

# Package hvfloat

## Rotating and scaling of objects and captions ver 2.22

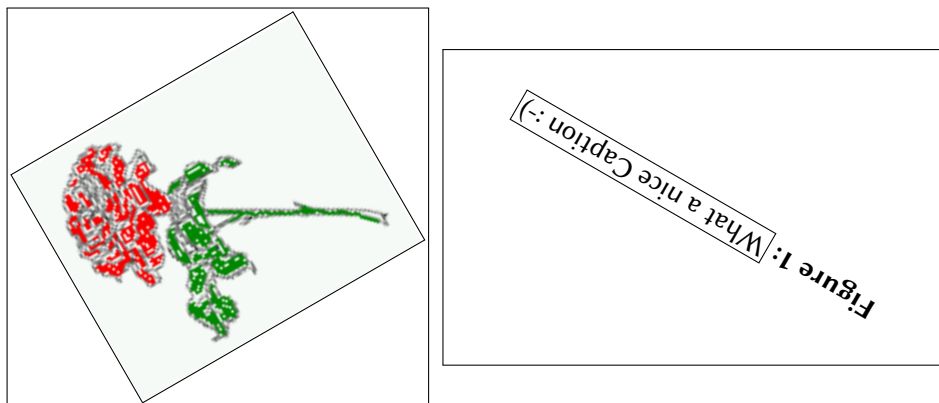
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The package hvfloat defines a macro to place objects and captions of floats in different positions with different rotating angles.

All objects and captions are framed on the first pages, which is only for some demonstration here and has no additional sense!

To compare the place of the definition of the floating objects in the source and the output a marginnote `float` is set into the margin. This is done also only for demonstration!



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Thanks to Frank Mittelbach, Rolf Niepraschk

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# 1 The package options

- fbox        The objects and captions are put into a `\fbox` command, like in this documentation. This doesn't make real sense and is only for some demonstration useful or for locating problems if images seems to have too much whitespace.
- hyperref   Load package `hyperref`.

The length `\belowcaptionskip` is set by  $\text{\LaTeX}$  to 0pt and changed in `hvfloat` to the same value than `\abovecaptionskip`. This length can be changed to another value in the usual way with `\setlength` or `\addtolength`.

The following packages are loaded by `hvfloat` and the optional argument `hypcap` is passed to the packages `caption` and `subcaption`:

`caption`, `subcaption`, `atbegshi`, `expl3`, `multido`, `graphicx`, `xkeyval`, `ifoddpage`, and `afterpage`.

## 2 The Macros and optional arguments

The syntax for the macros and `\hvFloatSetDefaults`, `\hvFloatSet`, and `\hvFloat` is

```
\hvFloatSet{key=value list}
\hvFloatSetDefaults
\hvFloat* [Options] + {float type}{floating object}[short caption]{long caption}{label}
```

The star version is explained in section 11 on page 24 and 19.2 on page 52 and the optional `+` is explained in section 17.3 on page 39.

`\hvFloatSet` allows the global setting of keywords and `\hvFloatSetDefaults` sets all keywords to its default value as shown in Table 2 on the next page.

If `\hvFloat` has an empty second parameter `<float type>`, then `\hvFloat` switches by default to a nonfloat (see table 2) object, which is not important for the user. All other parameters may also be empty and the short caption as second optional parameter missing. This one is as usual the caption for the `\listoffigures`.

There are some more macros defined, more or less for internally use in `hvfloat`, but they can be used for own purposes.

```
\figcaption[short caption text]{caption text}
\tabcaption[short caption text]{caption text}
```

They are used for the `nonFloat` keyword, where these macros write captions in the same way but outside of a float environment. The default caption cannot be used here. It is no problem to use the `\tabcaption` command to place a caption anywhere, like here in an inlined mode:

**Table 1:** A Caption without any sense and any object

A label can be put inside the argument or after the command in the usual way, so that a reference to the not existing table 2 is no problem.

## 2 The Macros and optional arguments

[...] It is no problem to use the `\verb|\tabcaption|` command to place a caption anywhere, like here in an `inlined` mode: `\tabcaption[The Caption without sense ...]{A Caption without any sense and any object}\label{dummy}` A label can be put inside the argument or after the command in the usual way, so that a reference to the not existing table `\ref{dummy}` is no problem.

With the macro `\hvDefFloatStyle` one can define a style which can be used instead of the individual setting:

`\hvDefFloatStyle{name}{setting}`

Internally the style is saved in a macro named `\hv@<name>`.

There are the following keywords:

**Table 2:** The optional keywords for the macro `\hvFloat`

Keyword	Default	Description
<code>floatPos</code>	<code>tbp</code>	This is the same default placement setting like the one from standard $\LaTeX$ , but maybe not always the best setting.
<code>rotAngle</code>	<code>0</code>	The value for the angle if both, the object and the caption should be rotated in the same way.
<code>capWidth</code>	<code>n</code>	The width of the caption. Can be <code>»n«</code> like a natural width, <code>»w«</code> for the width of the object, <code>»h«</code> for the height of the object, or a scale for <code>\columnwidth</code> .
<code>capAngle</code>	<code>0</code>	The value for the angle if the caption should be rotated. Counted anti clockwise.
<code>capPos</code>	<code>bottom</code>	The position of the caption relative to the object. Possible values are before: <i>always</i> before (left) from the object. top: <i>always</i> on top of the object. left: <i>always</i> before (left) from the object, but on the <i>same page</i> in twocolumn mode. after: <i>always</i> after (right) from the object. bottom: <i>always</i> on the bottom of the object. right: <i>always</i> after (right) from the object, but on the <i>same page</i> in twocolumn mode. inner: in twoside mode <i>always</i> typeset at the inner margin. outer: in twoside mode <i>always</i> typeset at the outer margin. evenPage: in twoside mode with fullpage objects <i>always</i> on an even page. oddPage: in twoside mode with fullpage objects <i>always</i> on an odd page.
<code>capVPos</code>	<code>center</code>	This is only important for <code>capPos=left right</code> . Only in this case the caption can vertically placed at the bottom, center and top.
<code>objectPos</code>	<code>center</code>	The horizontal placement of the object relative to the document. Possible values are <b>(l)</b> eft (c)enter (r)ight.

Keyword	Default	Description
objectAngle	0	The value for the angle if the object should be rotated. Counted anti clockwise.
floatCapSep	5pt	The additional width between the object and a left or right placed caption.
use0Box	false	Instead of passing the object as parameter to the \hvFloat, the contents maybe saved in the box \hv0Box With use0Box=true the contents of this box will be used.
onlyText	false	The caption will be printed as normal text and there is no entry in the list of ....
nonFloat	false	The object isn't put in a floating environment. It is printed as standard text with an additional caption. The float counters are increased as usual and can be referenced.
wide	false	The float can use \textwidth+\marginparwidth as horizontal width.
objectFrame	false	put a frame with no separation around the float object.
style	-	Use a defined style
capFormat	-	Define formatting options for \caption (see documentation of package caption).
subcapFormat	-	Define formatting options for \subcaption.

### 3 The default use of floating environments

In this case there is no essential difference to the well known figure or table environment, f.ex.:

```
\begin{figure}
... object ...
\caption{...}% caption below the object
\end{figure}
```



Fig. 2

**Figure 2:** Without any keywords (only the fbox package option)

Code for figure 2:

## 4 Caption width

```
\hvFloat{figure}{\includegraphics{images/rose}}{Without any keywords (only the \texttt{fbox}
package option)}{fig:0}
```

Tab. 3

**Table 3:** With the only Option capPos=top to place the caption on top of the table, which is often the default.

Name	Type	Description
\hvFloat	command	places object and caption in different ways
hvFloatEnv	environment	places object and caption exactly Here
\figcaption	command	writes a figure caption in a non floating environment
\tabcaption	command	writes a table caption in a non floating environment
\hvFloatSetDefaults	command	sets all options to the defaults
\hvDefFloatStyle	command	define a user style

Code for table 3:

```
\hvFloat[capPos=top]{table}{%
\begin{tabularx}{\textwidth}{>\ttfamily}l|l|X}
\rmfamily Name & Type & Description\\ \hline
\CMD{hvFloat} & command & places object and caption in different ways\\
hvFloatEnv & environment & places object and caption exactly Here\\
\CMD{figcaption} & command & writes a figure caption in a non floating environment\\
\CMD{tabcaption} & command & writes a table caption in a non floating environment\\
\CMD{hvFloatSetDefaults} & command & sets all options to the defaults\\
\CMD{hvDefFloatStyle} & command & define a user style
\end{tabularx}}%
{With the only Option \texttt{capPos=top} to place the caption on top of the table, which is often
the default.}%
{tab:0}
```

See section 14 for some more informations about tabulars as objects.

## 4 Caption width

### 4.1 Default – natural width

The default setting is the natural width of a paragraph with respect to the current linewidth or columnwidth for a caption below or above an object. It behaves in the same way as a caption set by one of the default floating environments like figure or table:

```
\hvFloat[floatPos=!htb]{figure}{\includegraphics{images/rose}}%
{Default caption width setting, which is the natural width with respect to the current linewidth
.}{fig:width0}
```

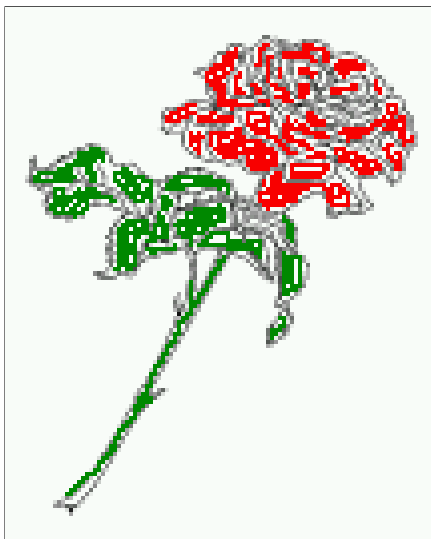
Fig. 9 For the following examples the package option fbox is disabled. All frames are now set with the macro \frame or the optional keyword objectFrame.



**Figure 3:** Default caption width setting, which is the natural width with respect to the current linewidth.

For a caption beside an object, the *natural* caption width (without the optional argument `wide`) is given by the current linewidth minus the width of the object and the space between object and caption, which is set by `floatCapSep` (see Table 2 on page 8).

```
\hvFloat[floatPos=!htb,capPos=after,objectFrame]{figure}{\includegraphics[scale=1.5]{images/rose}}
%
{Caption right beside with a \emph{natural} width, which is given by the width of the object,
the separation between object and caption, and the current linewidth.}{fig:width1}
```



**Figure 4:** Caption right beside with a *natural* width, which is given by the width of the object, the separation between object and caption, and the current linewidth.

Fig. 4

## 4.2 Relative linewidth

With `capWidth=<number>` the caption width is set to `<number>\columnwidth`. For captions at the bottom or on top of objects the setting is not checked if `<number>` is greater than 1.

#### 4 Caption width

```
\hvFloat[floatPos=!htb,capWidth=0.9]{figure}{\includegraphics{images/rose}}%  
{Caption below with a width of 0.9 of the current line width (column width), which is  
in this special case \the\linewidth. Divide it by 28.82 to get cm.}{fig:width2}
```

Fig. 5

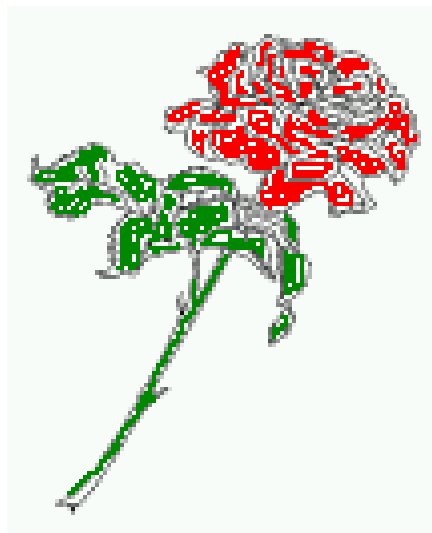


**Figure 5:** Caption below with a width of 0.9 of the current line width (column width), which is in this special case 376.4258pt. Divide it by 28.82 to get cm.

If such a value like  $0.9\text{\linewidth}$  is used for a caption beside an object, then the macro does a test if the space beside the object is less equal the defined caption width. If not then the width is set to the possible value between object and margin:

```
\hvFloat[floatPos=!htb,  
capPos=after,  
capWidth=0.9]{figure}{\includegraphics[scale=1.5]{images/rose}}%  
{Caption right beside with a width setting of \texttt{0.9\textbackslash linewidth}  
which is too big for this example and therefore corrected  
by the macro to the maximal width.}{fig:width3}
```

Fig. 6



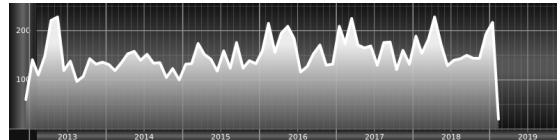
**Figure 6:** Caption right beside with a width setting of  $0.9\text{\linewidth}$  which is too big for this example and therefore corrected by the macro to the maximal width.



### 4.3 Identical object and caption width

With `capWidth=w` the caption width is like the object width which makes only real sense if you have a lot of identical images with respect to its widths.

```
\hvFloat[floatPos=!htb, capWidth=w]{figure}{\includegraphics[width=0.5\linewidth]{images/CTAN}}%
{Caption below with a width of the given object which may be a problem
if it is a very small object.}{fig:width4}
```



**Figure 7:** Caption below with a width of the given object which may be a problem if it is a very small object.

### 4.4 caption width to height of the object

With `capWidth=h` the caption width is like the object height which makes only real sense if you want to put a rotated caption beside the object.

```
\hvFloat[floatPos=!htb, capPos=after, capWidth=h, capAngle=90, objectFrame]{figure}{\includegraphics{
images/rose}}%
{Caption beside with a width of the given object height which may be a problem
if it is a very small object.}{fig:width5}
```



**Figure 8:** Caption beside with a width of the given object height which may be a problem if it is a very small object.

Fig. 8

## 5 Caption left or right of the object

By default the caption is set on the left side of the object. If the caption and the object are set side by side, then the keyvalue before is identical to the setting `left`.

## 5 Caption left or right of the object

### 5.1 Caption right with specific length

Code for figure 9:

```
\hvFloat%
[floatPos=htb,
 capPos=right,
 objectFrame,
 objectPos=c]{figure}{\includegraphics[scale=0.9]{images/rose}}%
[Caption beside object and vertically centered]%
{Caption vertically centered right beside the float with a natural caption width
 (the default). \blindtext}%
{fig:1}
```

floatFig. 9  
capPos=right



**Figure 9:** Caption vertically centered right beside the float with a natural caption width (the default). Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

### 5.2 Caption left and rotated

Code for figure 10:

```
\hvFloat%
[floatPos=htb,
 capPos=left,
 capWidth=h,% of \columnwidth
 capAngle=90,
 objectFrame
 ]{figure}{\includegraphics{images/rose}}%
[Centered Caption beside Object]%
{Caption vertically centered left beside the float with a caption width
 of \texttt{capWidth=h}, which is the height of the object.}{fig:2}
```

Fig. 10 It is no problem to rotate the object, too. But with a different angle value than for the caption. Do not ask for the sense, it is only a demonstration of what is possible ... The object (image) is rotated by  $-30$  degrees with the macro `\rotatebox`. Without any definition the caption will be placed vertically centered to the object. Important for the height of the object is the surrounding orthogonal rectangle.

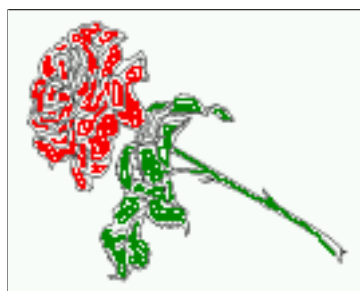
**Figure 10:** Caption vertically centered left beside the float with a caption width of `capWidth=h`, which is the height of the object.



Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Code for figure 11:

```
\hvFloat[%
  capWidth=h,
  capPos=after,
  capAngle=180,
  objectAngle=90,
  capVPos=center,
  objectPos=center]{figure}{\frame{\includegraphics{images/rose}}}%
[Centered Caption beside Object]{%
{Caption vertically centered right beside the float with a caption width of the height
of the image and a rotation of the caption and the object.}}{fig:3}
```



**Figure 11:** Caption vertically centered right beside the float with a caption width of the height of the image and a rotation of the caption and the object.

Fig. 11

## 6 Caption inner or outer

Setting the caption position to *inner* or *outer* makes only sense for a document in twoside mode. For a oneside document *inner* is the same as *left* and *outer* is the same as *right*. We show only

## 6 Caption inner or outer

the code for the first image with the setting `capPos=inner` , whereas the second one chooses only `capPos=outer` .

Code for figure 12:

```
\hvFloat[capPos=inner]{figure}{\includegraphics{images/rose}}%  
[Centered Caption on the inner side]{%  
Caption set with the parameter setting \texttt{capPos=inner}, which will be  
a caption on the right side for an even page and on the left side for  
an odd page.}{fig:20}
```

Fig. 12



**Figure 12:** Caption set with the parameter setting `capPos=inner`, which will be a caption on the right side for an even page and on the left side for an odd page.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Now the same Image with `capPos=outer` . The current `pagenumber` is 16, an even page. We now set a `pagebreak` at the end of the second image to see if it works with *inner/outer*.

```
\hvFloat[capPos=outer]{figure}{\includegraphics{images/rose}}%  
[Centered Caption on the inner side]{%  
Caption set with the parameter setting \texttt{capPos=outer}, which will be  
a caption on the right side for an even page and on the left side for  
an odd page.}{fig:20b}
```

Fig. 13 We have an even page, the reason why figure 13 has the caption for *inner* on the left side and figure 14 for *outer* on the right side.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Code for figure 15:



**Figure 13:** Caption set with the parameter setting `capPos=outer`, which will be a caption on the right side for an even page and on the left side for an odd page.



