

The `bicaption` package^{*}

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Abstract

This package supports the typesetting of bilingual captions.

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^{*}This package has version number v1.2.

1 Loading the package

\usepackage This package will be loaded by

```
\usepackage[<options>]{bicaption} .
```

The options for the bicaption package are the same ones as for the caption package and specify settings which are used for the second language *additionally*. In fact

```
\usepackage[<options>]{bicaption}
```

is identical to

```
\usepackage{bicaption}
\captionsetup[bi-second]{<options>} .
```

When used with the babel or polyglossia package, the bicaption package should be loaded *after* it, so the main language will be set automatically. See [section 7](#) for details.

2 Setting options

\captionsetup

```
\captionsetup[bi]{<options>}
```

do setup options which will be used for bilanguage captions *additionally* to the ones which are setup for the specific floating environment.

```
\captionsetup[bi-first]{<options>}
```

do setup options which will be used for the *first* heading of the bilanguage captions *additionally* to the ones which are setup for the specific floating environment and the ones which are setup by \captionsetup[bi]{...}.

```
\captionsetup[bi-second]{<options>}
```

do setup options which will be used for the *second* heading of the bilanguage captions *additionally* to the ones which are setup for the specific floating environment and the ones which are setup by \captionsetup[bi]{...}.

Options specified with \usepackage[...]{bicaption} and \captionsetup[bi...]{...} will override the ones specified by \captionsetup{...} and \captionsetup[figure]{...} (same for ‘table’). So finally we have the following order how settings for bilingual captions are applied:

1. Global settings (\usepackage[...]{caption} and \captionsetup{...})
2. Environmental settings (\captionsetup[figure -or- table]{...})
3. Local settings (\captionsetup{...} inside figure or table environment)

4. Custom ‘bi’ settings (`\captionsetup[bi]{...}`)
5. Custom ‘bi-first’ resp. ‘bi-second’ settings (`\usepackage[...]{bicaption}` and `\captionsetup[bi-first]{...}` resp. `\captionsetup[bi-second]{...}`)

An example:

```
\usepackage[labelsep=quad,indentation=10pt]{caption}
\usepackage[labelfont=bf]{bicaption}
\captionsetup[table]{labelfont=it,position=top}
```

causes the second heading of the bilingual caption inside `table` environments to be typeset with the settings

```
labelsep=quad,indentation=10pt,position=top,labelfont=bf.
```

To limit `bi`, `bi-first`, or `bi-second` options to specific environments one can use multiple optional arguments for `\captionsetup`, e.g.:

```
\captionsetup[figure][bi-first]{<options>}
```

will limit the settings to the first heading of `figure` environments only. Please note that the environment name (`figure`, `table`, ...) has to be specified as first optional argument while the bilingual selection (`bi`, `bi-first`, or `bi-second`) as second one.

3 Additional options

These options are available additional to the ones offered by the `caption` package:

`language= lang=` Sets the language of the caption, e.g.

```
\usepackage[lang=english]{bicaption}
```

will typeset the second caption of bilingual captions in English. (The language will be set with `\selectcaptionlanguage` internally, see [section 7](#) for details.)

`bi-lang= bi-lang=` Causes a selection of the headings of bilingual captions.

```
\captionsetup{bi-lang=both}
```

will cause that both caption headings are being typeset.
(This is the default.)

```
\captionsetup{bi-lang=first}
```

will cause that only the *first* heading is being typeset, and

```
\captionsetup{bi-lang=second}
```

will cause that only the *second* heading is being typeset.

<code>bi-singlelinecheck=</code>	<code>bi-slc=</code>	Switches the common single-line-check on or off, i.e. when switched on only a single check will be done for both captions, and the result will affect both captions afterwards. So if only one caption is longer than a single line, both captions will be treated as if they are longer than a single line, even if the second one isn't. (The default is on.)
<code>bi-swap=</code>	<code>bi-swap=</code>	<pre>\captionsetup{bi-swap}</pre> <p>will swap the primary and secondary language, making the first language the second one and vice versa. (The default is <code>false</code>.)</p>

