063   #7}%
1064 \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.

```

1065 \def\@svsechd{%
1066   #6{\hskip #3\relax
1067   \@svsec #8}%
1068   \csname #1mark\endcsname{#7}%
1069   \addcontentsline{toc}{#1}{%
1070     \ifnum #2>\c@secnumdepth \else
1071       \protect\numberline{\csname the#1\endcsname}%
1072     \fi
1073     #7}}%
1074 \fi
1075 \@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. 42.

```

1076 \def\@ssect#1#2#3#4#5{%
1077   \@tempskipa #3\relax
1078   \ifdim \@tempskipa>\z@
1079     \begingroup
1080       #4{\noindent%
1081         \hskip #1\relax
1082         \noindent%
1083         \parbox[t]{\linewidth}{%
1084           \raggedright\interlinepenalty\@M#5\strut}\@par}%
1085     \endgroup
1086   \else
1087     \def\@svsechd{#4{\hskip #1\relax #5}}%
1088   \fi
1089   \@xsect{#3}}

```

`\@secntformat` This formats the counters (including any whitespace) of sectioning headers.

```
1090 \def\@secntformat#1{%  
1091   \csname the#1\endcsname%  
1092   \relax\ \ }%
```

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

Syntax:

```
\@startsection{<#1: name>}{<#2: level>}  
  {<#3: indent>}{<#4: beforekip>}{<#5: afterskip>}  
  {<#6: style>}
```

See also the list on p. 42.

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.

```
1093 \def\section{\@startsection{section}%  
1094   {1}{\z@}%  
1095   {-1\baselineskip plus -2mm minus -2mm}%  
1096   {.5\baselineskip plus .25\baselineskip minus .125\baselineskip}%  
1097   {\sec@font}}%
```

`\subsection`

```
1098 \def\subsection{\@startsection{subsection}%  
1099   {2}{\z@}%  
1100   {-3mm plus -2mm minus -1.5mm}%  
1101   {.25\baselineskip plus .125\baselineskip minus .125\baselineskip}%  
1102   {\sec@font}}%
```

`\subsubsection`

```
1103 \def\subsubsection{\@startsection{subsubsection}%  
1104   {3}{\z@}%  
1105   {-3mm plus -2mm minus -1mm}%  
1106   {1sp}%  
1107   {\sec@font}}%
```

`\paragraph`

```
1108 \def\paragraph{\@startsection{paragraph}%  
1109   {4}{\z@}%  
1110   {-1.5mm plus -1mm minus -0.75mm}%  
1111   {1sp}%  
1112   {\para@font}}%
```

`\subparagraph`

```
1113 \def\subparagraph{\@startsection{subparagraph}%  
1114   {5}{\z@}%  
1115   {-1.5mm}%  
1116   {-1em}%  
1117   {\para@font}}%
```

18.9.9 The table of contents

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

```
1118 \def\tableofcontents{%  
1119   \onecolumn  
1120   \pagestyle{emisaeditorial}%  
1121   \footruleon  
1122   \title{Table of Contents}%  
1123   \null  
1124   \vskip10mm  
1125   \maketitle  
1126   \vskip15mm  
1127   \bgroup
```

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

```
1128   \parindent\z@  
1129   \parskip\z@  
1130   \@starttoc{toc}%  
1131   \egroup  
1132   \onecolumn  
1133   }
```

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

```
\l@editorialcontent 1134 \newcommand*\l@article{%  
1135   \if!\@subtitle!  
1136     \addtocentry{\@tocauthor}{\thepage}{\@toctitle}%  
1137   \else  
1138     \addtocentry{\@tocauthor}{\thepage}{\@toctitle\ --\ \@tocsubtitle}%  
1139   \fi}%  
1140 \newcommand*\l@editorialcontent{%  
1141   \addtocentry{\@toctitle}{\thepage}{}}%
```

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

```
1142 \newcommand*\addtocentry[4][toc]{%  
1143   \addtocontents{#1}{\string\emisa@tocentry{#2}{#3}{#4}}}%
```

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

```
1144 \newcommand{\emisa@tocentry}[3]{%
1145   \makebox[\textwidth][l]{%
1146     \parbox[t]{72.5mm-\@pnumwidth}{\raggedright\textbf{#1}}%
1147     \makebox[\@pnumwidth][r]{\textbf{#2}}%
1148     \hfill
1149     \parbox[t]{85mm}{\raggedright#3}}%
1150   \vspace{3mm}}%
```

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

```
1151 \setcounter{tocdepth}{-2}
```

18.9.10 A few abbreviations

`\ie` Macros for a couple of abbreviations used quite frequently.

```
\eg 1152 \newcommand*{\emisa@abbrv}[1]{#1\@xspace}
\cf 1153 \newcommand*{\emisa@abbrv}[2]{\gdef#1{\emisa@abbrv{#2}}}
\etal 1154 \newcommand*{\emisa@vabbrv}[1]{\textsc{#1}\xspace}
\emisa@abbrv 1155 \newcommand*{\ie}{\emisa@abbrv{i.e.,}}
\emisa@abbrv 1156 \newcommand*{\eg}{\emisa@abbrv{e.g.,}}
\emisa@vabbrv 1157 \newcommand*{\cf}{\emisa@abbrv{cf.}}
\OMG 1158 \newcommand*{\etal}{\emisa@abbrv{et~al.}}
\BPM 1159 \newcommand*{\OMG}{\emisa@vabbrv{omg}}
\BPMN 1160 \newcommand*{\BPM}{\emisa@vabbrv{bpm}}
\BPMN 1161 \newcommand*{\BPMN}{\emisa@vabbrv{bpnn}}
\UML 1162 \newcommand*{\UML}{\emisa@vabbrv{uml}}
```

18.10 Bibliographies

The infrastructure for that is already present in \LaTeX [19, `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.