**Figure 14:** Caption at the bottom right beside the float with a caption width of `0.5\columnwidth` and `capPos=outer`.

```
\hvFloat[%
  capWidth=0.5,% of \columnwidth
  capPos=inner,% ==> INNER
  capAngle=0,
  capVPos=bottom,
  objectPos=center]{figure}{\includegraphics{images/rose}}%
  [Centered Caption beside Object]{%
  Caption vertically centered right beside the float with a caption
  width of \texttt{0.5\textbackslash columnwidth} and \texttt{capPos=outer} }{fig:22}
```

Fig. 15

**Figure 15:** Caption vertically centered right beside the float with a caption width of `0.5\columnwidth` and `capPos=outer`



We have an odd page, the reason why figure 12 has the caption for *inner* on the right side and figure 14 for *outer* on the left side.

## 7 Vertical Position of the Caption

The caption can be placed beside the object in the positions

(c)enter|(b)ottom|(t)op

The code for figure 16:

```
\hvFloat[%  
  floatPos=htb,%  
  capWidth=0.25,%  
  capPos=right,%  
  capVPos=bottom,%  
{figure}{\frame{\includegraphics{images/rose}}}{Caption at bottom right beside the float}{fig:4}
```

Fig. 16



**Figure 16:** Caption at bottom right beside the float

The code for figure 17:

```
\hvFloat[%  
  floatPos=htb,  
  capWidth=0.25,  
  capPos=right,  
  capVPos=top,  
{figure}{\frame{\includegraphics{images/rose}}}{Caption at top left beside the float}{fig:5}
```

Fig. 17

**Figure 17:** Caption at top left beside the float



The code for figure 18:

```
\hvFloat[%
  capWidth=0.25,
  capPos=right,
  capVPos=center,% the default
]{figure}{\frame{\includegraphics{images/rose}}}{Caption centered right beside the float}{fig:6}
```

Fig. 18



**Figure 18:** Caption centered right beside the float

## 8 Caption format

The `\caption` and `\subcaption` macros are fully under the control of the package `caption`. The formatting can be set with the macros `\captionsetup`, `\subcaptionsetup`, or via the optional argument setting of `\hvFloat` with the keywords `capFormat` and `subcapFormat`. The argument itself will then be used internally by `\captionsetup` and/or `\subcaptionsetup` in a minipage, the reason why it will be local to the current image..

```
\hvFloat[%
  capPos=right,
  capFormat={labelsep=newline,justification=RaggedRight,font={small,it},labelfont=bf}
]{figure}{\frame{\includegraphics{images/rose}}}{\blindtext}{fig:66}
```

Fig. 19



**Figure 19**

*Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.*

## 9 Horizontal Position of the Float

The caption is always near the object, only divided by the length `\floatCapSep` which can be set by the keyword of the same name `floatCapSep`. It accepts only a value with any allowed unit. The keyword `objectPos` refers always to the complete floating object: caption *and* object. The meaning of `objectPos=left` is: Put the object as far as possible to the left margin. If `capPos=left` is also used, then the caption is at the left margin followed by the object (see Figure 21 on the next page).

The code for figure 20:

```
\hvFloat[%
  capWidth=0.25,
  capPos=right,
  capVPos=top,
  objectPos=left,
  objectFrame,
]{figure}{\includegraphics{images/rose}}{%
  Caption at top right beside the float and object position left}{fig:7}
```

Fig. 20



**Figure 20:** Caption at top right beside the float and object position left

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

The same with `capPos=left` :

Fig. 21

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.



**Figure 21:** Caption at top right beside the float and object position left



The code for figure 22:

```
\hvFloat[%
  capWidth=0.25,
  capPos=before,
  capVPos=top,
  objectPos=right,
  objectFrame,
]{figure}{\includegraphics{images/rose}}{%
  Caption at top leftt beside the float and object position right}{fig:8}
```

**Figure 22:** Caption at top left beside the float and object position right



Fig. 22

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## 10 Wide floats

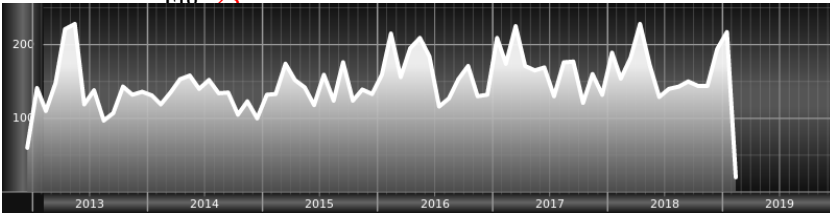
With the optional argument `wide` the width of the defined `\marginparwidth` is added to the allowed horizontal width of the float.

## 10 Wide floats

The code for figure 23:

```
\hvFloat[wide,
  capPos=right,
  capVPos=top,
  objectPos=left,
]{figure}{\includegraphics[width=0.75\linewidth]{images/CTAN}}{%
  Caption at top right beside the float and object position left and
  the option \texttt{wide}.}{fig:70}
```

Fig. 23



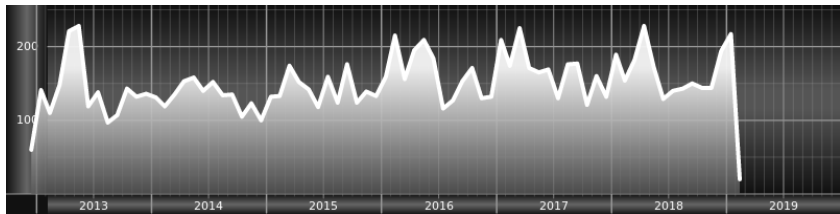
**Figure 23:** Caption at top right beside the float and object position left and the option wide.

The code for figure 24:

```
\hvFloat[wide,
  capPos=left,
  capVPos=top,
  objectPos=right,
]{figure}{\includegraphics[width=0.75\linewidth]{images/CTAN}}{%
  Caption at top left beside the object and object position left and
  the option \texttt{wide}.}{fig:80}
```

Fig. 24

**Figure 24:** Caption at top left beside the object and object position left and the option wide.



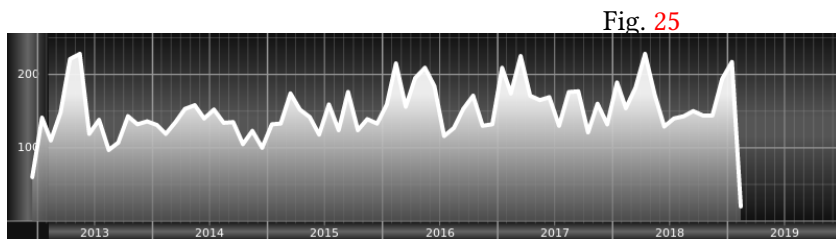
For a twosided document it will place the object always in the margin.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

```
\hvFloat[wide,
  capPos=inner,
  capVPos=top,
]{figure}{\includegraphics[width=0.75\linewidth]{images/CTAN}}{%
  Caption at top and inner beside the float and object position right and
```

the option `\texttt{wide}.`{fig:81}

**Figure 25:** Caption at top and inner beside the float and object position right and the option wide.

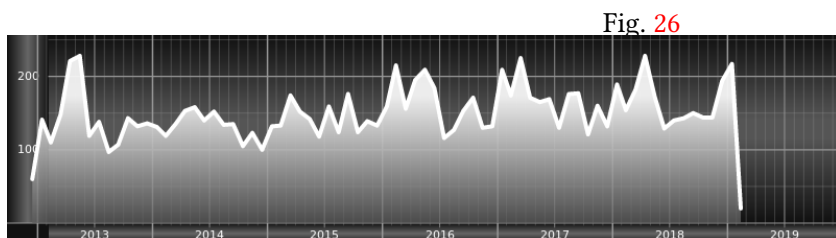


Now we set the same image with the same setting on the next page. The caption will change its side due to the setting `capPos=outer`.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

```
\hvFloat[wide,
  capPos=inner,
  capVPos=top,
]{figure}{\includegraphics[width=0.75\linewidth]{images/CTAN}}{%
Caption at top inner beside the float and object position right and
the option \texttt{wide}.
```

**Figure 26:** Caption at top inner beside the float and object position right and the option wide.



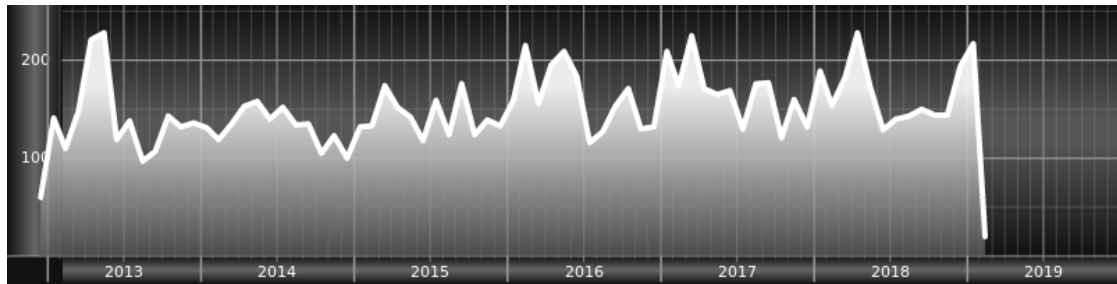
The caption can be typeset completely into the margin with:

```
\captionsetup{justification=RaggedRight}
\hvFloat[wide,
  capPos=outer,
  capVPos=top,
  floatCapSep=\marginparsep,
]{figure}{\includegraphics[width=\linewidth]{images/CTAN}}{%
Caption at top inner beside the float and object position right and
the option \texttt{wide}.
```

**Fig. 27**

## 12 Full Page Width in Landscape Mode

**Figure 27:** Caption at top inner beside the float and object position right and the option wide.

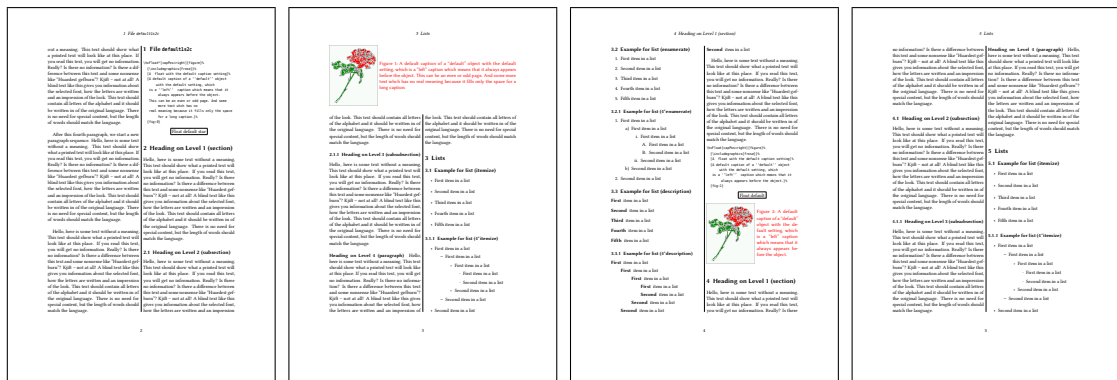


## 11 The star version \hvFloat\*

In the twocolumn mode the floating environment can be set over both columns with the star version `\hvFloat*`. The floating environment will not be on the bottom of the page. The code for the following example (Figure 28) is:

```
\hvFloat*[capPos=right]{figure}%
{\includegraphics{images/frose}}%
[A float with the default caption setting]%
{A default caption of a '' object with the default setting, which
is a ''left'' caption which means that it always appears before the object.
This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}%
{fig:0}
```

The example shows on page 3 the star version and on page 4 the same without using the star.



**Figure 28:** Output of default1s2c (pages 2 –5)

## 12 Full Page Width in Landscape Mode

If you do not want to load the package `lscape` (or `pdfscape`) you can use the `floatPos=p` option to put the image on an own page and rotated by 90 degrees (figure 29).

Code for figure 29:

```

\hvFloat[%
    floatPos=p,
    capPos=bottom,
    rotAngle=90,
    objectPos=center,
]{figure}{\includegraphics[width=0.9\textheight]{images/CTAN}}%
    [Object and Caption in landscape mode]{%
    Caption and object in landscape mode. \blindtext}{fig:9}

```

The float can also be put to the left or to the right (above/below in landscape) with the `objectPos=l` parameter

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Fig. 29

The code for figure 30:

```

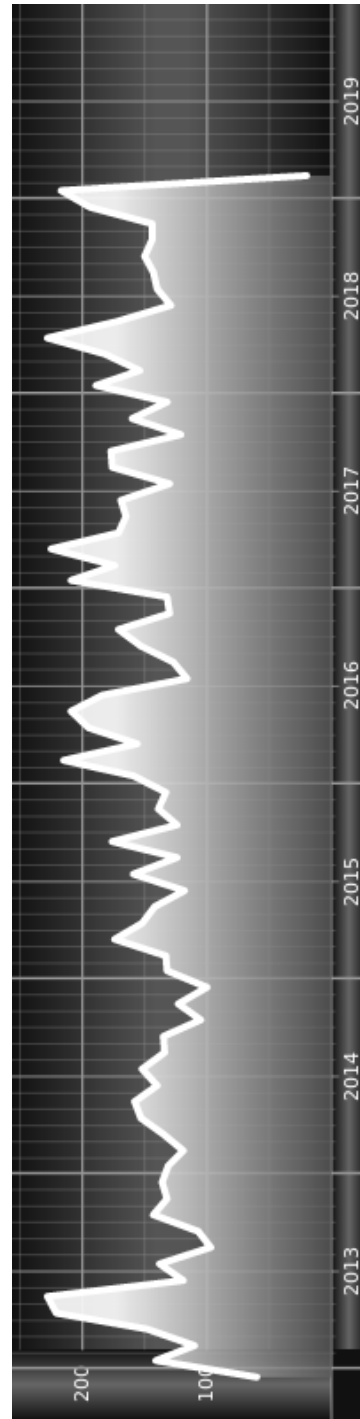
\hvFloat[%
    floatPos=p,
    capWidth=h,
    capPos=right,
    objectAngle=90,
    capAngle=-90,
    objectPos=left,
]{figure}{\includegraphics[width=\textheight]{images/CTAN}}%
    [Rotated Caption in Landscape]{%
    Caption right beside the float and object position left. The caption rotated by $-90$
    degrees.\blindtext}{fig:10}

```

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

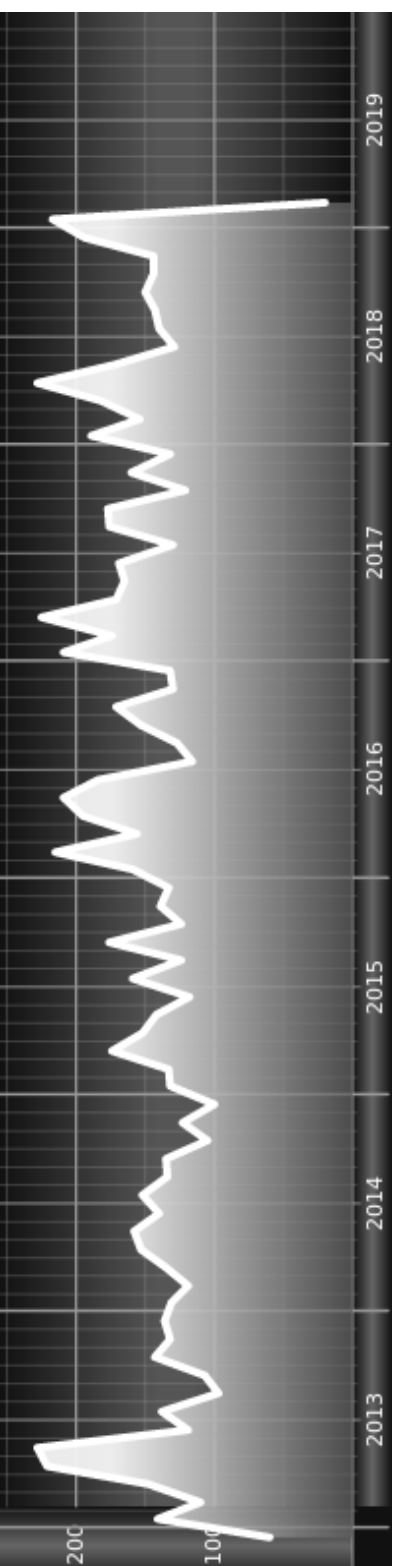
Fig. 30

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.



**Figure 29: Caption and object in landscape mode.** Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

**Figure 30:** Caption right beside the float and object position left. The caption rotated by  $-90$  degrees. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.



## 13 The nonFloat Option

Sometimes it is better to put a “float” in a specific position of the page. This is possible with the nonfloat package and the keyword nonFloat.

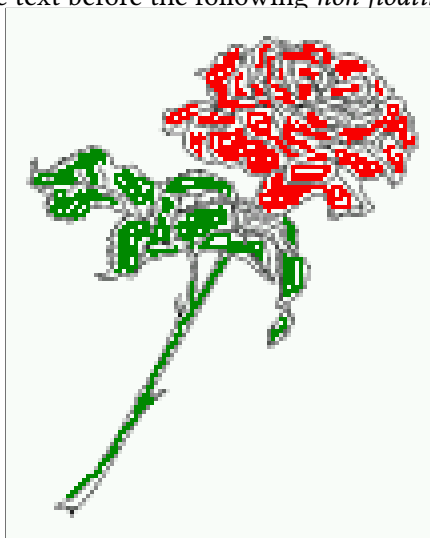
Some nonsense text before the following `\emph{non floating}` object.

```
\hvFloat[%
  nonFloat,
  capWidth=0.25,
  capPos=right,
  capVPos=bottom,
  objectPos=center,
  objectFrame,
]{figure}{\includegraphics[scale=1.5]{images/rose}}%
[Nonfloat Captions]{%
  Caption of a “nonfloat” Object, using the \texttt{nonfloat} Package}{fig:11}
```

Some nonsense text after the preceding `\emph{non floating}` object.

Some nonsense text before the following *non floating* object.

Fig. 31



**Figure 31:** Caption of a “nonfloat” Object, using the nonfloat Package

Some nonsense text after the preceding *non floating* object.