4 The `\bicaption` commands

<code>\bicaption</code>	Bilingual captions will be typeset by
	<pre>\bicaption[<list entry #1>] {<heading #1>} [<list entry #2>] {<heading #2>} \bicaption* {<heading #1>} {<heading #2>}</pre>
	The <code>\label</code> should be placed either after this command, or inside the first heading.
<code>\bicaptionbox</code>	Bilingual caption boxes will be typeset by
	<pre>\bicaptionbox[<list entry #1>] {<heading #1>} [<list entry #2>] {<heading #2>} [<width>] [<inner-pos>] {<contents>} \bicaptionbox* {<heading #1>} {<heading #2>} [<width>] [<inner-pos>] {<contents>}</pre>
	The <code>\label</code> should be placed inside the first heading. (For a description of the optional parameters <code><width></code> and <code><inner-pos></code> please take a look at the <code>\captionbox</code> package documentation, <code>\captionbox</code> .)
	If the <code>subcaption</code> package is loaded, these commands are available additionally:
<code>\bisubcaption</code>	Bilingual sub-captions will be typeset by
	<pre>\bisubcaption[<list entry #1>] {<heading #1>} [<list entry #2>] {<heading #2>} \bisubcaption* {<heading #1>} {<heading #2>}</pre>
	The <code>\label</code> should be placed either after this command, or inside the first heading.
<code>\bisubcaptionbox</code>	Bilingual sub-caption boxes will be typeset by
	<pre>\bisubcaptionbox[<list entry #1>] {<heading #1>} [<list entry #2>] {<heading #2>} [<width>] [<inner-pos>] {<contents>} \bisubcaptionbox* {<heading #1>} {<heading #2>} [<width>] [<inner-pos>] {<contents>}</pre>
	The <code>\label</code> should be placed inside the first heading. (For a description of the optional parameters <code><width></code> and <code><inner-pos></code> please take a look at the <code>\subcaptionbox</code> package documentation, <code>\subcaptionbox</code> .)

5 A sample document

```
\documentclass[english,ngerman]{article}
\usepackage{selinput}
\SelectInputMappings{adieresis={ä},germandbls={ß} }

\usepackage{babel}
\usepackage[lang=english,font=it]{bicaption}
\usepackage[format=hang]{subcaption}

\begin{document}

\begin{figure} [!htb]
\centering
\bisubcaptionbox
{Teilabbildung A\label{fig:test:A}}
{Subfigure A}[0.4\textwidth]{IMAGE}%
\qquad
\bisubcaptionbox
{Teilabbildung langer Titel B\label{fig:test:B}}
{Subfigure long title B}[0.4\textwidth]{IMAGE}%
\bicaption{Deutscher Titel}{English Title}
\label{fig:test}
\end{figure}

\captionsetup{bi-lang=both}

\begin{figure} [!htb]
\centering
\bisubcaptionbox[A]
{Und eine gaaaanz lange Caption: Teilabbildung A}
{Subfigure A}[0.4\textwidth]{IMAGE}%
\qquad
\bisubcaptionbox[B]
{Teilabbildung B}
{Subfigure B}[0.4\textwidth]{IMAGE}%
\bicaption[Abbildungsverzeichnistitel]
{Und eine noch viel viel viel
längere deutsche Beschriftung: Deutscher Titel}
{Short English heading}
\end{figure}

\captionsetup{bi-slc=0}

\begin{figure} [!htb]
\centering
\bisubcaptionbox[A]
{Und eine gaaaanz lange Caption: Teilabbildung A}
{Subfigure A}[0.4\textwidth]{IMAGE}%
```

```

\qquad
\bisubcaptionbox[B]
{Teilabbildung B}
{Subfigure B}[0.4\textwidth]{IMAGE}%
\bicaption[Abbildungsverzeichnistitel]
{Und eine noch viel viel viel
l\u00e4ngere deutsche Beschriftung: Deutscher Titel}
{Short English heading}
\end{figure}

\captionsetup{slc=0}

\begin{figure} [!htb]
\centering
\bisubcaptionbox[A]
{Und eine gaaaanz lange Caption: Teilabbildung A}
{Subfigure A}[0.4\textwidth]{IMAGE}%
\qquad
\bisubcaptionbox[B]
{Teilabbildung B}
{Subfigure B}[0.4\textwidth]{IMAGE}%
\bicaption[Abbildungsverzeichnistitel]
{Und eine noch viel viel viel
l\u00e4ngere deutsche Beschriftung: Deutscher Titel}
{Short English heading}
\end{figure}

\end{document}