```
1163 \def\@tempa#1\do\addbibresource#2\nil{%
1164   \ifx\relax#2\relax
1165   \else
```

```

1166 \def\@tempa##1\do\addbibresource##2\nil{\def\@preamblecmds{##1##2}}%
1167 \expandafter\@tempa\@preamblecmds\nil
1168 \fi
1169 }
1170 \expandafter\@tempa\@preamblecmds\do\addbibresource\nil
1171 \AfterEndPreamble{%
1172 \DeclareRobustCommand{\bibliography}[1]{%
1173 \addbibresource{#1}}%
1174 }%

1175 \tolerance 1414
1176 \hbadness 1414
1177 \emergencystretch 1.5em
1178 \hfuzz 0.3pt
1179 \widowpenalty=10000
1180 \displaywidowpenalty=10000
1181 \clubpenalty=5000
1182 \interfootnotelinepenalty=9999
1183 \brokenpenalty=2000
1184 \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.

```

1185 </class>
1186 <*biblatex>

```

18.10.1 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.

```

1187 <*bbx>

```

We start by declaring the file name and date.

```

1188 \ProvidesFile{emisa.bbx}[2012/12/21 0.4 EMISA bibliography style]

```

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

```

1189 \RequireBibliographyStyle{authoryear}

```

... to be expanded and modified in the following.

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

```

1190 \newcommand*{\bibitemlabel}[1]{%
1191 \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.

```

1192 \defbibenvironment{bibliography}
1193   {\list{}}%
1194   {\setlength{\labelwidth}{\z@}%
1195    \setlength{\leftmargin}{\z@}%
1196    \setlength{\itemindent}{-\leftmargin}%
1197    \setlength{\itemsep}{.5\baselineskip\@plus.2\baselineskip\@minus.2\baselineskip}%
1198    \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 itself.

```

1199   }%
1200   \let\makelabel\bibitemlabel

```

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

```

1201   \tolerance 9999
1202   \emergencystretch 3em
1203   \hfuzz .5\p@
1204   \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.

```

1205   \clubpenalty 4000
1206   \@clubpenalty\clubpenalty
1207   \widowpenalty 4000

```

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

```

1208   \sfcode'\.\@m

```

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

```

1209   \renewcommand*{\finalnamedelim}{\addcomma\space}%
1210   }%
1211   {%

```

An empty `thebibliography` environment will cause a warning.

```

1212   \def\@noitemerr{\@latex@warning{Empty 'thebibliography' environment}}%
1213   \endlist}
1214   {\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 \TeX behavior (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 $0.5 \times \text{hyphenpenalty}$ at load-time.

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

```
1215 \renewcommand*{\newunitpunct}{\space}
```

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

```
1216 \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.

```
1217 \renewcommand*{\bibsetup}{%
```

```
1218   \interlinepenalty=5000\relax
```

```
1219   \widowpenalty=10000\relax
```

```
1220   \clubpenalty=10000\relax
```

```
1221   \biburlsetup
```

```

1222 \flushbottom
1223 \frenchspacing
1224 \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.

```

1225 \renewcommand*{\biburlsetup}{%
1226   \Urlmuskip=0mu plus 2mu\relax
1227   \mathchardef\UrlBreakPenalty=200\relax
1228   \mathchardef\UrlBigBreakPenalty=100\relax
1229   \mathchardef\UrlEmergencyPenalty=9000\relax
1230   \appto\UrlSpecials{%
1231     \do\0{\mathchar'\0\penalty\UrlEmergencyPenalty}%
1232     \do\1{\mathchar'\1\penalty\UrlEmergencyPenalty}%
1233     \do\2{\mathchar'\2\penalty\UrlEmergencyPenalty}%
1234     \do\3{\mathchar'\3\penalty\UrlEmergencyPenalty}%
1235     \do\4{\mathchar'\4\penalty\UrlEmergencyPenalty}%
1236     \do\5{\mathchar'\5\penalty\UrlEmergencyPenalty}%
1237     \do\6{\mathchar'\6\penalty\UrlEmergencyPenalty}%
1238     \do\7{\mathchar'\7\penalty\UrlEmergencyPenalty}%
1239     \do\8{\mathchar'\8\penalty\UrlEmergencyPenalty}%
1240     \do\9{\mathchar'\9\penalty\UrlEmergencyPenalty}}%
1241   \def\UrlBreaks{%
1242     \do\.\do\@\do\/\do\\\do\!\do\_ \do\|\do\;\do\>\do\]\do\)\do\}%
1243     \do\,\do\?\do\' \do\+\do\=\do\#\do\$ \do\&\do\*\do\^\do\"}%
1244   \def\UrlBigBreaks{\do\:\do\-\}%

```

URLs are typeset in sans-serif script.

```
1245 \def\UrlFont{\sffamily}%  
1246 }
```

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.

```
1247 \DeclareFieldFormat{citetitle}{#1}  
1248 \DeclareFieldFormat[article]{citetitle}{#1\isdot}  
1249 \DeclareFieldFormat[inbook]{citetitle}{#1\isdot}  
1250 \DeclareFieldFormat[incollection]{citetitle}{#1\isdot}  
1251 \DeclareFieldFormat[inproceedings]{citetitle}{#1\isdot}  
1252 \DeclareFieldFormat[patent]{citetitle}{#1\isdot}  
1253 \DeclareFieldFormat[thesis]{citetitle}{#1\isdot}  
1254 \DeclareFieldFormat[unpublished]{citetitle}{#1\isdot}
```

The following field formats are used for output in bibliographies.

```
1255 \DeclareFieldFormat{booktitle}{#1\isdot}  
1256 \DeclareFieldFormat{journaltitle}{#1}  
1257 \DeclareFieldFormat{issuetitle}{#1}  
1258 \DeclareFieldFormat{maintitle}{#1}  
1259 \DeclareFieldFormat{title}{#1}  
1260 \DeclareFieldFormat[article]{title}{#1\isdot}
```

```

1261 \DeclareFieldFormat[inbook]{title}{#1\isdot}
1262 \DeclareFieldFormat[incollection]{title}{#1\isdot}
1263 \DeclareFieldFormat[inproceedings]{title}{#1\isdot}
1264 \DeclareFieldFormat[patent]{title}{#1\isdot}
1265 \DeclareFieldFormat[thesis]{title}{#1\isdot}
1266 \DeclareFieldFormat[unpublished]{title}{#1\isdot}
1267 \DeclareFieldFormat[url]{\url{#1}}
1268 \DeclareFieldFormat{urldate}{\bibstring{urlseen}\addcolon\space#1}
1269 \DeclareFieldAlias[misc]{note}{urldate}
1270 \DeclareFieldAlias[report]{note}{urldate}
1271 \DeclareFieldAlias[thesis]{note}{urldate}
1272 \DeclareFieldFormat{version}{\bibcpstring{version}~#1}
1273 \DeclareFieldFormat{volume}{\bibcpstring{volume}~#1}
1274 \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`.