The image 31 is exactly placed where the command `\hvFloat` appears. There are only commands for figure and table environments:

```
\newcommand{\figcaption}{\def\@captive{figure}\caption}
\newcommand{\tabcaption}{\def\@captive{table}\caption}
```

But it is no problem, to define more xxxcaption commands to support other with the float package defined new floats.



## 14 Tabulars as Objects

The object has to be passed as an parameter to the `\hvFloat` macro. This is no problem with images but maybe with tables, so it is easier to use the box `\hv0Box` to save the table in this box and pass it then to `\hvFloat` with the `use0Box` option. For example see table 4 and 5:

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

```
\savebox{\hv0Box}{%
\begin{tabular}{>{\small\ttfamily}l|l|l}\hline
\rmfamily Name      & Type          & Description\\\hline
\CMD{hvFloat} & command      & places object and caption in different ways\\
hvFloatEnv    & environment  & places object and caption exactly Here\\
\CMD{figcaption} & command      & writes a figure caption in a non floating environment\\
\CMD{tabcaption} & command      & writes a table caption in a non floating environment\\
\CMD{hvFloatSetDefaults} & command      & sets all options to the defaults\\\hline
\end{tabular}%
}
```

The code for table 4 and 5 is:

```
\hvFloat[%
floatPos=!hb,
capPos=top,
use0Box=true]{table}{\texttt{use0Box} Parameter}{table:1}

\hvblindtext

\marginnote{Tab.~\ref{table:2}}
\hvFloat[%
floatPos=hb,
use0Box=true,
objectAngle=90,
capPos=right,
capVPos=top,
capWidth=0.3]{table}{\texttt{use0Box} Parameter}{table:2}
```

In this case leave the third parameter empty.

Tab. 4

## 15 Text and objects

With the `onlyText` keyword it is no problem to put some text beside an image without getting the caption title Figure/Table. The object still can be a floating one or a nonfloating if the `nonfloat` keyword is used.

The code for figure 15:

`\hvFloat[%`

**Table 4:** Demonstration of the use0Box Parameter

Name	Type	Description
\hvFloat	command	places object and caption in different ways
hvFloatEnv	environment	places object and caption exactly Here
\figcaption	command	writes a figure caption in a non floating environment
\tabcaption	command	writes a table caption in a non floating environment
\hvFloatSetDefaults	command	sets all options to the defaults

Name	Type	Description
\hvFloat	command	places object and caption in different ways
hvFloatEnv	environment	places object and caption exactly Here
\figcaption	command	writes a figure caption in a non floating environment
\tabcaption	command	writes a table caption in a non floating environment
\hvFloatSetDefaults	command	sets all options to the defaults

**Table 5:** Demonstration of the use0Box Parameter

```

onlyText=true,
capAngle=90,
capPos=right,
capVPos=top,
objectFrame,
capWidth=h]{\includegraphics{images/rose}}%
[["\texttt{onlyText}" Caption]{%
  Demonstration of the \texttt{onlyText} Parameter, which makes it
  possible to put some text beside a floating object without getting
  a starting \texttt{Figure:} or \texttt{Table:}}{fig:text}

```



Demonstration of the `onlyText` Parameter, which makes it possible to put some text beside a floating object without getting a starting `Figure:` or `Table:`

Fig. 15

## 16 Environment `hvFloatEnv`

With the environment `hvFloatEnv` one can place an object exactly on that position where the environment is defined. For captions the use of `\captionof` is recommended:

```

\begin{hvFloatEnv}
\captionof{table}{A caption for a nice table}
\begin{tabular}{@{} l c r @{}}\hline
left & center & right \\
L & C & R \\
\end{tabular}
\end{hvFloatEnv}

```

**Table 6:** A caption for a nice table

left	center	right
L	C	R

The environment has an optional argument for setting the line width which is preset to `\textwidth`. The object is always centered.

```

\begin{hvFloatEnv}[0.5\textwidth]
\captionof{table}{A caption for a nice table}
\begin{tabular}{@{} l c r @{}}\hline

```

## 17 Full page objects in onecolumn mode

```
left & center & right \\
L & C & R \\ \hline
\end{tabular}
\end{hvFloatEnv}
```

**Table 7:** A caption for a nice table

left	center	right
L	C	R

## 17 Full page objects in onecolumn mode

For an image or table which needs the whole space of a page the caption can be printed at the bottom of the preceeding or following page. It is possible in oneside and twoside mode, but makes only real sense in the twoside mode. hvfloat defines three additional optional arguments for placing images in a complete column, page or paper:

```
\define@key{Gin}{fullpage}[true]{%           \define@key{Gin}{FullPage}[true]{%
  \def\Gin@ewidth{\columnwidth}%             \def\Gin@ewidth{\textwidth}%
  \def\Gin@eheight{\textheight}%             \def\Gin@eheight{\textheight}%
  \Gin@boolkey{false}{iso}%                   \Gin@boolkey{false}{iso}%
}                                               }
\define@key{Gin}{FULLPAGE}[true]{%
  \def\Gin@ewidth{\paperwidth}%
  \def\Gin@eheight{\paperheight}%
  \Gin@boolkey{false}{iso}%
}
```

Figure 32 on the next page shows the meaning of the optional arguments fullpage, FullPage, and FULLPAGE for `\incluographics[...]{tiger}`.

### 17.1 Using the textarea

The setting capPos=evenPage (even) or capPos=oddPage (odd) page for a document in twocolumn mode makes no real sense. For a twosided document a setting like capPos=inner for inner or capPos=outer for outer margin makes more sense. For an image or table which needs the whole space of a page the caption can be printed at the bottom of the preceeding or following page. It is possible in oneside and twoside mode, but makes only real sense in the twoside mode. Without any additional argument the caption is set first and the object on the following page:

#### 17.1.1 Using the default or capPos=before

Without any additional argument the caption is set first (left) at the bottom of the current page and the object on the following page. This is the same setting like capPos=left for a onecolumn document. For the twocolumn option it makes more sense to use the setting capPos=before if the caption and object can appear on different pages.

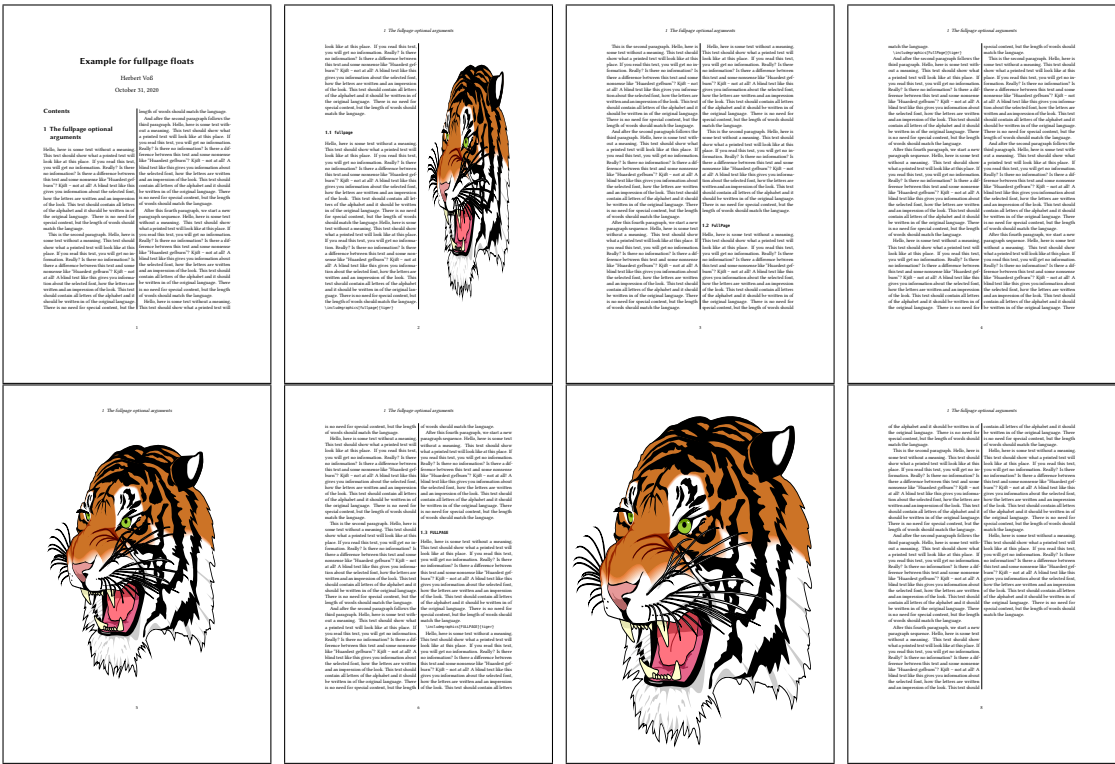


Figure 32: Output of fullpage1s2c (pages 1–8)

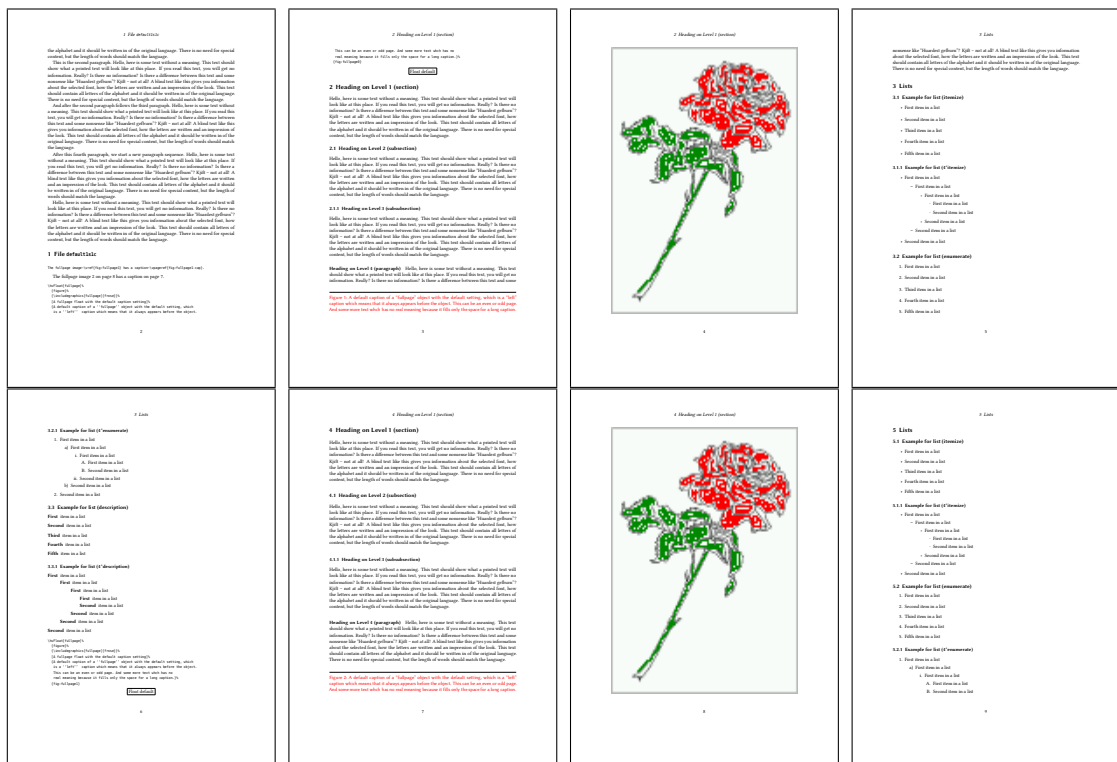
```
\hvFloat[fullpage]%
{figure}%
{\includegraphics[fullpage]{images/froze}}%
[A fullpage float with the default caption setting]%
{A default caption of a "fullpage" object with the default setting, which
is a "left" caption which means that it always appears "before" the object.
This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}%
{fig:fullpage0}
```

With this setting the caption is always placed *before* the following object. This maybe sufficient for a oneside document but not the best solution if this document is printed on a duplex machine. In such a case it may make sense to have the captions always on an even (left) page, even though the document is typeset in a oneside mode. Figure 33 on the following page shows the output for a oneside document with a setting capPos=before .

Depending to the used documentclass it can be a problem, if the caption should be placed on the first page. In such a case use one of the other setting. Table 8 on the next page shows the valid optional arguments for a full page floating object.

**Table 8:** Valid optional arguments for a full page object.

Name	Type	Description
fullpage	true false	Put the caption on the bottom of the preceding or following page and the object alone a page.
FULLPAGE	true false	The same for full papersize objects over one or two columns. The <code>pagestyle</code> is set to empty
multiFloat	true false	For multiple objects with captions for every object. See section 17.3 on page 39.
subFloat	true false	For multiple objects with one main and more subcaptions. See section 18 on page 41.
separatorLine	true	Put a line with a predefined width of 0.4pt between the text and the caption. Only valid for the keyword <code>fullpage</code> .
capPos	value	caption before, after an object or on an evenPage or oddPage.

**Figure 33:** Output of default1s1c (pages 2–9)

### 17.1.2 Using capPos=after

The caption will be printed always on the right side which is the same as *after* the full page object. The object appears immediately on the next page and the caption of the next following page at the bottom. There is no check for an even or odd page. This behaviour makes only sense for a oneside document.

```
\hvFloat[fullpage, capPos=after]%
{figure}%
{\includegraphics[fullpage]{images/frose}}%
[A float which needs the complete page width and height.]%
{A Caption of a "fullpage" object, which follows on the next page.
This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}
{fig:fullpage}
```

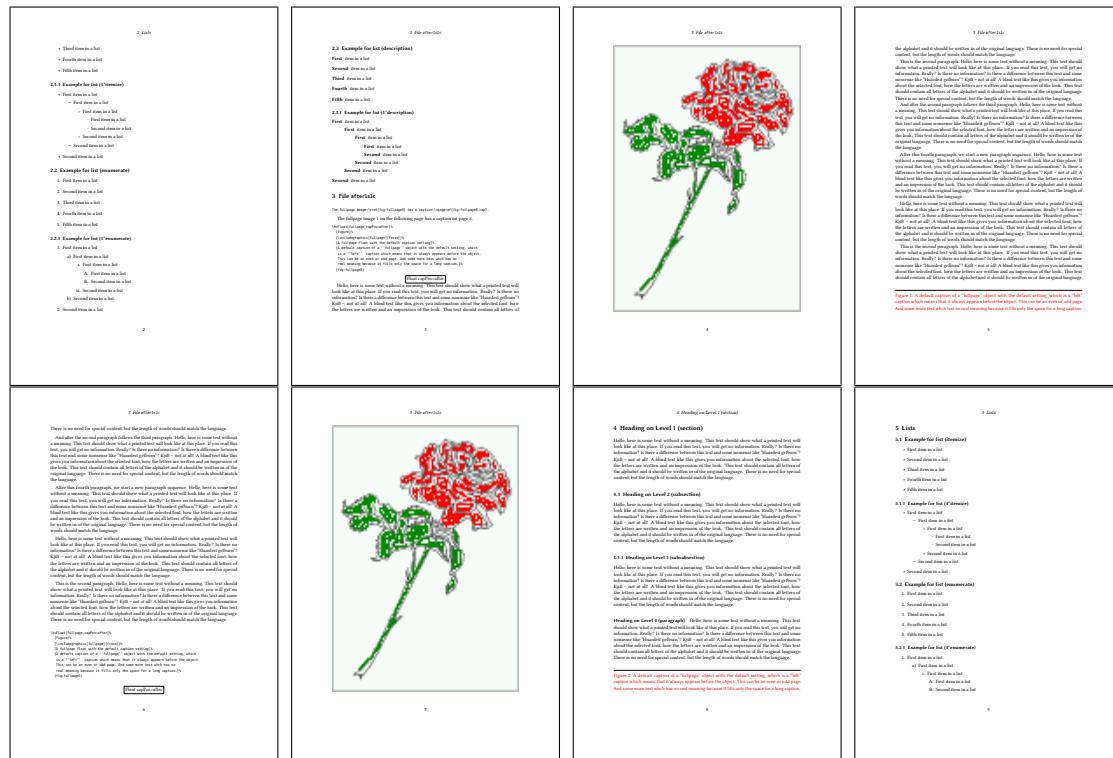


Figure 34: Output of after1s1c (pages 2–9)

## 17 Full page objects in onecolumn mode

### 17.1.3 Using capPos=evenPage — caption on an even page

With capPos=evenPage the caption will be printed on an even (left) page, the object will always be on an odd (right) page. This option makes only real sense for The twoside mode!

```
\hvfloa[fullpage, capPos=evenPage]%  
{figure}%  
\includegraphics[fullpage]{images/frose}}%  
[A float with a caption on an even page (left)]%  
{A caption on an even (left) page of a “fullpage” object.. \blindtext}  
{fig:fullpage3}
```