```

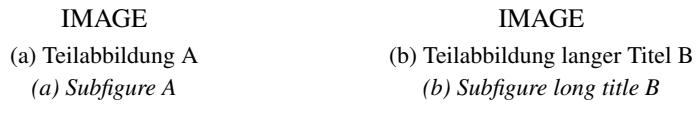


Abbildung 1: Deutscher Titel
Figure 1: English Title

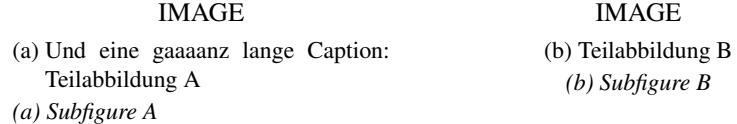


Abbildung 2: Und eine noch viel viel längere deutsche Beschriftung: Deutscher Titel
Figure 2: Short English heading



Abbildung 3: Und eine noch viel viel längere deutsche Beschriftung: Deutscher Titel
Figure 3: Short English heading

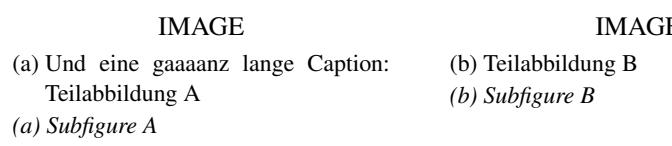


Abbildung 4: Und eine noch viel viel längere deutsche Beschriftung: Deutscher Titel
Figure 4: Short English heading

6 Customising lists

`list=` As default both caption texts will be insert into the List of Figures resp. List of Tables. To suppress the second entry just pass the option `list=off` to the `bicaption` package, e.g.:

```
\usepackage[lang=english,...,list=off]{bicaption}
```

`listtype+=` Another option is separating the lists. For that purpose the option

```
listtype+={list type extension}
```

can be used to tell the `bicaption` package to use a different list for the second caption text. The given value will be appended to the current environment type; for example with `listtype+=X` the list entries will be put into the list responsible for the types `figureX` (= figure + X), `tableX` (= table + X) etc.

Such a `{list type}` can be defined using `\DeclareFloatingEnvironment` offered by the `newfloat` package, but some document classes or other packages offer macros for defining new floating environment types (and their corresponding lists) as well.

A sample document:

```
\documentclass[a4paper]{article}

% Use "ngerman" as 1st language, "english" as 2nd one
\usepackage[english,ngerman]{babel}

% Load the bicaption package with 2nd language set to
% "english", and list type "figureEng" resp. "tableEng"
\usepackage[lang=english,listtype+=Eng]{bicaption}

\usepackage{newfloat}
% Define the new floating environment type "figureEng"
\DeclareFloatingEnvironment[fileext=lof2]{figureEng}
    [Figure] [List of Figures]
% Define the new floating environment type "tableEng"
\DeclareFloatingEnvironment[fileext=lot2]{tableEng}
    [Table] [List of Tables]

\begin{document}
\listoffigures      % typeset "Abbildungsverzeichnis"
\listoffigureEnges % typeset "List of Figures"

\begin{figure}
\centering
A placeholder for an image or whatever
\bicaption{Deutscher Text}{English text}
\end{figure}

\end{document}
```