```

1275 \DeclareNameFormat{emisa:names}{%
1276   \usebibmacro{name:last-firstinit}{#1}{#4}{#5}{#7}%
1277   \usebibmacro{name:andothers}}

```

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

me:last-firstinit

```
bibmacro 1278 \newbibmacro*{name:last-firstinit}[4]{%
1279   \usebibmacro{name:delim}{#2#3#1}%
1280   \usebibmacro{name:hook}{#2#3#1}%

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

1281   \ifblank{#3}{}{}%
1282   \mkbibnameprefix{#3}%\isdot
1283   \ifpunctmark{' }
1284   {}
1285   {\ifuseprefix{\addhighpenspace}\addlowpenspace}}}%

... last name ...

1286   \mkbibnamelast{#1}\addhighpenspace

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

1287   \ifblank{#4}{}{\addlowpenspace\mkbibnameaffix{#4}\addlowpenspace}%

... and first name (initials).

1288   \ifblank{#2}{}{\mkbibnamefirst{#2}\isdot}%
1289 }%
```

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

```
1290 \renewbibmacro*{in:}{%
1291   \printtext{%
1292     \bibcpstring{in}%
1293     \intitlepunct}}
```

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

author bibmacro

```
1294 \renewbibmacro*{author}{%
1295   \ifthenelse{\ifuseauthor\AND\NOT\ifnameundef{author}}
1296     {\printnames{author}%
1297     \iffieldundef{authortype}
1298     {}
1299     {\setunit{\addspace}%
1300 \usebibmacro{authorstrg}}}
1301   {}}}
```

editor bibmacro

```

1302 \renewbibmacro*{editor}{%
1303   \ifthenelse{\ifuseeditor\AND\NOT\ifnameundef{editor}}
1304     {\printnames{editor}%
1305      \setunit{\addspace}%
1306      \usebibmacro{editorstrg}%
1307      \clearname{editor}}
1308   {}

```

editor+others bibmacro

```

1309 \renewbibmacro*{editor+others}{%
1310   \ifthenelse{\ifuseeditor\AND\NOT\ifnameundef{editor}}
1311     {\printnames[emisa:names]{editor}%
1312      \setunit{\addspace}%
1313      \usebibmacro{editor+othersstrg}%
1314      \clearname{editor}}
1315     {}

```

translator bibmacro

```

1316 \renewbibmacro*{translator}{%
1317   \ifthenelse{\ifusetranslator\AND\NOT\ifnameundef{translator}}
1318     {\printnames{translator}%
1319      \setunit{\addspace}%
1320      \usebibmacro{translatorstrg}%
1321      \clearname{translator}}
1322   {}

```

translator+others bibmacro

```

1323 \renewbibmacro*{translator+others}{%
1324   \ifthenelse{\ifusetranslator\AND\NOT\ifnameundef{translator}}
1325     {\printnames{translator}%
1326      \setunit{\addspace}%
1327      \usebibmacro{translator+othersstrg}%
1328      \clearname{translator}}
1329   {}

```

editor+othersstrg bibmacro

```

1330 \renewbibmacro*{editor+othersstrg}{%
1331   \iffieldundef{editortype}
1332     {\ifthenelse{\value{editor}>1\OR\ifandothers{editor}}
1333       {\def\abx@tempa{editors}}
1334       {\def\abx@tempa{editor}}}
1335     {\ifthenelse{\value{editor}>1\OR\ifandothers{editor}}
1336       {\edef\abx@tempa{\thefield{editortype}s}}
1337       {\edef\abx@tempa{\thefield{editortype}}}}}%
1338 \let\abx@tempb=\empty
1339 \ifnamesequal{editor}{translator}
1340   {\appto\abx@tempa{tr}}%

```

```

1341 \appto\abx@tempb{\clearname{translator}}
1342 {}%
1343 \ifnamesequal{editor}{commentator}
1344 {\appto\abx@tempa{co}%
1345 \appto\abx@tempb{\clearname{commentator}}}
1346 {\ifnamesequal{editor}{annotator}
1347 {\appto\abx@tempa{an}%
1348 \appto\abx@tempb{\clearname{annotator}}}
1349 {}}%
1350 \ifnamesequal{editor}{introduction}
1351 {\appto\abx@tempa{in}%
1352 \appto\abx@tempb{\clearname{introduction}}}
1353 {\ifnamesequal{editor}{foreword}
1354 {\appto\abx@tempa{fo}%
1355 \appto\abx@tempb{\clearname{foreword}}}
1356 {\ifnamesequal{editor}{afterword}
1357 {\appto\abx@tempa{af}%
1358 \appto\abx@tempb{\clearname{afterword}}}
1359 {}}%
1360 \ifbibxstring{\abx@tempa}
1361 {\bibstring[\mkbibparens]{\abx@tempa}%
1362 \abx@tempb}
1363 {\usebibmacro{editorstrg}}}%

```

emisa:url+urldate bibmacro

```

1364 \newbibmacro*{emisa:url+urldate}{%
1365 \iffieldundef{url}
1366 {\printfield{howpublished}}
1367 {\printfield{url}}
1368 \setunit*{\addperiod\space}\newblock
1369 \iffieldundef{urlyear}
1370 {\printfield{note}}
1371 {\printtext[urldate]{\printurldate}}}

```

emisa:url+type+version+urldate

```

bibmacro
1372 \newbibmacro*{emisa:url+type+version+urldate}{%
1373 \iffieldundef{url}%
1374 {\printfield{url}}
1375 {\printfield{howpublished}}%
1376 \setunit*{\addcomma\space}\newblock
1377 \printfield{type}%
1378 \setunit*{\addcomma\space}\newblock
1379 \printfield{version}%
1380 \setunit*{\addcomma\space}\newblock
1381 \iffieldundef{urlyear}
1382 {\printfield{note}}
1383 {\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

```
1384 \renewbibmacro*{finentry}{}%
```