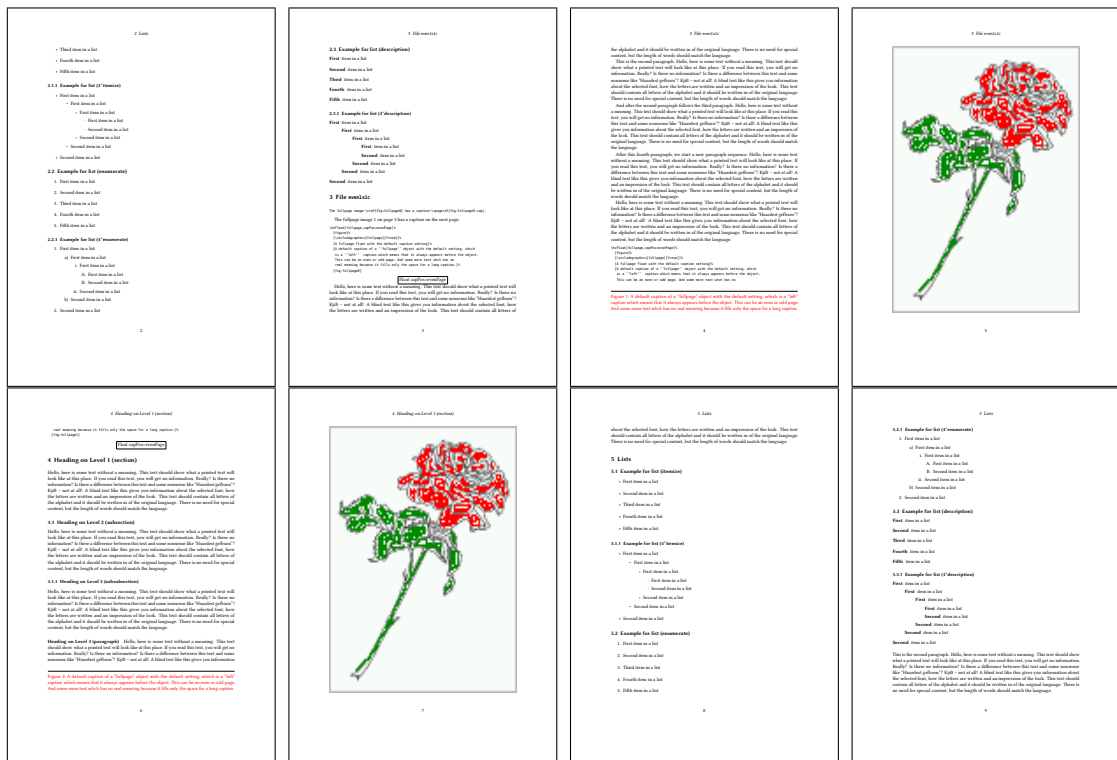


Figure 35: Output of even1s1c (pages 2–9)



### 17.1.4 Using capPos=oddPage — caption on an odd page

With capPos=oddPage the caption will be printed on an odd (right) page, the object will always be on an even (left) page, which is before the caption.

```
\hvFloat[fullpage, capPos=oddPage]%
{figure}%
{\includegraphics[fullpage]{images/frose}}%
[A float which needs the complete page width and height.]%
{A Caption on an odd page of a ‘‘fullpage’’ object, which follows on the next page.
This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}
{fig:fullpage2}
```

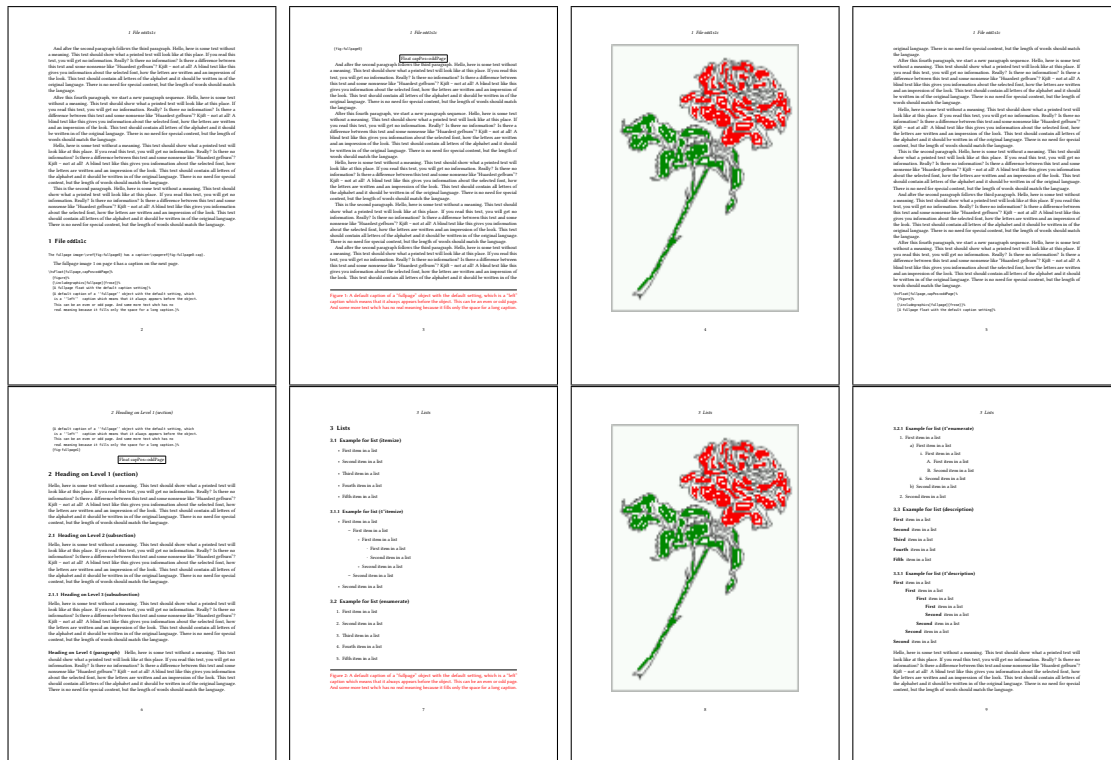


Figure 36: Output of odd1s1c (pages 2–9)

### 17.1.5 Using capPos=inner or capPos=outer — caption on the inner or outer side

These settings make no sense in onecolumn mode.

## 17 Full page objects in onecolumn mode

### 17.2 Using the paper size

It belongs to the user to create an object which fills the complete page. However, with the keyword `FULLPAGE` which is valid for `\hvfloat` and for the macro `\includegraphics` an image will be scaled to the paper dimensions `\paperwidth` and `\paperheight`. It can be used in one- and twocolumn mode!

```
\hvFloat[FULLPAGE]%  
{figure}%  
\includegraphics[FULLPAGE]{froese.png}}%  
[A fullpage float with the default caption setting]%  
{A default caption of a "fullpage" object with the default setting, which  
is a "left" caption which means that it always appears before the object.  
This can be an even or odd page. And some more text which has no  
real meaning because it fills only the space for a long caption.}%  
{fig:fullpage0}
```

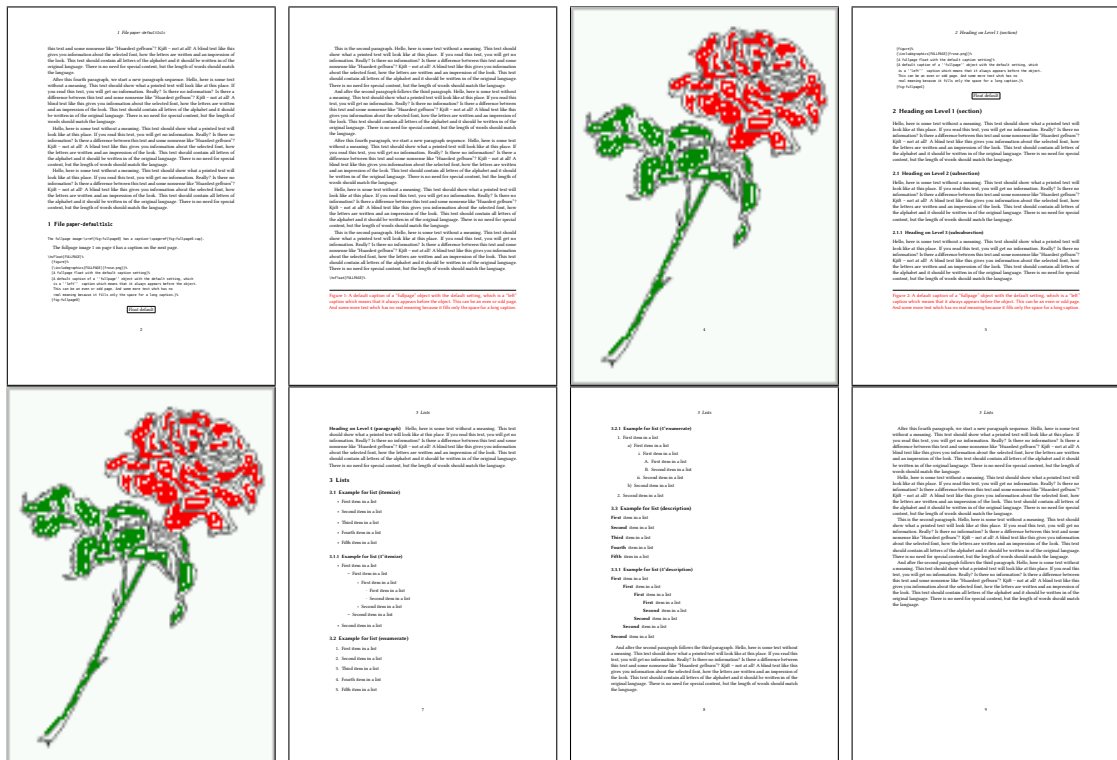


Figure 37: Output of paper-default1s1c (pages 2–9)

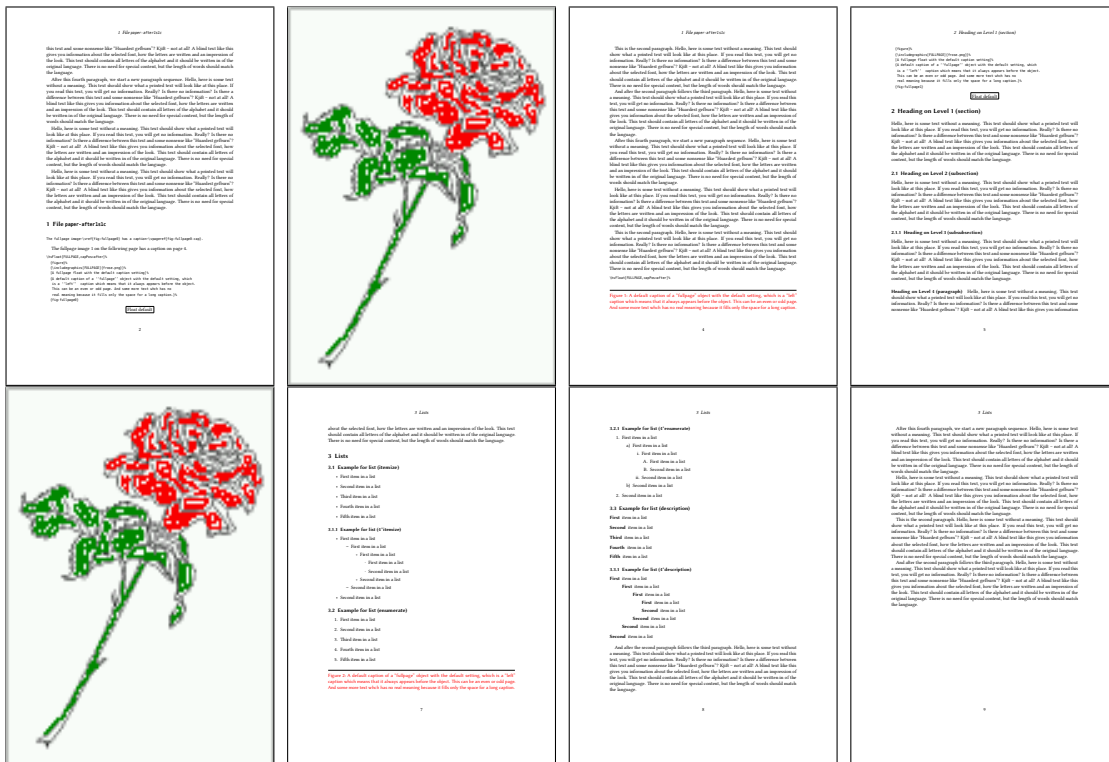


Figure 38: Output of paper-after1s1c (pages 2–9)

## 17.3 Multifloats

Multifloats is the name for more than one image and/or tabular in *one* floating environment. Every image and/or tabular has its own caption, which is different to a subcaption. The syntax for multiple floats is

```
\hvfFloat [Options] +{float type}{floating object} [short caption] {long caption}{label}
+{float type}{floating object} [short caption] {long caption}{label}
+...
+{float type}{floating object} [short caption] {long caption}{label}
```

The + symbol defines an additional Object which will be part of the same floating environment. It's up too the user to be sure that one page or one column can hold all defined objects. Every object gets its own caption which is the reason why figures and tabulars and ... can be mixed:

```
\captionsetup{singlelinecheck=false}
\hvfFloat[fullpage,capPos=before,multiFloat]%
+{figure}{\includegraphics[width=\linewidth]{images/CTAN}}% no 1
[Short caption A]%
{A Caption A of a "fullpage" object, which follows on the left or
right column. This can be an even or odd page. And some more text which has no
```

## 17 Full page objects in onecolumn mode

```

real meaning because it fills only the space for a long caption.}%
{img:demo0}%
+{table}{\begin{tabular}{lrcp{3cm}}\hline                                %              no 2
    Linksbündig & Rechtsbündig & Zentriert & Parbox\\\hline
    L            & R            & C            & P\\
    left         & right         & center       & Text with possible linebreaks\\
    \multicolumn{4}{c}{Multicolumn over all columns}\\\hline
\end{tabular}}%
[Short Caption B]%
{A Caption B of a "fullpage" object, which follows on the left or
right column. This can be an even or odd page.}%%
+{figure}{\includegraphics[width=\linewidth]{images/CTAN}}}%              no 3
{A Caption C of a "fullpage" object, which follows on the left or
right column.}%%
{img:demo1}%
+{figure}{\includegraphics[width=\linewidth]{images/CTAN}}}%              no 4
{A Caption C of a "fullpage" object, which follows on the left or
right column.}%%
{img:demo2}%

```

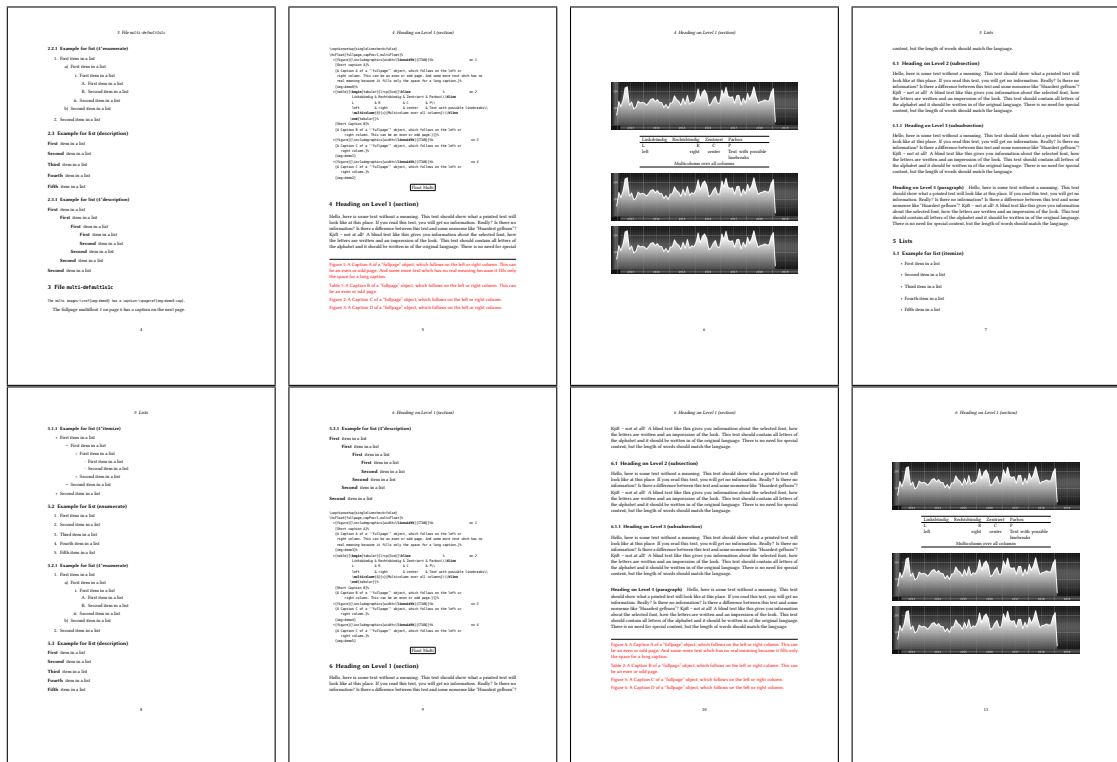


Figure 39: Output of multi-default1s1c (pages 4–11)

The page with the objects has no additional informations it holds only the figures and/or

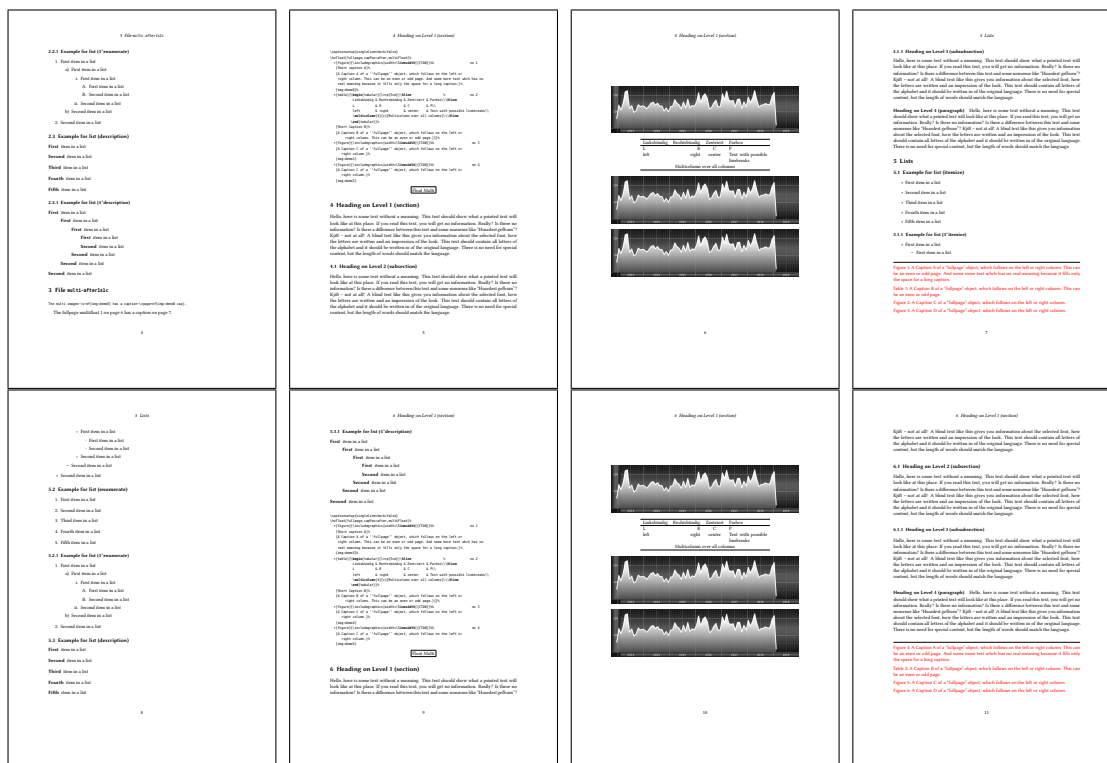


Figure 40: Output of multi-after1s1c (pages 4–11)

tabulars. If you want it like subfigures or subtabulars then go to section 18. The setting `\captionsetup{singlelinecheck=false}` is needed if you want the captions always left aligned.