A different approach is using one list for both languages, but with different formatting. Since the `caption` package does not offer options and commands for customising the format of the lists, one need an additional package for this purpose, for example the `titletoc` package:

```
\documentclass[a4paper]{article}

% Use "ngerman" as 1st language, "english" as 2nd one
\usepackage[english,ngerman]{babel}

% Load the bicaption package with 2nd language set to
% "english", and list type "figure2" resp. "table2"
\usepackage[lang=english,listtype+=2]{bicaption}

% We load the titletoc package for customizing lists
% Note: Loading titletoc should be done prior
% defining additional floating environments with
% \DeclareFloatingEnvironment
\usepackage{titletoc}

\usepackage{newfloat}
% Define the new floating environment type "figure2"
% Use the same file extension as for "figure" (.lof) here
\DeclareFloatingEnvironment[fileext=lof]{figure2}
% Define the new floating environment type "table2"
% Use the same file extension as for "table" (.lot) here
\DeclareFloatingEnvironment[fileext=lot]{table2}

% We use the titletoc package for customizing "figure2"
% which is appropriate for the second language captions
\titlecontents{figure2}[3.8em]
{} % no above code
{} % empty numbered entry format
{} % empty numberless entry format
{} % empty filler page format

\begin{document}
\renewcommand\listfigurename
    {Abbildungsverzeichnis / List of Figures}
\listoffigures

\begin{figure}
\centering
A placeholder for an image or whatever
\bicaption{Deutscher Text}{English text}
\end{figure}

\end{document}
```

7 Language Selection

For language selection the `bicaption` package uses two macros internally:

`\captionmainlanguage` `\captionmainlanguage` contains the main language, e.g. `english` or `german`. If not set prior to loading the `bicaption` package, the `bicaption` package will try to obtain this setting from the `babel` or `polyglossia` package.

So if you are using either `babel` or `polyglossia`, and want to adopt the main language setting from it, then just load the `bicaption` package *after* it, and simply forget about the `\captionmainlanguage` stuff.

Otherwise one can either define `\captionmainlanguage` prior to loading the `bicaption` package, e.g.:

```
\newcommand{\captionmainlanguage}[1]{#1}
\usepackage[options]{bicaption}
```

Or one can specify the main language via `\captionsetup` after loading the `bicaption` package, e.g.:

```
\usepackage[options]{bicaption}
\captionsetup[bi-first]{lang=french}
```

When not using the `babel` or `polyglossia` package both approaches will have exactly the same effect. But when using the `babel` or `polyglossia` package, and one want to specify the main caption language manually, the first approach is preferable since defining `\captionmainlanguage` will suppress the automatic detection mechanism.

`\selectcaptionlanguage` `\selectcaptionlanguage` will be used internally to select the language:

New feature
v1.1 `\selectcaptionlanguage{<font-or-list-entry>} {<language>}`

For setting the language of the caption `<font-or-list-entry>` will be `\@firstoftwo`, for setting the language of the list entry `<font-or-list-entry>` will be `\@secondoftwo`.¹ It defaults to `\select@language` (caption) resp. `\selectlanguage` (list entry) offered by the `babel` and `polyglossia` package:

```
\providecommand*\selectcaptionlanguage[2]{%
  #1{\select@language}{\selectlanguage}{#2}}
```

If you need to alter this, just either define `\selectcaptionlanguage` prior loading the `bicaption` package, or redefine it afterwards.

For internal implementation reasons the selection of language will be done delayed, i.e. not done immediately at `lang=<language>`. So if you do

```
\captionsetup[bi-second]{lang=ngerman, labelsep=quad}
```

the language `ngerman` will only be stored internally, and the label separator will be set to `quad` afterwards. Some time later, right before the caption is actually typeset, the language will be set to `ngerman`.

Usually this is no problem, but think of options which will be overwritten by the language selection, or options which act on the language currently set, for example

¹ `\@firstoftwo` and `\@secondoftwo` are defined in the L^AT_EX kernel and simply pick either the 1st or 2nd argument.

```
\captionsetup[bi-second]{lang=ngerman, name=Bild} .
```

`lang=ngerman` changes the environment name to “Abbildung”, and `name=Bild` changes the environment name to “Bild”. One would expect that the name is finally “Bild”, but because of the delayed nature of `lang=ngerman` it will be “Abbildung” instead, at least if we don’t take action about this.

For that reason the command

```
\DeclareCaptionLangOption{\textit{caption option name}}}
```

is offered. Options handled this way will be applied twice if used after the `lang=` option, when the option is actually used, and right after the language is selected.

```
\DeclareCaptionLangOption{name}
```

will be done by the `bicaption` package automatically, since the environment name will usually be overwritten by a language selection. So actually

```
\captionsetup[bi-second]{lang=ngerman, name=Bild}
```

will give the expected result, i.e. the environment name is typeset as “Bild”.