article bibdriver

```
1385 \DeclareBibliographyDriver{article}{%
1386   \usebibmacro{bibindex}%
1387   \usebibmacro{begentry}%
1388   \usebibmacro{author/translator+others}%
1389   \setunit{\labelnamepunct}\newblock
1390   \usebibmacro{title}%
1391   \newunit
1392   \printlist{language}%
1393   \newunit\newblock
1394   \usebibmacro{bytranslator+others}%
1395   \newunit\newblock
1396   \printfield{version}%
1397   \setunit{\addperiod\space}%
1398   \usebibmacro{in:}%
1399   \usebibmacro{journal+issuetitle}%
1400   \newunit\newblock
1401   \usebibmacro{editor+others}%
1402   \newunit\newblock
1403   \usebibmacro{note+pages}%
1404   \newunit\newblock
1405   \iftoggle{bbx:isbn}
1406     {\printfield{issn}}
1407     {}%
1408   \newunit\newblock
1409   \usebibmacro{doi+eprint+url}%
1410   \newunit\newblock
1411   \usebibmacro{addendum+pubstate}%
1412   \newunit\newblock
1413   \usebibmacro{pageref}%
1414   \usebibmacro{finentry}}
```

book bibdriver

```
1415 \DeclareBibliographyDriver{book}{%
1416   \usebibmacro{bibindex}%
1417   \usebibmacro{begentry}%
1418   \usebibmacro{author/editor+others/translator+others}%
1419   \setunit{\labelnamepunct}\newblock
1420   \usebibmacro{maintitle+title}%
1421   \newunit
1422   \printlist{language}%
```



```

1423 \newunit\newblock
1424 \usebibmacro{editor+others}%
1425 \setunit{\addcomma\space}%
1426 \newblock
1427 \printfield{edition}%
1428 \setunit{\addperiod\space}%
1429 \newblock
1430 \usebibmacro{series+number}%
1431 \newunit
1432 \newblock
1433 \iffieldundef{maintitle}
1434   {\printfield{volume}%
1435    \printfield{part}}
1436   {}%
1437 \newunit
1438 \printfield{volumes}%
1439 \setunit{\addperiod\space}%
1440 \newblock
1441 \printfield{note}%
1442 \setunit{\addperiod\space}%
1443 \newblock
1444 \usebibmacro{publisher+location+date}%
1445 \newunit\newblock
1446 \usebibmacro{chapter+pages}%
1447 \newunit
1448 \printfield{pagetotal}%
1449 \newunit\newblock
1450 \iftoggle{bbx:isbn}
1451   {\printfield{isbn}}
1452   {}%
1453 \newunit\newblock
1454 \usebibmacro{doi+eprint+url}%
1455 \newunit\newblock
1456 \usebibmacro{addendum+pubstate}%
1457 \newunit\newblock
1458 \usebibmacro{pageref}%
1459 \usebibmacro{finentry}}

```

booklet bibdriver

```

1460 \DeclareBibliographyDriver{booklet}{%
1461   \usebibmacro{bibindex}%
1462   \usebibmacro{begentry}%
1463   \usebibmacro{author/editor+others/translator+others}%
1464   \setunit{\labelnamepunct}\newblock
1465   \usebibmacro{title}%
1466   \newunit
1467   \printlist{language}%
1468   \newunit\newblock
1469   \usebibmacro{editor+others}%

```

```

1470 \newunit\newblock
1471 \printfield{howpublished}%
1472 \newunit\newblock
1473 \printfield{type}%
1474 \newunit\newblock
1475 \printfield{note}%
1476 \newunit\newblock
1477 \usebibmacro{location+date}%
1478 \newunit\newblock
1479 \usebibmacro{chapter+pages}%
1480 \newunit
1481 \printfield{pagetotal}%
1482 \newunit\newblock
1483 \usebibmacro{doi+eprint+url}%
1484 \newunit\newblock
1485 \usebibmacro{addendum+pubstate}%
1486 \newunit\newblock
1487 \usebibmacro{pageref}%
1488 \usebibmacro{finentry}}

```

collection bibdriver

```

1489 \DeclareBibliographyDriver{collection}{%
1490 \usebibmacro{bibindex}%
1491 \usebibmacro{begentry}%
1492 \usebibmacro{editor+others}%
1493 \setunit{\labelnamepunct}\newblock
1494 \usebibmacro{maintitle+title}%
1495 \newunit
1496 \printlist{language}%
1497 \newunit\newblock
1498 \usebibmacro{editor+others}%
1499 \setunit{\addcomma\space}%
1500 \newblock
1501 \printfield{edition}%
1502 \setunit{\addperiod\space}%
1503 \newblock
1504 \usebibmacro{series+number}%
1505 \newunit
1506 \newblock
1507 \iffieldundef{maintitle}
1508 {\printfield{volume}%
1509 \printfield{part}}
1510 {}%
1511 \newunit
1512 \printfield{volumes}%
1513 \setunit{\addperiod\space}%
1514 \newblock
1515 \printfield{note}%
1516 \setunit{\addperiod\space}%

```

```

1517 \newblock
1518 \usebibmacro{publisher+location+date}%
1519 \newunit\newblock
1520 \usebibmacro{chapter+pages}%
1521 \newunit
1522 \printfield{pagetotal}%
1523 \newunit\newblock
1524 \iftoggle{bbx:isbn}
1525   {\printfield{isbn}}
1526   {}%
1527 \newunit\newblock
1528 \usebibmacro{doi+eprint+url}%
1529 \newunit\newblock
1530 \usebibmacro{addendum+pubstate}%
1531 \newunit\newblock
1532 \usebibmacro{pageref}%
1533 \usebibmacro{finentry}}

```

inbook bibdriver

```

1534 \DeclareBibliographyDriver{inbook}{%
1535   \usebibmacro{bibindex}%
1536   \usebibmacro{begentry}%
1537   \usebibmacro{author/translator+others}%
1538   \setunit{\labelnamepunct}\newblock
1539   \usebibmacro{title}%
1540   \newunit
1541   \printlist{language}%
1542   \newunit\newblock
1543   \usebibmacro{in:}%
1544   \usebibmacro{bybookauthor}%
1545   \newunit\newblock
1546   \usebibmacro{maintitle+booktitle}%
1547   \newunit\newblock
1548   \usebibmacro{editor+others}%
1549   \setunit{\addcomma\space}%
1550   \newblock
1551   \printfield{edition}%
1552   \newunit
1553   \iffieldundef{maintitle}
1554     {\printfield{volume}%
1555       \printfield{part}}
1556     {}%
1557   \newunit
1558   \printfield{volumes}%
1559   \newunit\newblock
1560   \usebibmacro{series+number}%
1561   \newunit\newblock
1562   \printfield{note}%
1563   \newunit\newblock