## 18 Subfloat page

A subfloat page can have only one type of floats which will have one main caption and individual subcaptions. The syntax is similar to the one for a multifloat page:

```
\hvFloat [Options] +{float type}{<empty>} [short caption] {long caption}{label}
+{<empty>}{floating object} [short caption] {long caption}{label}
+...
+{<empty>}{floating object} [short caption] {long caption}{label}
```

Some arguments are ignored for a subfloat, one can leave them empty. The first line defines only the type and the main caption, the object entry is ignored! All additional lines will have the same float type, the reason why the float type entry is ignored.

```
\hvFloat[fullpage,capPos=before,objectFrame,subFloat]%
+{figure}{}[Short main caption of the objects]% main short lsi entry
{The main caption of a "fullpage" object, which follows on the left or
```

## 18 Subfloat page

```
right column. This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}% main caption
{sub:demo0}%
+{}{\includegraphics[width=\linewidth]{images/CTAN}}%
[Short caption B]%
{A Caption B of a “fullpage” sub object.}% subcaption
}%
+{}{\includegraphics[width=\linewidth]{images/CTAN}}%
{A Caption C of a “fullpage” object, which follows on the left or right column.}%
{sub:demo1}
+{}{\includegraphics[width=\linewidth]{images/CTAN}}%
{A Caption D of a “fullpage” object}%
{sub:demo2}
+{}{\includegraphics[width=\linewidth]{images/CTAN}}%
{A Caption E of a “fullpage” object}%
{sub:demo3}
```

The keyword `subFloat` defines the images or tabulars as subfloats. The package `subcaption` is loaded by default and should be activated with `\captionsetup[sub][singlelinecheck]`.

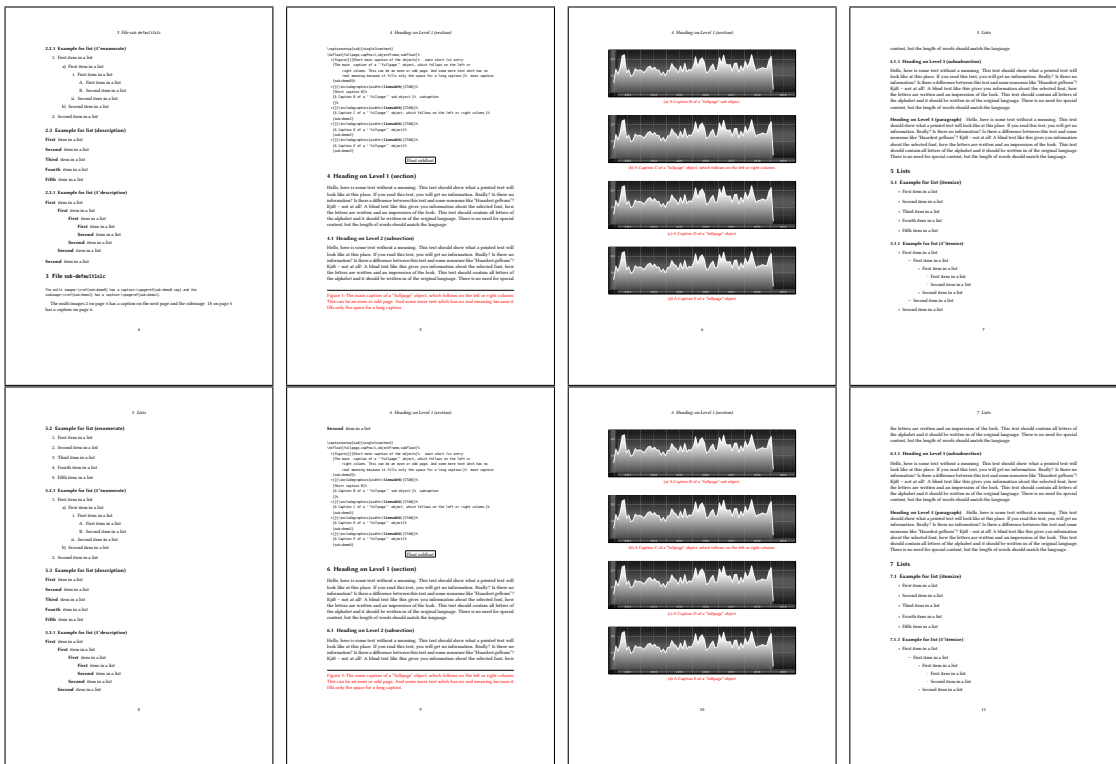


Figure 41: Output of sub-default1s1c (pages 4–11)

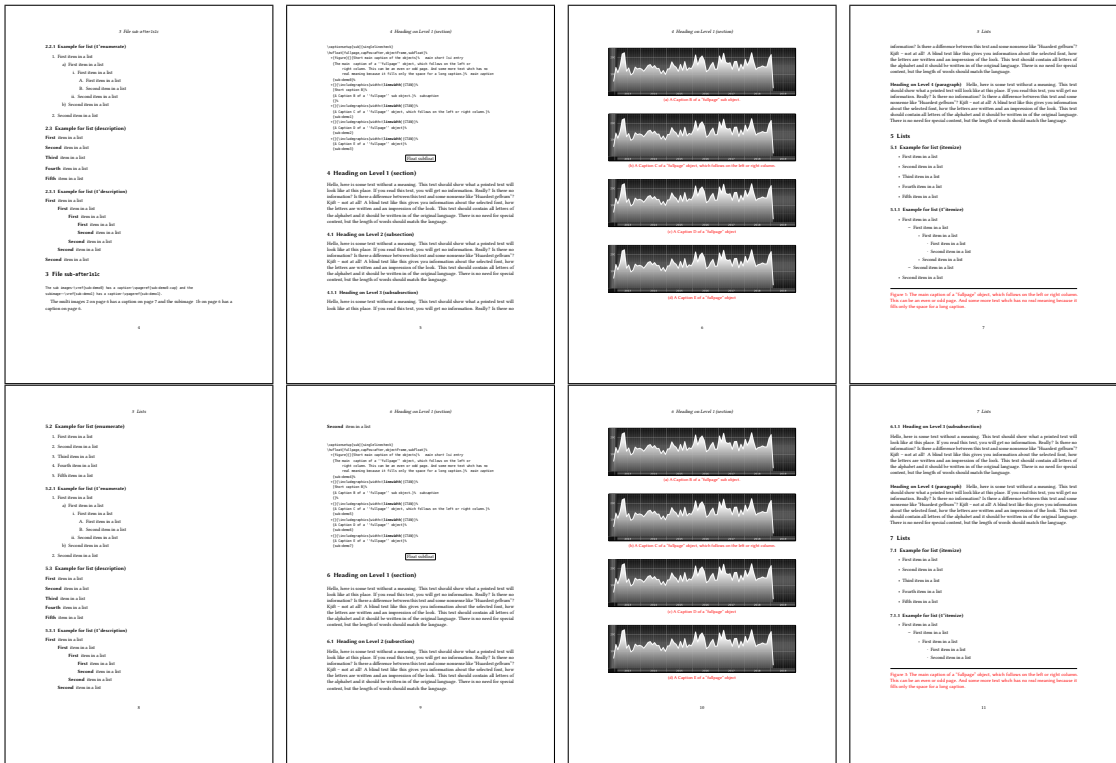


Figure 42: Output of sub-after1s1c (pages 4–11)

## 19 Full page objects in twocolumn mode

The filenames always have a “2c” for two columns in its names, e.g. left2s2c indicates capPos=before and the documentclass setting twoside and twocolumn. Depending to the used documentclass it can be a problem, if the caption should be placed on the first page of the whole document. In such a case use one of the other setting. Table 8 on page 34 shows the valid optional arguments for a full page floating object.

### 19.1 Default setting

For the twocolumn mode the caption can be in the left (first) or right (second) column. With the default setting (without using the keyword capPos) it is equivalent to the setting capPos=before, the caption is always placed *before* (left of) the object. This can be the first or the second column and both can be on different pages. With capPos=before (uppercase L) it is possible to get the caption and the object in the twocolumn mode always on one page. This is then the left (first) column for the caption (see figure 43).

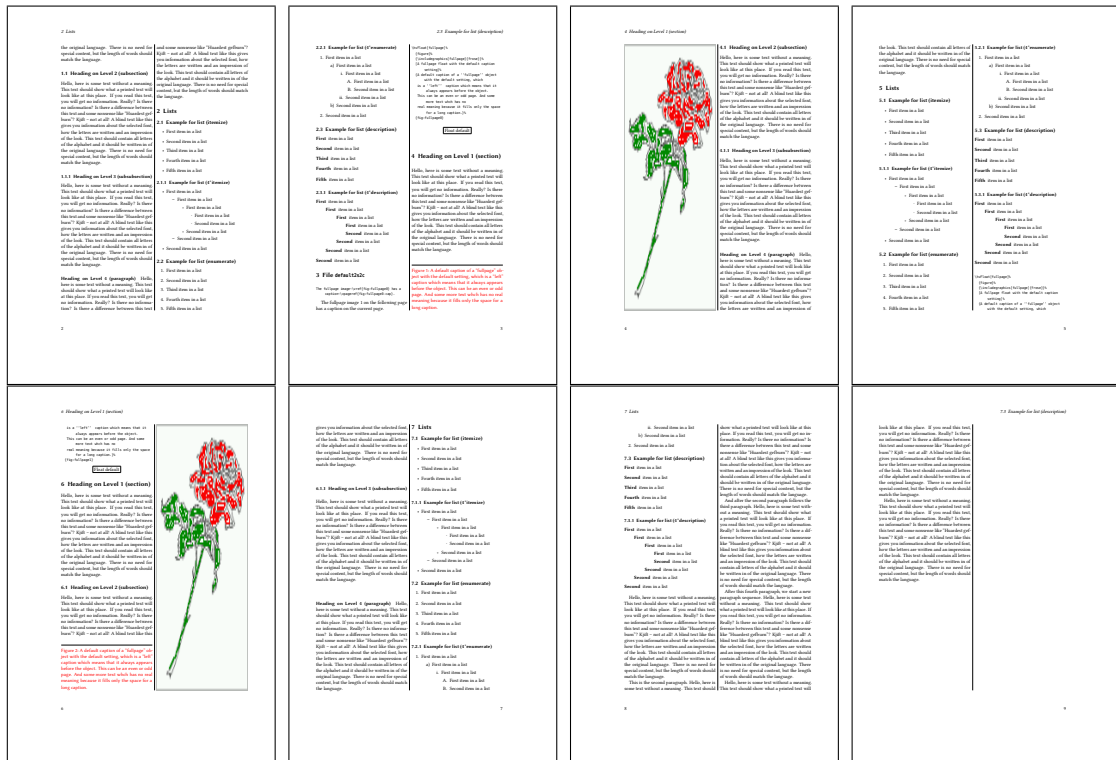


Figure 43: Output of default2s2c (pages 2–9)

```
\hvFloat[fullpage]{figure}%
{\includegraphics[width=\columnwidth,height=0.9\textheight]{images/frose}}%
[A float which needs the complete column width and height.]%
```



{A Caption of a “fullpage” object, which follows on the next column.  
This is always the right column on an even or odd page. And some more  
text which has no real meaning because it fills only the space for a long  
caption.}%  
{fig:fullpage0-2}

The example 43 on the preceding page shows that the caption and the object can be on different pages. If you do not like this behaviour, then use the setting `capPos=left`, which puts the caption before the object, but always on the *same page* (see Figure 44).

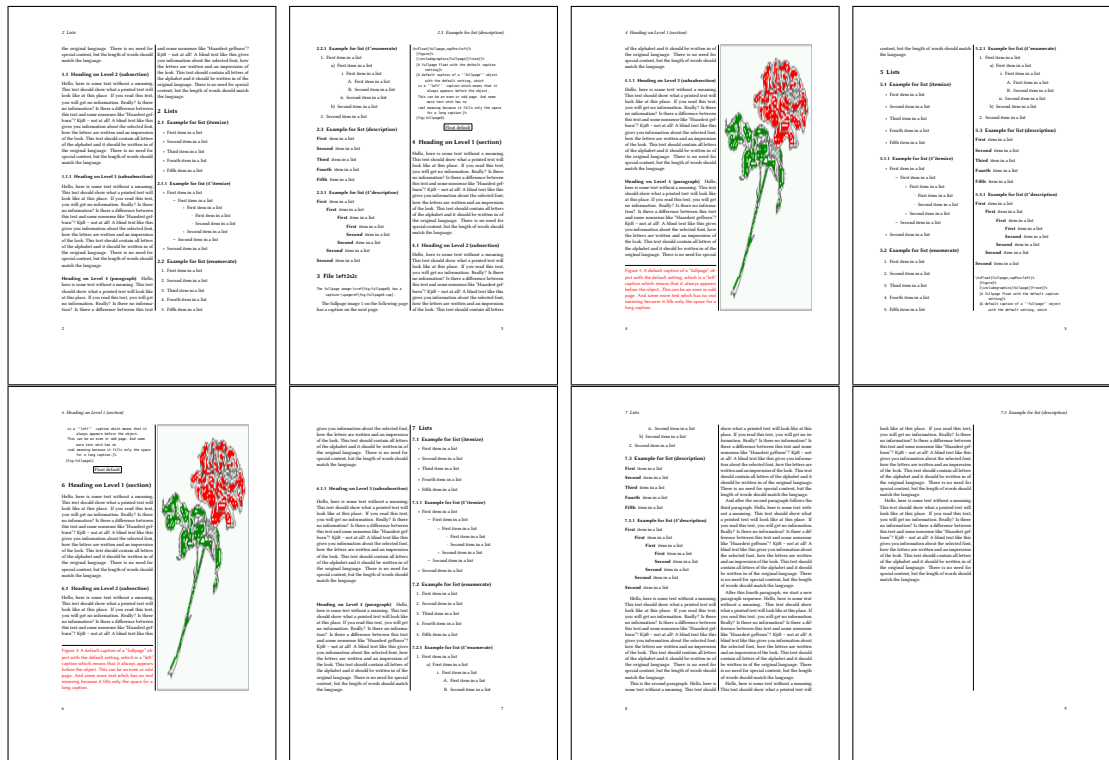


Figure 44: Output of left2s2c (pages 2–9)

### 19.1.1 Using `capPos=after`

The caption will be printed always right of the object which is the same as *after* the full page object. With `capPos=after` it is possible to get the caption in the twocolumn mode always in the right (second) column (see figure 46 on page 47)

```
\hfloat[fullpage, capPos=after]{figure}%
{\includegraphics[fullpage]{images/rose}}%
[A float which needs the complete column width and height.]%
{A Caption of a “fullpage” object, which is on the left column.  
This is always the right column on an even or odd page. And some more
```

## 19 Full page objects in twocolumn mode

text which has no real meaning because it fills only the space for a long caption.%  
{fig:fullpage1-2}

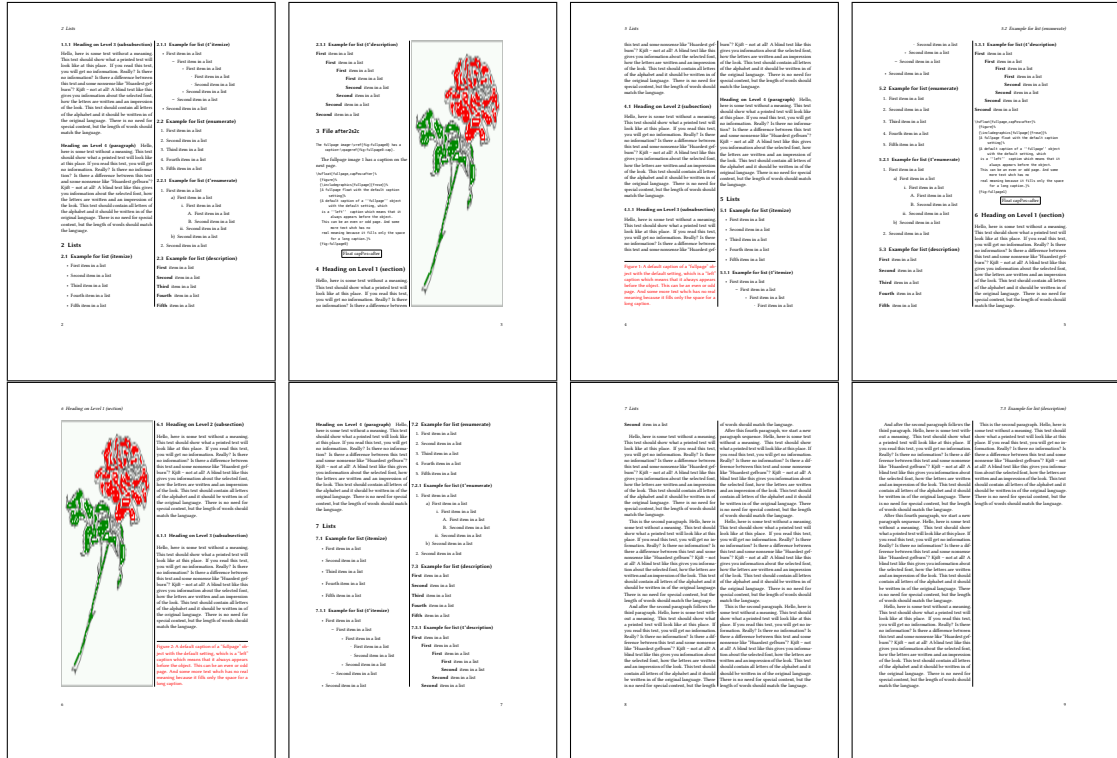


Figure 45: Output of after2s2c (pages 2–9)

The caption and the object can be on different pages (Figure 45). If you do not like this behaviour, then use the setting `capPos=right` instead of `capPos=after`. Figure right2s2c shows that caption and object in this case are always on the same page.

[illegible]

**Figure 46: Output of right2s2c (pages 2–9)**

There can be a problem if there is not enough space on the bottom of the even page. Then the caption will be on the next page which is an odd one. In such a case use a manually `\clearpage` or wait for an update of `hvf`.

**Figure 47: Output of even2s2c (pages 2–9)**

### 19.1.3 Using capPos=oddPage — caption on an odd page

There can be a problem if there is not enough space on the bottom of the even page. Then the caption will be on the next page which is an odd one. In such a case use a manually `\clearpage` or wait for an update of `hvfloat`.

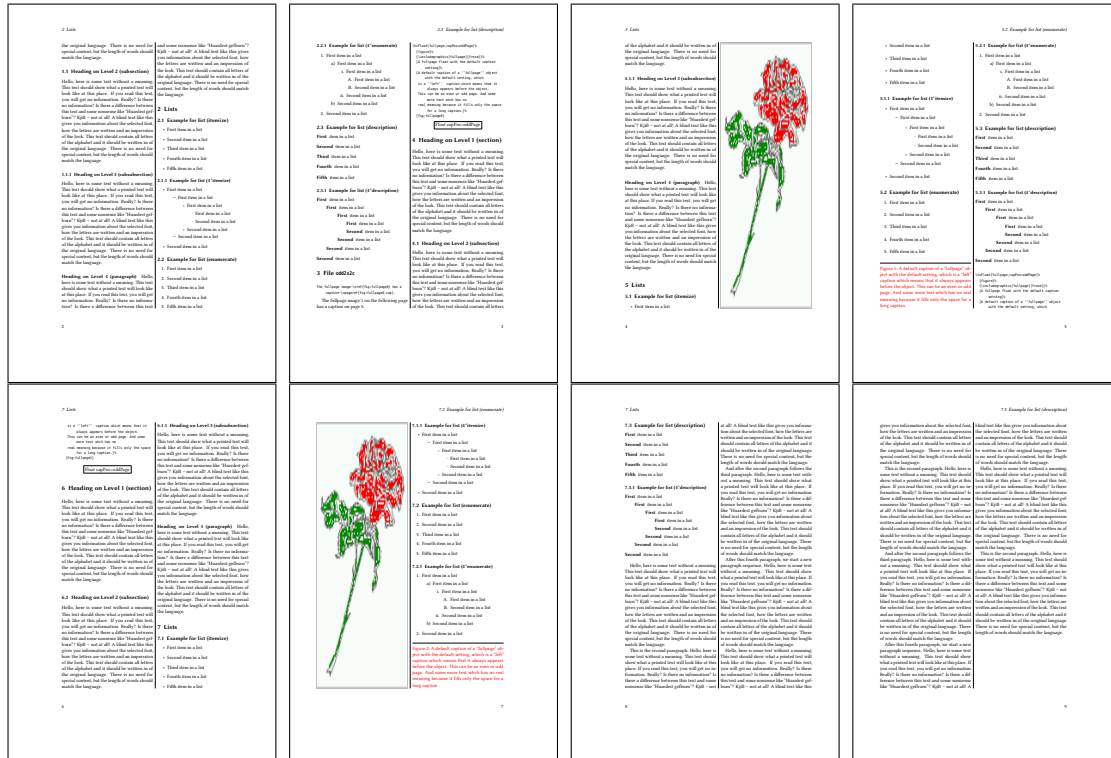


Figure 48: Output of odd2s2c (pages 2–9)



### 19.1.5 Using capPos=outer — caption on the outer column

The caption will be printed on the left column an odd page, the object can appear before or after this caption.

```
\hvFloat[fullpage, capPos=outer]{figure}%
{\includegraphics[fullpage]{images/rose}}%
[A float which needs the complete page width and height with \texttt{capPos=outer}.]%
{A Caption of a "fullpage" object, which has the caption position in the
outer page. This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}{fig:fullpage2-2a}
```

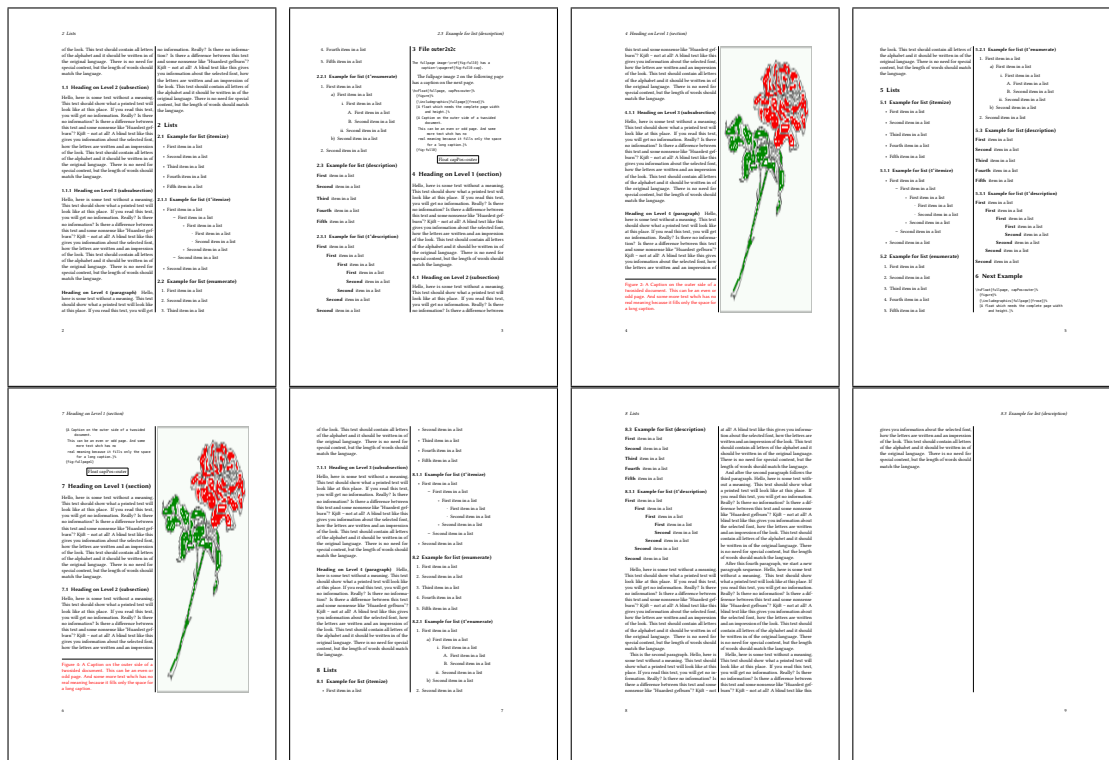


Figure 50: Output of outer2s2c (pages 2–9)

## 19 Full page objects in twocolumn mode

### 19.2 Using full page in twocolumn mode

With the star version of `\hvfloat` The object is placed over both columns, the whole page. In such a case the only useful caption position is `capPos=inner` for *inner*.

```
\hvfloat*[fullpage, capPos=inner]{figure}%
{\includegraphics[FullPage]{images/rose}}%
[A float which needs the complete page width and height with \texttt{capPos=outer}.]%
{A caption of a "fullpage" object in twocolumn mode: It uses the star version
of \textbackslash hvfloat. The object goes over both columns.}{fig:two}
```

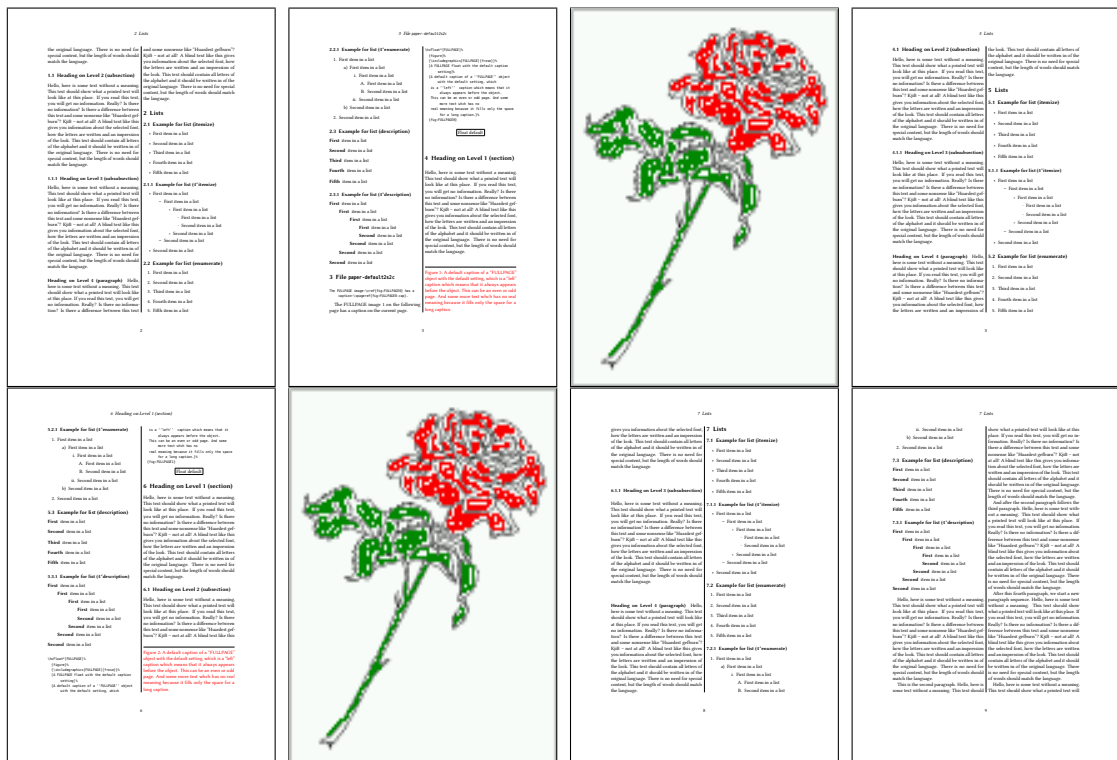


Figure 51: Output of paper-default2s2c (pages 2–9)



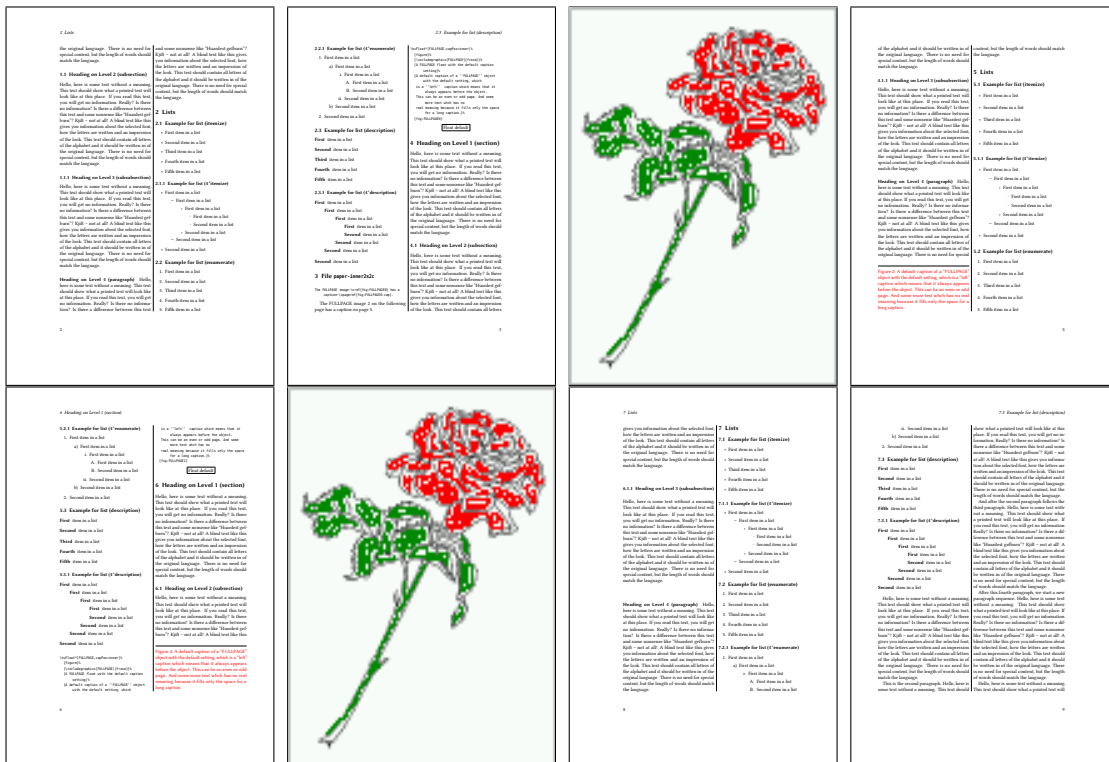


Figure 52: Output of paper-inner2s2c (pages 2–9)

## 19.3 Multifloats

Multifloats is the name for more than one image and/or tabular in *one* floating environment. Every image and/or tabular has its own caption, which is different to a subcaption. The + symbol defines an additional Object which will be part of the same floating environment. It's up too the user to be sure that one page or one column can hold all defined objects. Every object gets its own caption which is the reason why figures and tabulars and ... can be mixed:

```
\captionsetup{singlelinecheck=false}
\hvFloat[fullpage,multiFloat,capPos=inner]%
+{figure}{\includegraphics[height=0.4\textheight]{images/rose}}%% no 1
[Short caption A]%
{A Caption A of a "fullpage" object, which follows on the left or
right column. This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}%
{multi:demo0}%
+{table}{\begin{tabular}{lr}\hline
Linksbündig & Rechtsbündig\\
L & R & \\
left & right & \\
\multicolumn{2}{c}{Multicolumn}\hline
\end{tabular}}% no 2
```

## 20 Subfloat page

```
\end{tabular}}%
[Short Caption B]%
{A Caption B of a “fullpage” object, which follows on the left or
right column. This can be an even or odd page.}%
}%
+{figure}{\includegraphics[height=0.4\textheight]{images/rose}}%% no 3
{A Caption C of a “fullpage” object, which follows on the left or
right column.}%
{\multi{demol}}
```

The page with the objects has no additional informations it holds only the figures and/or tabulars. If you want it like subfigures or subtabulars then go to section 18 on page 41. The setting `\captionsetup{singlelinecheck=false}` is needed if you want the captions always left aligned.

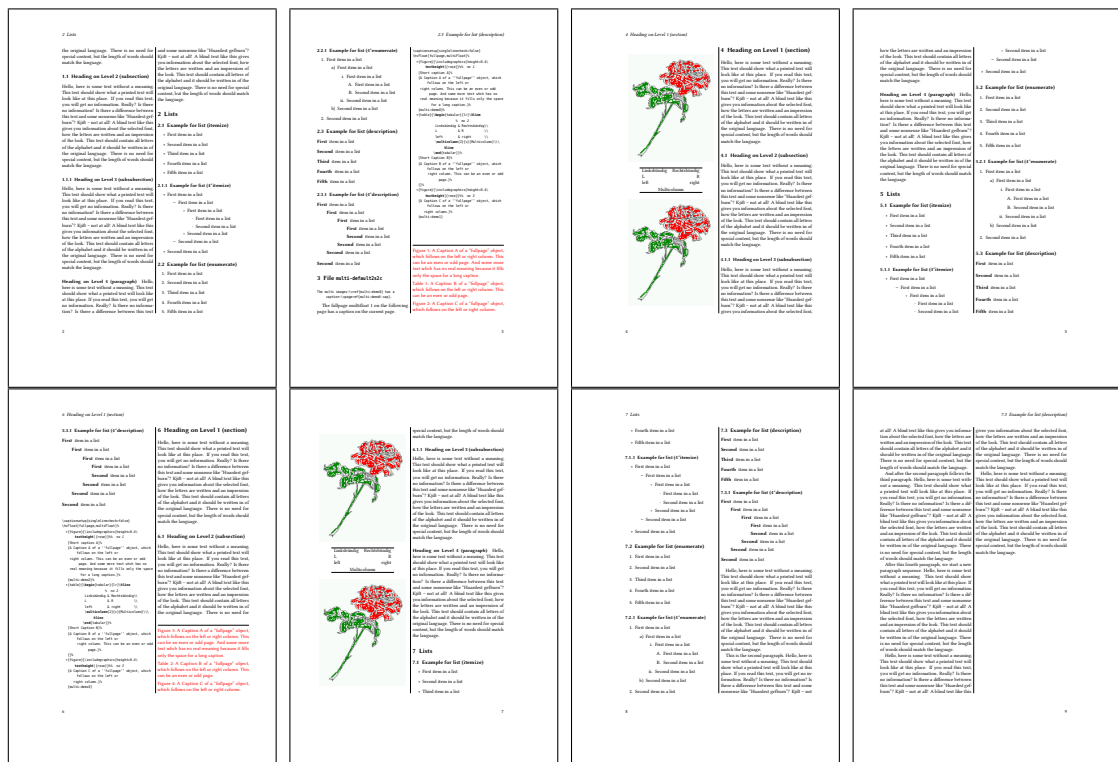


Figure 53: Output of multi-default2s2c (pages 2-9)

## 20 Subfloat page

A subfloat page can have only one type of floats which will have one main caption and individual subcaptions. Some arguments are ignored for a subfloat, one can leave them empty. The first line defines only the type and the main caption, the object entry is ignored! All additional lines will have the same float type, the reason why the float type entry is ignored.