```

```

1564 \usebibmacro{publisher+location+date}%
1565 \newunit\newblock
1566 \usebibmacro{chapter+pages}%
1567 \newunit\newblock
1568 \iftoggle{bbx:isbn}
1569   {\printfield{isbn}}
1570   {}%
1571 \newunit\newblock
1572 \usebibmacro{doi+eprint+url}%
1573 \newunit\newblock
1574 \usebibmacro{addendum+pubstate}%
1575 \newunit\newblock
1576 \usebibmacro{pageref}%
1577 \usebibmacro{finentry}}

```

incollection bibdriver

```

1578 \DeclareBibliographyDriver{incollection}{%
1579   \usebibmacro{bibindex}%
1580   \usebibmacro{begentry}%
1581   \usebibmacro{author/translator+others}%
1582   \setunit{\labelnamepunct}\newblock
1583   \usebibmacro{title}%
1584   \setunit{\addcomma\space}%
1585   \printlist{language}%

```

Period after title, if any

```

1586   \setunit{\addperiod\space}%
1587   \usebibmacro{in:}%
1588   \usebibmacro{editor+others}%
1589   \setunit{\addspace}%
1590   \newblock
1591   \usebibmacro{byauthor}%
1592   \newblock
1593   \usebibmacro{maintitle+booktitle}%

```

Colon after maintitle, if any

```

1594   \newblock
1595   \printfield{edition}%
1596   \setunit{\addperiod\space}%
1597   \newblock
1598   \usebibmacro{series+number}%
1599   \newunit
1600   \newblock
1601   \iffieldundef{maintitle}
1602     {\printfield{volume}%
1603      \printfield{part}}
1604     {}%
1605   \newunit
1606   \printfield{volumes}%

```

```

1607 \setunit{\addperiod\space}%
1608 \newblock
1609 \printfield{note}%
1610 \setunit{\addperiod\space}%
1611 \newblock
1612 \usebibmacro{publisher+location+date}%
1613 \setunit*{\addcomma\space}%
1614 \newblock
1615 \usebibmacro{chapter+pages}%
1616 \newunit\newblock
1617 \iftoggle{bbx:isbn}
1618   {\printfield{isbn}}
1619   {}%
1620 \newunit\newblock
1621 \usebibmacro{doi+eprint+url}%
1622 \newunit\newblock
1623 \usebibmacro{addendum+pubstate}%
1624 \newunit\newblock
1625 \usebibmacro{pageref}%
1626 \usebibmacro{finentry}}

```

inproceedings bibdriver

```

1627 \DeclareBibliographyDriver{inproceedings}{%
1628   \usebibmacro{bibindex}%
1629   \usebibmacro{begentry}%
1630   \usebibmacro{author/translator+others}%
1631   \setunit{\labelnamepunct}%
1632   \newblock
1633   \usebibmacro{title}%
1634   \setunit{\addcomma\space}%
1635   \printlist{language}%
1636   \newblock
1637   \usebibmacro{byauthor}%

```

Period after title, if any

```

1638   \setunit{\addperiod\space}%
1639   \usebibmacro{in:}%
1640   \usebibmacro{editor+others}%
1641   \setunit{\addspace}%
1642   \newblock
1643   \usebibmacro{byauthor}%
1644   \newblock
1645   \usebibmacro{maintitle+booktitle}%

```

Colon after maintitle, if any

```

1646   \newblock
1647   \usebibmacro{event+venue+date}%
1648   \setunit{\addperiod\space}%
1649   \newblock

```

```

1650 \usebibmacro{series+number}%
1651 \newunit
1652 \newblock
1653 \iffieldundef{maintitle}
1654   {\printfield{volume}%
1655    \printfield{part}}
1656   {}%
1657 \newunit
1658 \printfield{volumes}%
1659 \setunit{\addperiod\space}%
1660 \newblock
1661 \printfield{note}%
1662 \setunit{\addperiod\space}%
1663 \newblock
1664 \printlist{organization}%
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}}

```

manual bibdriver

```

1682 \DeclareBibliographyDriver{manual}{%
1683   \usebibmacro{bibindex}%
1684   \usebibmacro{begentry}%
1685   \usebibmacro{author/editor}%
1686   \setunit{\labelnamepunct}\newblock
1687   \usebibmacro{title}%
1688   \newunit
1689   \printlist{language}%
1690   \newunit\newblock
1691   \usebibmacro{byeditor}%
1692   \setunit{\addcomma\space}%
1693   \newblock
1694   \printfield{edition}%
1695   \newunit\newblock
1696   \usebibmacro{series+number}%

```

```

1697 \newunit\newblock
1698 \printfield{type}%
1699 \newunit
1700 \printfield{version}%
1701 \newunit
1702 \printfield{note}%
1703 \newunit\newblock
1704 \printlist{organization}%
1705 \newunit
1706 \usebibmacro{publisher+location+date}%
1707 \newunit\newblock
1708 \usebibmacro{chapter+pages}%
1709 \newunit
1710 \printfield{pagetotal}%
1711 \newunit\newblock
1712 \iftoggle{bbx:isbn}
1713   {\printfield{isbn}}
1714   {}%
1715 \newunit\newblock
1716 \usebibmacro{doi+eprint+url}%
1717 \newunit\newblock
1718 \usebibmacro{addendum+pubstate}%
1719 \newunit\newblock
1720 \usebibmacro{pageref}%
1721 \usebibmacro{finentry}}

```

misc bibdriver

```

1722 \DeclareBibliographyDriver{misc}{%
1723   \usebibmacro{bibindex}%
1724   \usebibmacro{begentry}%
1725   \usebibmacro{author/editor+others/translator+others}%
1726   \setunit{\labelnamepunct}\newblock
1727   \usebibmacro{title}%
1728   \newunit
1729   \printlist{language}%

```

Period after title, if any

```

1730   \setunit{\addperiod\space}%
1731   \usebibmacro{emisa:url+urldate}%
1732   \usebibmacro{finentry}}

```

online bibdriver

```

1733 \DeclareBibliographyDriver{online}{%
1734   \usebibmacro{bibindex}%
1735   \usebibmacro{begentry}%
1736   \usebibmacro{author/editor+others/translator+others}%
1737   \setunit{\labelnamepunct}\newblock
1738   \usebibmacro{title}%
1739   \newunit

```

```

1740 \printlist{language}%
1741 \newunit\newblock
1742 \usebibmacro{editor+others}%
1743 \newunit\newblock
1744 \printfield{version}%
1745 \newunit
1746 \printfield{note}%
1747 \newunit\newblock
1748 \printlist{organization}%
1749 \newunit\newblock
1750 \usebibmacro{date}%
1751 \newunit\newblock
1752 \iftoggle{bbx:eprint}
1753   {\usebibmacro{eprint}}
1754   {}%
1755 \newunit\newblock
1756 \usebibmacro{url+urldate}%
1757 \newunit\newblock
1758 \usebibmacro{addendum+pubstate}%
1759 \newunit\newblock
1760 \usebibmacro{pageref}%
1761 \usebibmacro{finentry}}

```

patent bibdriver

```

1762 \DeclareBibliographyDriver{patent}{%
1763   \usebibmacro{bibindex}%
1764   \usebibmacro{begentry}%
1765   \usebibmacro{author}%
1766   \setunit{\labelnamepunct}\newblock
1767   \usebibmacro{title}%
1768   \newunit
1769   \printlist{language}%
1770   \newunit\newblock
1771   \printfield{type}%
1772   \setunit*{\addspace}%
1773   \printfield{number}%
1774   \iflistundef{location}
1775     {}
1776     {\setunit*{\addspace}%
1777       \printtext[parens]{%
1778         \printlist[][-\value{listtotal}]{location}}}%
1779   \newunit\newblock
1780   \usebibmacro{byholder}%
1781   \newunit\newblock
1782   \printfield{note}%
1783   \newunit\newblock
1784   \usebibmacro{date}%
1785   \newunit\newblock
1786   \iftoggle{bbx:url}

```



```

1787     {\usebibmacro{url+urldate}}
1788     {}%
1789 \newunit\newblock
1790 \usebibmacro{addendum+pubstate}%
1791 \newunit\newblock
1792 \usebibmacro{pageref}%
1793 \usebibmacro{finentry}}

```

periodical bibdriver

```

1794 \DeclareBibliographyDriver{periodical}{%
1795   \usebibmacro{bibindex}%
1796   \usebibmacro{begentry}%
1797   \usebibmacro{editor}%
1798   \setunit{\labelnamepunct}\newblock
1799   \usebibmacro{title+issuetitle}%
1800   \newunit
1801   \printlist{language}%
1802   \newunit\newblock
1803   \usebibmacro{byeditor}%
1804   \newunit\newblock
1805   \printfield{note}%
1806   \newunit\newblock
1807   \iftoggle{bbx:isbn}
1808     {\printfield{issn}}
1809     {}%
1810   \newunit\newblock
1811   \usebibmacro{doi+eprint+url}%
1812   \newunit\newblock
1813   \usebibmacro{addendum+pubstate}%
1814   \newunit\newblock
1815   \usebibmacro{pageref}%
1816   \usebibmacro{finentry}}

```

proceedings bibdriver

```

1817 \DeclareBibliographyDriver{proceedings}{%
1818   \usebibmacro{bibindex}%
1819   \usebibmacro{begentry}%
1820   \usebibmacro{editor+others}%
1821   \setunit{\labelnamepunct}\newblock
1822   \usebibmacro{maintitle+title}%
1823   \newunit
1824   \printlist{language}%
1825   \newunit\newblock
1826   \usebibmacro{event+venue+date}%
1827   \newunit\newblock
1828   \usebibmacro{editor+others}%
1829   \setunit{\addperiod\space}%
1830   \newblock

```

```

1831 \usebibmacro{series+number}%
1832 \newunit
1833 \newblock
1834 \iffieldundef{maintitle}
1835   {\printfield{volume}%
1836    \printfield{part}}
1837   {}%
1838 \newunit
1839 \printfield{volumes}%
1840 \setunit{\addperiod\space}%
1841 \newblock
1842 \printfield{note}%
1843 \setunit{\addperiod\space}%
1844 \newblock
1845 \printlist{organization}%
1846 \setunit{\addperiod\space}%
1847 \newblock
1848 \usebibmacro{publisher+location+date}%
1849 \newblock
1850 \usebibmacro{chapter+pages}%
1851 \newunit
1852 \printfield{pagetotal}%
1853 \newunit\newblock
1854 \iftoggle{bbx:isbn}
1855   {\printfield{isbn}}
1856   {}%
1857 \newunit\newblock
1858 \usebibmacro{doi+eprint+url}%
1859 \newunit\newblock
1860 \usebibmacro{addendum+pubstate}%
1861 \newunit\newblock
1862 \usebibmacro{pageref}%
1863 \usebibmacro{finentry}}

```

Technical reports

author
title
year
type
number
institution
address
url
note

report bibdriver

```

1864 \DeclareBibliographyDriver{report}{%
1865   \usebibmacro{bibindex}%

```

```

1866 \usebibmacro{begentry}%
1867 \usebibmacro{author}%
1868 \setunit{\labelnamepunct}\newblock
1869 \usebibmacro{title}%
1870 \setunit{\addperiod\space}%
1871 \printfield{type}%
1872 \newunit
1873 \printfield{number}%
1874 \setunit{\addperiod\space}%
1875 \printlist{institution}%
1876 \setunit*{\addperiod\space}\newblock
1877 \printlist{location}%
1878 \setunit*{\addperiod\space}\newblock
1879 \printfield{url}%
1880 \setunit*{\addperiod\space}\newblock
1881 \printfield{note}%
1882 \newunit\newblock
1883 \usebibmacro{finentry}}%
1884 \DeclareBibliographyAlias{techreport}{report}%

```

thesis bibdriver

```

1885 \DeclareBibliographyDriver{thesis}{%
1886 \usebibmacro{bibindex}%
1887 \usebibmacro{begentry}%
1888 \usebibmacro{author}%
1889 \setunit{\labelnamepunct}\newblock
1890 \usebibmacro{title}%
1891 \newunit
1892 \printlist{language}%

```

Period after title, if any

```

1893 \setunit{\addperiod\space}%
1894 \printfield{type}%
1895 \setunit*{\addcomma\space}%
1896 \usebibmacro{institution+location+date}%
1897 \setunit{\addperiod\space}%
1898 \usebibmacro{chapter+pages}%
1899 \newunit
1900 \printfield{pagetotal}%
1901 \newunit\newblock
1902 \printfield{url}%
1903 \setunit*{\addperiod\space}\newblock
1904 \printfield{note}%
1905 \newunit\newblock
1906 \usebibmacro{addendum+pubstate}%
1907 \newunit\newblock
1908 \usebibmacro{pageref}%
1909 \usebibmacro{finentry}}