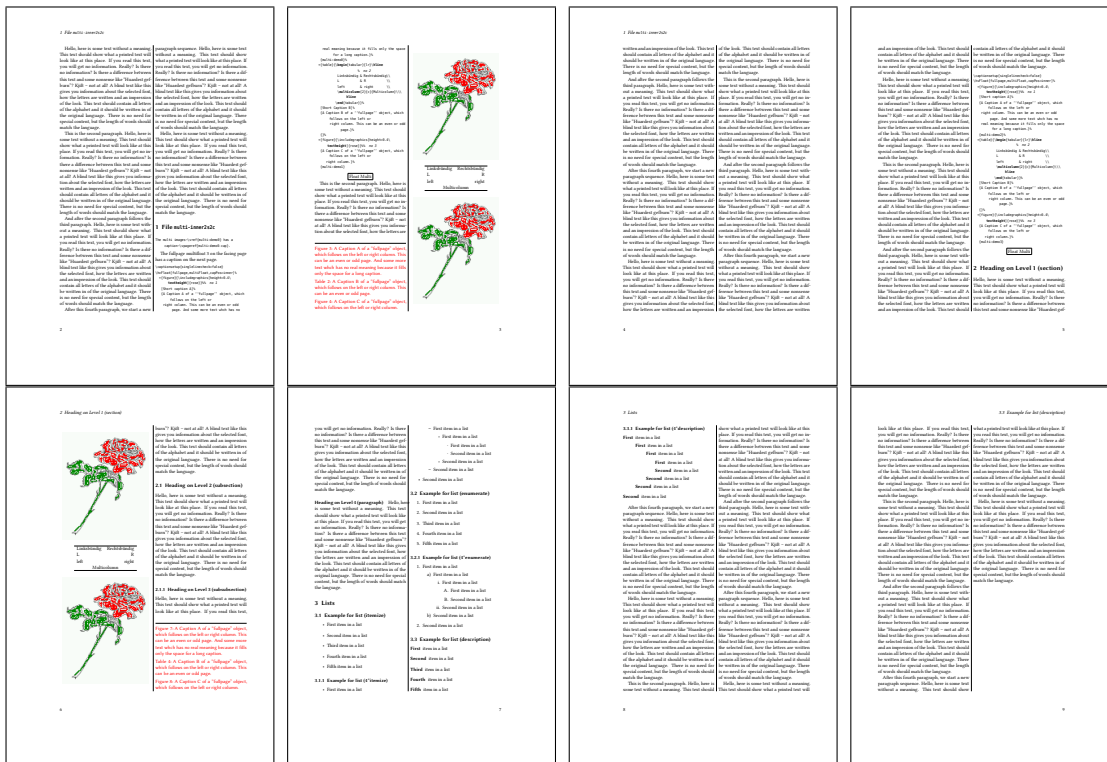


Figure 54: Output of multi-inner2s2c (pages 2-9)

```
\captionsetup[sub]{singlelinecheck}
\hvFloat[fullpage, capPos=before, objectFrame, subFloat]%
+{{figure}}[Short main caption of the objects]% main short lsi entry
{The main caption of a "fullpage" object, which follows on the left or
right column. This can be an even or odd page. And some more text which has no
real meaning because it fills only the space for a long caption.}% main caption
{sub:demo00}%
+{{\includegraphics[height=0.28\textheight]{images/rose}}}%
[Short caption B]%
{A Caption B of a "fullpage" sub object.}% subcaption
}%
+{{\includegraphics[height=0.28\textheight]{images/rose}}}%
{A Caption C of a "fullpage" object, which follows on the left or right column.}%
{sub:demo10}
+{{\includegraphics[height=0.28\textheight]{images/rose}}}%
{A Caption D of a "fullpage" object}%
{sub:demo20}
```

The keyword subFloat defines the images or tabulars as subfloats. The package subcaption is loaded by default. For the subcaptions the singlelinecheck should be true (see listing).

## 20 Subfloat page

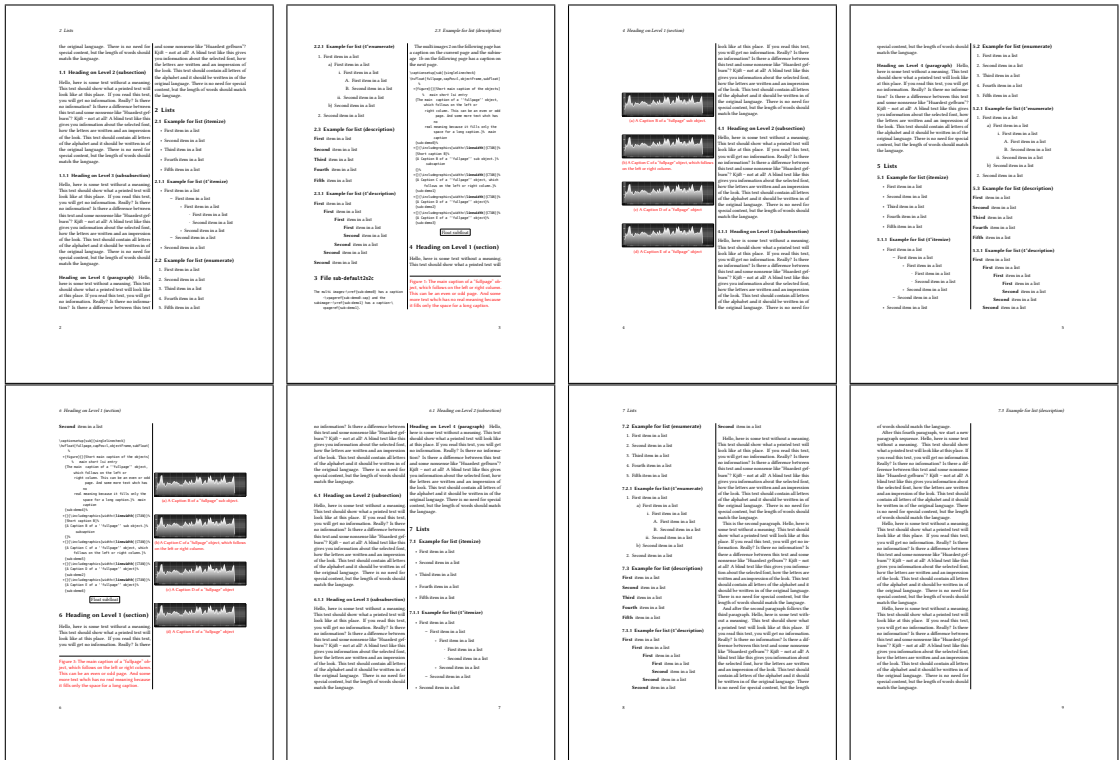


Figure 55: Output of sub-default2s2c (pages 2–9)

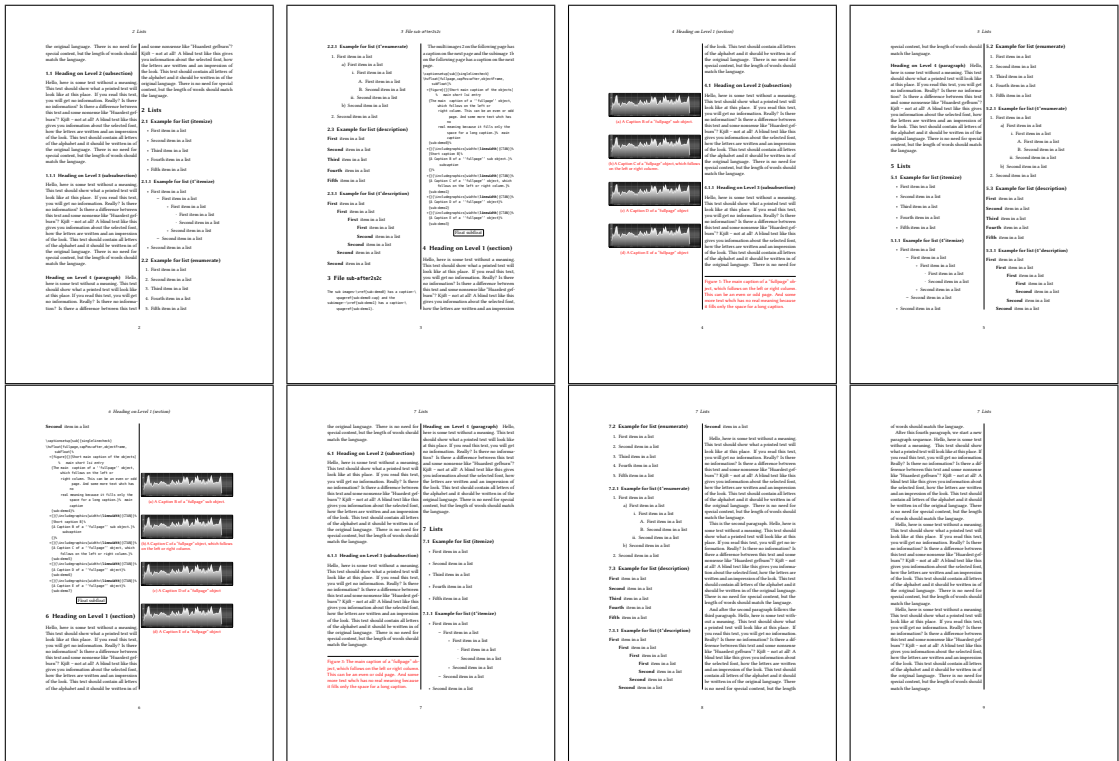


Figure 56: Output of sub-after2s2c (pages 2–9)

## 21 Doublepage objects – images and/or tabulars

If an image or a tabular or any other object is too big for one page, it can be split over two pages (left – right). It is obvious that this makes only sense for twoside documents. There are three optional arguments:

**doublePage** A splitted object with or without a caption on top of a double page, beginning in the left top text area. The user has to scale the image to be sure that the object will not be greater than  $2\backslash\text{paperwidth}-4\backslash\text{margin}$ . The caption can be rotated on the right side of the right object part or under the right part.

**doublePAGE** A splitted object with or without a caption on top of a double page, beginning at the left side of the paper area and top of the text area. The user has to scale the image to be sure that the object will not be greater than  $2\backslash\text{paperwidth}$ . The caption can only be under the right part of the object. There will be *no additional text* on the double page.

**doubleFULLPAGE** A splitted object with or without a caption on the right or below of a double page. The object can fill the complete double page. The user has to scale the image to be sure that the object will not be greater than  $2\backslash\text{paperwidth}$ . A caption will be rotated and written *over* the object, or if possible, at the right. The user has to take care for a correct text color.

### 21.1 doubleFULLPAGE

The scaling of the image is leave to the user. If the proportion of the object doesn't fit  $2*\text{paperwidth}/\text{paperheight}$ , then there can be a white part on the top or bottom of the object. A pagenumber will not be printed. In this documentation you'll find a marginnote where the following full doublepage image is defined. It appears on the the next following even page and following text will be placed *before* the object.

`\Blindtext`

```
\hvFloat{doubleFULLPAGE,capPos=right,capAngle=90}%
{figure}%
{\includegraphics[angle=90,width=2\paperwidth]{images/r+j}}%
[A doublepage image with a caption on the image.]%
{A caption for a double-sided image that will be placed below the right-hand
part of the illustration. The illustration begins on the left edge of the paper.
No further text is placed on the pages. A short form is used for the LOF.
The parameter is \texttt{doubleFULLPAGE}}%
{fig:doubleFULLPAGE0}
```

`\Blindtext`

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how

the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

And after the second paragraph follows the third paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

Fig. 57

This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

And after the second paragraph follows the third paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between

this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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**Figure 57:** A caption for a double-sided image that will be placed on the right-hand part of the illustration. The illustration begins on the left edge of the paper. No further text is placed on the pages. A short form is used for the LOF. The parameter is doubleFULLPAGE

## 21 Doublepage objects – images and/or tabulars

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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`\Blindtext`

```
\hvFloat[doubleFULLPAGE,capPos=right]%
{figure}%
{\includegraphics[height=\paperheight]{images/rheinsberg}}%
{A caption for a double-sided image that will be placed on the right-hand
part of the illustration. The illustration begins on the left edge of the paper.
No further text is placed on the pages. A short form is used for the LOF.
The parameter is \texttt{doubleFULLPAGE}}%
{fig:doubleFULLPAGE1}
```

`\Blindtext \Blindtext`

**Fig. 58** After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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And after the second paragraph follows the third paragraph. Hello, here is some text without







**Figure 58:** A caption for a double-sided image that will be placed on the right-hand part of the illustration. The illustration begins on the left edge of the paper. No further text is placed on the pages. A short form is used for the LOF. The parameter is doubleFULLPAGE

## 21 Doublepage objects – images and/or tabulars

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### 21.2 doublePAGE

With this option the object also starts at the left paper margin but on the top of the text area. There will be pagenumbers and a caption can be rotated on the right of the object or under it.

```
\Blindtext
```

```
\hvFloat[doublePAGE]%  
  {figure}%  
  {\includegraphics[width=2\paperwidth]{images/seiser}}%  
  [A doublepage image with a caption below the right part.]%  
  {A caption for a double-sided image that will be placed below the right-hand  
   part of the illustration. The illustration begins on the left edge of the paper.  
   No further text is placed on the pages. A short form is used for the LOF.  
   The parameter is \texttt{doublePAGE}}%  
  {fig:doublePAGE0}
```

```
\Blindtext
```

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how

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Fig. 59









**Figure 59:** A caption for a double-sided image that will be placed below the right-hand part of the illustration. The illustration begins on the left edge of the paper. No further text is placed on the pages. A short form is used for the LOF. The parameter is doublePAGE

### 21.3 doublePage

With this option the object also starts at the left top of the text area. There will be pagenumbers and a caption can be rotated on the right of the object or under it and the rest of the text area is filled with text.

`\Blindtext`

```
\hvFloat[doublePage,capWidth=n,capPos=right]%
{figure}%
{\includegraphics[width=2\textwidth]{images/sonne-meer}}%
[A doublepage image with a caption on the right side of the right part.]%
{A caption for a double-sided image that will be placed on the right side of the
right-hand part of the illustration. The illustration begins on the left edge of
the paper. A short form is used for the LOF.
The parameter is \texttt{doublePage}}%
{fig:doublePage0}
```

`\Blindtext`

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Fig. 60



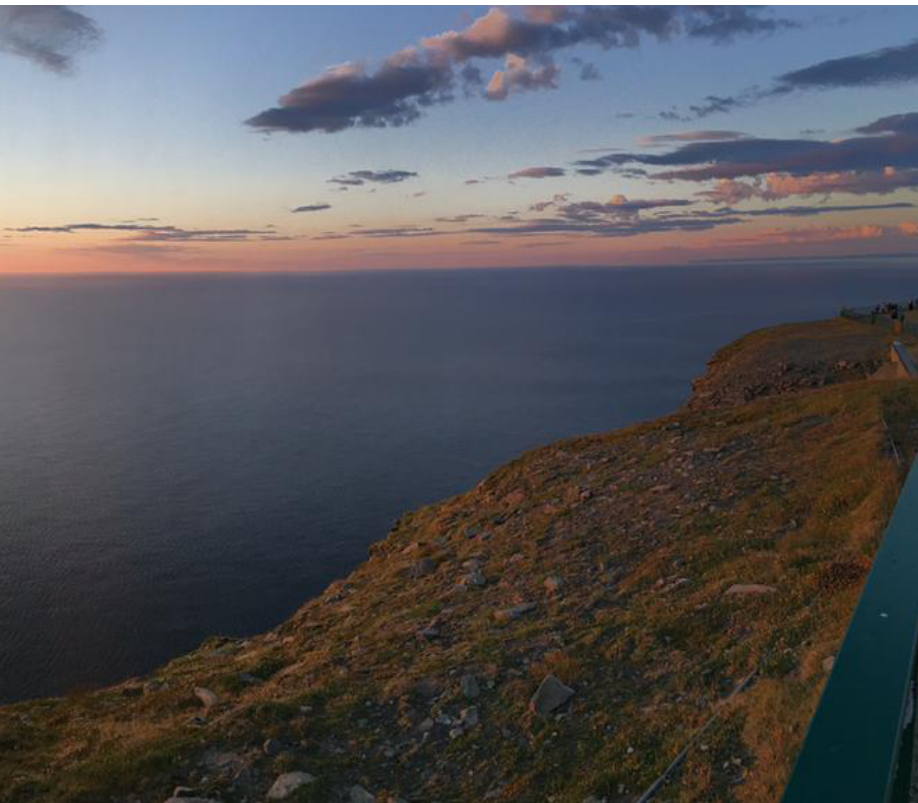
you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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#### 21.4 Tabulars

In General there is no difference in an imgage or tabular or simple text. The object will be saved in a box and then clipped. If the object is a tabular one might modify the tabular if it will be split in the middle of a column. In such a case one can insert some additional horizontal space for this coloumn.