```

unpublished bibdriver

```
1910 \DeclareBibliographyDriver{unpublished}{%
1911   \usebibmacro{bibindex}%
1912   \usebibmacro{begentry}%
1913   \usebibmacro{author}%
1914   \setunit{\labelnamepunct}\newblock
1915   \usebibmacro{title}%
1916   \newunit
1917   \printlist{language}%
1918   \newunit\newblock
1919   \printfield{howpublished}%
1920   \newunit\newblock
1921   \printfield{note}%
1922   \newunit\newblock
1923   \usebibmacro{date}%
1924   \newunit\newblock
1925   \iftoggle{bbx:url}
1926     {\usebibmacro{url+urldate}}
1927     {}%
1928   \newunit\newblock
1929   \usebibmacro{addendum+pubstate}%
1930   \newunit\newblock
1931   \usebibmacro{pageref}%
1932   \usebibmacro{finentry}}
```

intitle+booktitle

```
      bibmacro 1933 \renewbibmacro*{maintitle+booktitle}{%
1934   \iffieldundef{maintitle}
1935     {}
1936     {\usebibmacro{maintitle}%
1937       \addspace
1938       \newblock
1939       \iffieldundef{volume}
1940         {}
1941         {\printfield{volume}%
1942           \printfield{part}%
1943           \addspace
1944           }}%
1945   \usebibmacro{booktitle}%
1946   \newunit}
```

ournal+issuetitle bibmacro

```
1947 \renewbibmacro*{journal+issuetitle}{%
1948   \usebibmacro{journal}%
1949   \setunit*{\addspace}%
1950   \iffieldundef{series}
1951     {}
1952     {\newunit}
```

```

1953     \printfield{series}%
1954     \setunit{\addspace}}%
1955 \printfield{volume}%
1956 \printfield[parens]{number}%
1957 \setunit{\addcomma\space}%
1958 \printfield{eid}%
1959 \setunit{\addspace}%
1960 \usebibmacro{issue+date}%
1961 \setunit{\addcolon\space}%
1962 \usebibmacro{issue}%
1963 \newunit}

```

isa:doi+eprint+url

```

bibmacro 1964 \newbibmacro*{emisa:doi+eprint+url}{%
1965     \iftoggle{bbx:doi}
1966         {\printfield{doi}}
1967         {}%
1968     \newunit\newblock
1969     \iftoggle{bbx:eprint}
1970         {\usebibmacro{eprint}}
1971         {}%
1972     \newunit\newblock
1973     \iftoggle{bbx:url}
1974         {\usebibmacro{emisa:url+urldate}}
1975         {}%

```

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

```

1976 \renewbibmacro*{author}{%
1977     \ifthenelse{\ifuseauthor\AND\NOT\ifnameundef{author}}
1978         {\ifthenelse{\iffieldequals{fullhash}{\bbx@lasthash}\AND
1979             \NOT\iffirstonpage\AND
1980             \(\NOT\boolean{bbx@inset}\OR
1981             \iffieldequalstr{entrysetcount}{1}\)}}
1982         {\bibnamedash}
1983         {\usebibmacro{bbx:savehash}%
1984             \printnames[emisa:names]{author}%
1985             \iffieldundef{authortype}
1986                 {\setunit{\addspace}}
1987                 {\setunit{\addcomma\space}%
1988                     \usebibmacro{authorstrg}%
1989                     \setunit{\addspace}}}%
1990     }{%

```

```

1991 \global\undef\bbx@lasthash
1992 \usebibmacro{labeltitle}%
1993 \setunit*{\addspace}}%
1994 \usebibmacro{date+extrayear}}

```

bbx:editor bibmacro

```

1995 \renewbibmacro*{bbx:editor}[1]{%
1996 \ifthenelse{\ifuseeditor\AND\NOT\ifnameundef{editor}}
1997 {\ifthenelse{\iffieldequals{fullhash}{\bbx@lasthash}\AND
1998 \NOT\iffirstonpage\AND
1999 \(\NOT\boolean{bbx@inset}\OR
2000 \iffieldequalstr{entrysetcount}{1}\)}}
2001 {\bibnamedash}
2002 {\printnames[emisa:names]{editor}%
2003 \setunit{\addcomma\space}%
2004 \usebibmacro{bbx:savehash}}%
2005 \usebibmacro{#1}%
2006 \clearname{editor}%
2007 \setunit{\addspace}%
2008 }{\global\undef\bbx@lasthash
2009 \usebibmacro{labeltitle}%
2010 \setunit*{\addspace}%
2011 }%
2012 % \usebibmacro{date+extrayear}%
2013 }

```

bbx:translator bibmacro

```

2014 \renewbibmacro*{bbx:translator}[1]{%
2015 \ifthenelse{\ifusetranslator\AND\NOT\ifnameundef{translator}}
2016 {\ifthenelse{\iffieldequals{fullhash}{\bbx@lasthash}\AND
2017 \NOT\iffirstonpage\AND
2018 \(\NOT\boolean{bbx@inset}\OR
2019 \iffieldequalstr{entrysetcount}{1}\)}}
2020 {\bibnamedash}
2021 {\printnames[emisa:names]{translator}%
2022 \setunit{\addcomma\space}%
2023 \usebibmacro{bbx:savehash}}%
2024 \usebibmacro{translator+othersstrg}%
2025 \clearname{translator}%
2026 \setunit{\addspace}}%
2027 {\global\undef\bbx@lasthash
2028 \usebibmacro{labeltitle}%
2029 \setunit*{\addspace}}%
2030 \usebibmacro{date+extrayear}}

```

blisher+location+date

bibmacro

```

2031 \renewbibmacro*{publisher+location+date}{%
2032 \printlist{publisher}%

```

```

2033 \setunit*{\addcomma\space}%
2034 \printlist{location}%
2035 \newunit}

```

stitution+location+date

```

bibmacro 2036 \renewbibmacro*{institution+location+date}{%
2037 \printlist{institution}%
2038 \setunit*{\addcomma\space}%
2039 \printlist{location}%
2040 \newunit}

```

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

Localization

```

2041 \DefineBibliographyStrings{english}{%
2042 urlseen = {Last Access},
2043 techreport = {},%
2044 }%

2045 \DefineBibliographyStrings{german}{%
2046 urlseen = {Letzter Zugriff},%
2047 techreport = {},%
2048 }%

2049 \DefineBibliographyStrings{ngerman}{%
2050 urlseen = {Letzter Zugriff},%
2051 techreport = {},%
2052 }%

```

Unlocalization

```

2053 % year/month/day
2054 \protected\def\mkbibdateiso#1#2#3{%
2055 \iffieldundef{#1}{}{%
2056 \thefield{#1}%
2057 \iffieldundef{#2}{}{-}%
2058 \iffieldundef{#2}{}{%
2059 \mkdatezeros{\thefield{#2}}%
2060 \iffieldundef{#3}{}{-}%
2061 \mkdatezeros{\thefield{#3}}%
2062 }%

2063 \DefineBibliographyExtras{english}{\let\mkbibdateshort\mkbibdateiso}%
2064 \DefineBibliographyExtras{german}{\let\mkbibdateshort\mkbibdateiso}%
2065 \DefineBibliographyExtras{ngerman}{\let\mkbibdateshort\mkbibdateiso}%

```

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

```

2066 \</bbx>

```

18.10.2 The EMISA citation style

A citation style is a set of commands such as `\ite` 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.

```
2067 <*cbx>

2068 \ProvidesFile{emisa.cbx}[2010/09/24 0.3 EMISA citation style]
2069 \RequireCitationStyle{authoryear-comp}
2070 \renewcommand*{\nameyear delim}{\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”.

```
2071 \DeclareRangeChars*{f}
```

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

```
2072 </cbx>
2073 </biblatex>
2074 <*class>
```

Here, the \LaTeX class EMISA ends.

```
2075 </class>
```

18.11 Examples and templates

18.11.1 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.

```
2076 <*template>
2077 <*article>
2078 \documentclass[]{emisa}
2079 %% You can use this additional option (e.g., "[english,draft]"):
2080 %% draft -- this marks overfull lines
2081 </article>
```



```

2082 <issue>\documentclass[final,cover]{emisa}
2083 <{*article | issue}>
2084 %% The following package imports are recommended, but not obligatory;
2085 %% you might want take a look into their respective manuals if you
2086 %% don't know what they do.
2087 \usepackage{amsmath,amssymb,mathtools}
2088 %% Additional package imports go here:
2089 </article | issue>
2090 <{*issue}>
2091 %% Insert here issue data:
2092 \volume{}% Volume No.
2093 \issue{}{}% Issue No. and Issue Date
2094 %% If there are any bibliography data bases to be used globally
2095 %% please indicate here:
2096 \bibliography{}
2097 %% Insert here any (relative or absolute) path to be searched for
2098 %% graphics files:
2099 \graphicspath{{./figs_base/},{}}
2100 %% Here you can alter the cover pages; e.g. this:
2101 %% \coverII{\AtPageDeadCenter{Something}}
2102 %% typesets the word "Something" centered on the inner side of the
2103 %% front sheet.
2104 %% You can also delete any cover pages at all by defining them empty,
2105 %% see below:
2106 \coverII{}
2107 %% This outputs the SIG-MOBIS page on the inner side of the back
2108 %% sheet:
2109 \coverIII{\AtPageCenter{\sigmobispage}}
2110 </issue>
2111 <{*article | issue}>
2112 %% Here, the normal text begins.
2113 \begin{document}
2114 </article | issue>
2115 <{*issue}>
2116 \tableofcontents
2117
2118 \begin{editorial}
2119 %% Please insert editorial text here.
2120
2121 \end{editorial}
2122 </issue>
2123 <{*article | issue}>
2124 \begin{article}{}%
2125 %% Please declare the title elements of your article here. Unused
2126 %% elements can either be deleted or commented out, or else just let
2127 %% empty. In either case they are not typeset.
2128 %% If the option referee or review is given, all author tags, address,
2129 %% email and acknowledgements will be likewise omitted.
2130 \title{}

```

```

2131 \subtitle{}
2132 \author*{<Name>}{<Email address>}
2133 \address{address line 1\\address line 2}
2134 \author{Name}
2135 \address[a]{}
2136 \abstract{}
2137 \keywords{Keyword 1 \and keyword 2\and keyword 3}
2138 \authornote{This article extends an earlier conference paper, see ...}
2139 </article | issue>
2140 <*issue>
2141 \editor{My self}
2142 \received{24 October 2014}
2143 \accepted[2]{1 November 2015}
2144 \doi{10.5073/EMISA.2011.11.1}
2145 </issue>
2146 <*article | issue>
2147 \acknowledgements{}
2148 %% Please declare here the bibliography data base(s) you want to use
2149 %% in this article:
2150 \bibliography{}
2151 }
2152 %% Please insert your article text here.
2153
2154
2155
2156 %% This directive typesets the bibliography. To achieve this, one has
2157 %% to run the biber program on the corresponding auxiliary file
2158 %% generated in the previous LaTeX run; you can just use the job name
2159 %% (the name of this file without ".tex")", e.g.: biber emisa-author-template
2160 \printbibliography
2161 %
2162 \end{article}
2163 </article | issue>
2164 <*issue>
2165
2166 %% Please insert as much article environments here as are needed.
2167 \begin{article}{%
2168 \title{}
2169 \subtitle{}
2170 \author*{<Name>}{<Email address>}
2171 \address{address line 1\\address line 2}
2172 \author{Name}
2173 \address[a]{}
2174 \abstract{}
2175 \keywords{Keyword 1 \and keyword 2\and keyword 3}
2176 \authornote{This article extends an earlier conference paper, see ...}
2177 \acknowledgements{}
2178 \editor{My self}
2179 \received{24 October 2014}

```

```

2180 \accepted[2]{1 November 2015}
2181 \doi{10.5073/EMISA.2011.11.1}
2182 \bibliography{}
2183 }
2184
2185
2186 \printbibliography
2187 \end{article}
2188
2189 \begin{cfp}
2190 %% Please insert your Call for papers here.
2191 \end{cfp}
2192
2193 \imprint
2194 \editorialboard
2195 \guidelines
2196 </issue>
2197 <article | issue>\end{document}
2198 </template>

```