**Figure 60:** A caption for a double-sided image that will be placed on the right side of the right-hand part of the illustration. The illustration begins on the left edge of the paper. A short form is used for the LOF. The parameter is doublePage

The tabular itself can be saved into the internal box \hv0Box or put directly as parameter into the macro.

```
\global\savebox\hv0Box{%
\begin{tabular}{l*{18}r} \toprule
& \textbf{1972} & \textbf{1973} & \textbf{1974} & \textbf{1975} & \textbf{1976} \\
& \textbf{1977} & \textbf{1978} & \textbf{1979} & \textbf{1980} & \textbf{1981} & \textbf{1982} & \textbf{1983} & \textbf{1984} & \textbf{1985} \\
& \textbf{1986} & \textbf{1987} & \textbf{1988} & \textbf{1989} \\
\\ \midrule
\addlinespace[3pt]
Zeile 1 & 1 & 3 & 1 & 1 & 1 & 0 & 1 & 1 & 0 & 0 & 0 & 0 & 20 & 0 & 2 & 2 & 2 & 1 \\
Zeile 2 & 1 & 1 & 3 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 2 & 1 & 3 & 4 & 4 & 6 & 4 & 2 \\
Zeile 3 & 2 & 1 & 2 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 5 & 3 & 1 & 7 & 7 & 3 \\
Zeile 4 & 1 & 0 & 5 & 1 & 2 & 0 & 0 & 0 & 0 & 0 & 2 & 1 & 0 & 1 & 0 & 3 & 7 & 2 & 1 \\
Zeile 6 & 2 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 2 & 0 & 5 & 2 & 2 & 5 & 4 & 2 \\
Zeile 5 & 0 & 0 & 4 & 2 & 1 & 2 & 2 & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 2 & 5 & 4 & 3 \\
Zeile 8 & 0 & 1 & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 3 & 2 & 1 & 2 & 1 & 3 & 5 & 3 & 4 \\
Zeile 9 & 0 & 0 & 0 & 0 & 0 & 1 & 2 & 1 & 0 & 0 & 0 & 0 & 4 & 2 & 1 & 4 & 5 & 2 \\
Zeile10 & 0 & 1 & 3 & 0 & 1 & 0 & 1 & 0 & 0 & 1 & 1 & 0 & 1 & 1 & 1 & 4 & 4 & 1 \\
Zeile11 & 0 & 2 & 2 & 1 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 2 & 6 & 1 & 0 & 2 & 1 & 1 \\
Zeile12 & 2 & 0 & 2 & 4 & 1 & 0 & 4 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 3 \\
Lärm & 2 & 3 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 2 & 0 & 0 & 2 & 2 & 2 \\
Zeile13 & 0 & 1 & 0 & 0 & 1 & 0 & 3 & 0 & 0 & 0 & 0 & 2 & 0 & 1 & 3 & 0 & 2 \\
Zeile14 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 & 3 & 2 & 1 & 1 & 0 \\
Zeile15 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 4 & 0 & 0 & 3 & 1 & 1
```

## 21 Doublepage objects – images and/or tabulars

```
Zeile16 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 & 5 & 0 & 1\\addlinespace[3pt]\midrule
Artikel gesamt & 2 & 6 & 13 & 8 & 4 & 3 & 5 & 4 & 0 & 6 & 3 & 5 & 23 & 10 & 8 & 15 & 13 & 1 \\
\bottomrule
\end{tabular}}
```

```
\hvFloat[doublePage,capWidth=n,capPos=right]%
{table}%
{\usebox\hv0Box}%%%%%%%%%%
[A doublepage tabular with a caption on the right side of the right part.]%
[A caption for a double-sided tabular that will be placed on the right side of the
right-hand part of the illustration. The illustration begins on the left edge of
the paper. A short form is used for the LOF.
The parameter is \texttt{doublePage}}%
{tab:doublePage3}
```

\Blindtext

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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Tab. 9

This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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## 21 Doublepage objects – images and/or tabulars

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983
Zeile 1	1	3	1	1	1	0	1	1	0	0	0	0
Zeile 2	1	1	3	1	0	0	0	0	0	0	2	1
Zeile 3	2	1	2	1	0	0	0	0	0	0	0	1
Zeile 4	1	0	5	1	2	0	0	0	0	2	1	0
Zeile 6	2	1	1	0	0	0	0	0	0	1	2	0
Zeile 5	0	0	4	2	1	2	2	1	0	0	0	1
Zeile 8	0	1	1	0	0	0	1	1	0	3	2	1
Zeile 9	0	0	0	0	0	1	2	1	0	0	0	0
Zeile10	0	1	3	0	1	0	1	0	0	1	1	0
Zeile11	0	2	2	1	1	0	1	0	0	0	0	2
Zeile12	2	0	2	4	1	0	4	0	0	0	0	0
Lärm	2	3	0	0	0	0	0	0	0	0	1	0
Zeile13	0	1	0	0	1	0	3	0	0	0	0	0
Zeile14	0	1	0	0	0	0	0	0	0	0	0	0
Zeile15	0	0	0	0	0	0	0	0	0	1	0	0
Zeile16	0	0	0	0	0	1	0	0	0	0	0	0
Artikel gesamt	2	6	13	8	4	3	5	4	0	6	3	5

There is no need for special content, but the length of words should match the language.

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1984	1985	1986	1987	1988	1989
20	0	2	2	2	1
3	4	4	6	4	2
5	3	1	7	7	3
1	0	3	7	2	1
5	2	2	5	4	2
1	0	2	5	4	3
2	1	3	5	3	4
4	2	1	4	5	2
1	1	1	4	4	1
6	1	0	2	1	1
0	0	0	1	0	3
2	0	0	2	2	2
2	0	1	3	0	2
3	3	2	1	1	0
4	0	0	3	1	1
0	0	3	5	0	1
23	10	8	15	13	1

**Table 9:** A caption for a double-sided tabular that will be placed on the right side of the right-hand part of the illustration. The illustration begins on the left edge of the paper. A short form is used for the LOF. The parameter is doublePage

Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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## 22 References to the page

With the command `\pageref` one can have a reference to the page number of a caption. For the `fullpage` option this can be the wrong page if someone wants a reference to the page where the object is set. Let's assume that we use something like

```
\hvFloatSetDefaults
\hvFloat[fullpage,capPos=evenPage]{figure}%
  {\IncludeGraphics{images/frose}}%
  [A float which needs the complete paper width and height.]%
  {A Caption of a "fullpage" object, which follows on the next page.
   This can be an even or odd page. The object uses the complete paper dimensions}%
  {demo:fullpage}
```

The label `demo:fullpage` is used for the *image* and not for the caption! Internally another label called `demo:fullpage-cap` is set on the caption page which can be before or behind the object (depending to the optional argument of `capPos`). For example:

The caption of figure~\ref{demo:fullpage-cap} is on page~\pageref{demo:fullpage-cap}, but the image itself is on page~\pageref{demo:fullpage}.

The caption of figure 62 is on page 80, but the image itself is on page 81. With package `varioref` it is:

With the package `\pack{varioref}` ([\url{https://ctan.org/pkg/varioref}](https://ctan.org/pkg/varioref)) one can get something like: see figure~\vref{demo:fullpage}, which uses a correct page number of the floating object and not the caption page number which is~\vpageref{demo:fullpage-cap}. The figure~\ref{demo:fullpage} is on page~\pageref{demo:fullpage} and the caption on page~\pageref{demo:fullpage-cap}

With the package `varioref` (<https://ctan.org/pkg/varioref>) one can get something like: see figure 62 on page 81, which uses a correct page number of the floating object and not the caption page number which is on page 80. The figure 62 is on page 81 and the caption on page 80

## 23 Defining a style

With `\hvDefFloatStyle` one can define a special style to get rid of the individual setting:

`\hvDefFloatStyle{name}{setting}`

For example:

```
\hvDefFloatStyle{RightCaption}{floatPos=htb, capWidth=0.5, capPos=after, capVPos=bottom, objectPos=center}
```



**Figure 61:** Caption at bottom right beside the float with a caption width of  $0.5\text{\columnwidth}$ .

```
\hvFloat[style=RightCaption]{figure}{\includegraphics{images/rose}}%
{Caption vertically centered right beside the float with a caption width of
\texttt{0.5\textbackslash columnwidth}.}{fig:style}
```

Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

## 24 Global float setting

Instead of writing the following sequence into the preamble:

```
\makeatletter
\renewcommand\fps@figure{tb}
\renewcommand\fps@table{t}
\makeatother
```

you can change the global setting of floats by loading the package `hvf float-fps`. It allows optional package options to set the global placement:

```
\usepackage[figure=tb,table=t]{hvf float-fps}
```

After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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This is the second paragraph. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no

---

**Figure 62:** A Caption of a “fullpage” object, which follows on the next page. This can be an even or odd page. The object uses the complete paper dimensions



information. Really? Is there no information? Is there a difference between this text and some nonsense like “Huardest gefburn”? Kjift – not at all! A blind text like this gives you information about the selected font, how the letters are written and an impression of the look. This text should contain all letters of the alphabet and it should be written in of the original language. There is no need for special content, but the length of words should match the language.

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## 25 The Package Source

```

1  %% $Id: hvfloat.sty 75 2021-05-04 19:52:22Z herbert $
2  %%
3  %%
4  %% IMPORTANT NOTICE:
5  %%
6  %% This is file 'hvfloat.sty',
7  %%
8  %% Herbert Voss <hvoss@tug.org>
9  %%
10 %% This program can be redistributed and/or modified under the terms
11 %% of the LaTeX Project Public License Distributed from CTAN archives
12 %% in directory macros/latex/base/lppl.txt.
13 %%
14 %% DESCRIPTION:
15 %% 'hvfloat' offers rotating of captions and objects for floats
16 %%
17 \NeedsTeXFormat{LaTeX2e}
18 \def\fileversion{2.22}
19 \def\filedate{2021/05/06}
20 \message{'hvfloat' v\fileversion, \filedate\space (Herbert Voss)}
21 \ProvidesPackage{hvfloat}[\filedate\ rotating of floating objects]
22 \let\hvFloatFileVersion\fileversion
23 %
24 \newif\ifhv@fbox \hv@fboxfalse
25 \newif\ifhv@hyperref \hv@hyperreffalse
26 \DeclareOption{fbox}{\hv@fboxtrue\setlength{\fboxsep}{1pt}}
27 \DeclareOption{hyperref}{\hv@hyperreftrue}
28
29 \ProcessOptions
30
31 \PassOptionsToPackage{hypcap}{caption}
32 \RequirePackage{caption}
33 \PassOptionsToPackage{hypcap}{subcaption}
34 \RequirePackage{subcaption}
35 \RequirePackage{atbegshi,picture,trimclip}
36
37 \RequirePackage{expl3,multido}
38 \RequirePackage{graphicx}
39
40 \RequirePackage{xkeyval}
41 \RequirePackage{ifoddpage}
42 \RequirePackage{afterpage}
43 %\RequirePackage{zref-abspos}
44
45 \ifhv@hyperref
46   \RequirePackage{hyperref}
47   % \RequirePackage{hypcap}
48 \fi
49 %
50 %\unitlength=1cm
51 \providecommand*{\LenToUnit[1]{\strip@pt\dimexpr#1*\p@/\unitlength}

```

```

52
53 \newlength\hvObjectWidth
54 \newlength\hvCapWidth
55 \newlength\hvWideWidth
56 \newlength\hvMultiFloatSkip
57 \newlength\hvMaxCapWidth
58 %\newlength\hv@BottomSpace
59 %\AtBeginDocument{%
60 % \setlength\hv@BottomSpace{\dimexpr\paperheight-1in-\topmargin-\headheight-\headsep-\textheight}}
61
62 \newsavebox\hvObjectBox
63 \newsavebox\hvCaptionBox
64 \newsavebox\hvOBox
65 \newsavebox\@tempbox
66 \newsavebox\hv@caption@box
67 \newsavebox\hv@leftBox
68 \newsavebox\hv@rightBox
69
70 \newif\ifhv@capbeside \hv@capbesidefalse
71
72 \def\hv@Top{top}
73 \def\hv@Bottom{bottom}
74 \def\hv@After{after}
75 \def\hv@Before{before}
76 \def\hv@Right{right}
77 \def\hv@Left{left}
78 \def\hv@Center{center}
79 \def\hv@Outer{outer}
80 \def\hv@Inner{inner}
81 \def\hv@Even{evenPage}
82 \def\hv@Odd{oddPage}
83 \def\hv@Natural{n}
84 \def\hv@Width{w}
85 \def\hv@Height{h}
86 \def\hv@Zero{0}
87 %
88 \def\hv@figure{figure}
89 %
90 \define@key{hvSet}{floatPos}{tbp}{% LaTeX's position parameters http
91 \def\hvSet@floatPos{#1}%
92 }
93 \define@key{hvSet}{rotAngle}{0}{% rotates caption AND image together
94 \def\hvSet@rotAngle{#1}%
95 }
96 \define@key{hvSet}{capWidth}{n}{% (n)atural width|object (w)idth|object (h)eight|<scale of \columnwidth
97 >
98 \def\hvSet@capWidth{#1}%
99 }
100 \define@key{hvSet}{capAngle}{0}{% -360...+360
101 \def\hvSet@capAngle{#1}%
102 }
103

```

## 25 The Package Source

```

104 \define@choicekey*+{hvSet}{capPos}{\val\nr}{bottom,top,left,before,right,after,inner,outer,even,odd}[bottom]{
105     %
106     \def\hvSet@capPos{#1}%          it is relativ to the object, (e),(d) only valid for fullpage float
107     \ifcase\nr\relax
108     \or
109     \hv@capbesidefalse
110     \else
111     \hv@capbesidetrue
112     \fi
113 }{\PackageWarning{hvfloa}{erroneous input (#1) for capPos ignored. Using bottom.}}%
114 \def\hvSet@capPos{bottom}%          it is relativ to the object, (e),(d) only valid for fullpage float
115 \hv@capbesidefalse
116 }
117
118 \define@choicekey*+{hvSet}{capVPos}{\val\nr}{bottom,center,top}[center]{%
119     \def\hvSet@capVPos{#1}%          it is relativ to the object
120 }{\PackageWarning{hvfloa}{erroneous input (#1) for capVPos ignored. Using bottom.}}%
121 \def\hvSet@capVPos{center}%          it is relativ to the object
122 }
123
124 \define@choicekey*+{hvSet}{objectPos}{\val\nr}{left,center,right,inner,outer}[center]{%
125     \def\hvSet@objectPos{#1}%          it is relativ to the object
126 }{\PackageWarning{hvfloa}{erroneous input (#1) for objectPos ignored. Using center.}}%
127 \def\hvSet@objectPos{center}%          it is relativ to the object
128 }
129
130 \newif\ifhv@floatRefToObject
131 \define@choicekey*+{hvSet}{floatRef}{\val\nr}{caption,object}[object]{% where the LOF entry should point to
132     (inactive)
133     \ifcase\nr\relax
134     \hv@floatRefToObjectfalse
135     \else
136     \hv@floatRefToObjecttrue
137     \fi
138 }{\PackageWarning{hvfloa}{erroneous input (#1) for floatRef ignored. Using option object.}}%
139 \hv@floatRefToObjecttrue
140 }
141
142 \define@key{hvSet}{objectAngle}[0]{% -360..+360
143     \def\hvSet@objectAngle{#1}%
144 }
145
146 \define@key{hvSet}{floatCapSep}[5pt]{% a width with the unit pt
147     \def\hvSet@floatCapSep{#1}%
148 }
149
150 \define@key{hvSet}{multiFloatSkip}{\normalbaselineskip}{% a width with the unit pt
151     \setlength\hvMultiFloatSkip{#1}%
152 }
153
154 \define@boolkey{hvSet}{hv@}{useOBox}[true]{}% use of the hvOBox contents
155 \define@boolkey{hvSet}{hv@}{nonFloat}[true]{}% Do not use float environment
156 \define@boolkey{hvSet}{hv@}{onlyText}[true]{}% Write the caption only as text
157 \define@boolkey{hvSet}{hv@}{wide}[true]{}% Write the caption only as text
158 \define@boolkey{hvSet}{hv@}{debug}[true]{}% give more infos in the terminal

```

```

155
156 \newcommand\hv@typeout[1]{\ifhv@debug\typeout{#1}\fi}
157
158 \newif\ifhv@fullpage
159 \newif\ifhv@FULLPAGE
160 \newif\ifhv@doubleFULLPAGE
161 \newif\ifhv@doublePAGE
162 \newif\ifhv@doublePage
163
164 \define@key{hvSet}{fullpage}[true]{\global\@nameuse{hv@fullpage#1}}% wegen \afterpage problem
165 \define@key{hvSet}{FULLPAGE}[true]{\global\@nameuse{hv@FULLPAGE#1}}
166 \define@key{hvSet}{doubleFULLPAGE}[true]{\global\@nameuse{hv@doubleFULLPAGE#1}\hv@doublePagefalse\
    hv@doublePAGEfalse}
167 \define@key{hvSet}{doublePAGE}[true]{\global\@nameuse{hv@doublePAGE#1}\hv@doublePagefalse\
    hv@doubleFULLPAGEfalse}
168 \define@key{hvSet}{doublePage}[true]{\global\@nameuse{hv@doublePage#1}\hv@doublePAGEfalse\
    hv@doubleFULLPAGEfalse}
169
170 \define@boolkey{hvSet}[hv@]{subFloat}[true]{% typeset values as subfloats
171 \ifhv@subFloat\setkeys{hvSet}{multiFloat=false}\fi}
172 }%
173 \define@boolkey{hvSet}[hv@]{multiFloat}[true]{% typeset values as continous floats
174 \ifhv@multiFloat\setkeys{hvSet}{subFloat=false}\fi}
175 }%
176 \define@boolkey{hvSet}[hv@]{separatorLine}[true]{}% separator line for caption of a full page float
177 \define@boolkey{hvSet}[hv@]{objectFrame}[true]{}% a frame around the object with no separation
178 \define@key{hvSet}{style}{%
179 \ifundefined{hv@#1}%
180 {\errmessage{Custom style '#1' undefined}}%
181 {\beginingroup
182 \edef\x{\endgroup\noexpand\setkeys{hvSet}{\@nameuse{hv@#1}}}\x}% use a defined style
183 }
184 \define@key{hvSet}{capFormat}[{}]{\def\hv@caption@format{#1}}%
185 \define@key{hvSet}{subcapFormat}[{}]{\def\hv@subcaption@format{#1}}%
186
187 \def\hv@set#1{\beginingroup\edef\x{\endgroup\noexpand\setkeys{hvSet}{#1}}\x}
188 \let\hvFloatSet\hv@set
189 %
190 \def\defhvvstyle#1#2{\@namedef{hv@#1}{#2}}
191 \let\hvDefFloatStyle\defhvvstyle % better name
192 %
193 \newcommand{\setDefaults}{%
194 \hv@set{%
195 floatPos=, rotAngle=0, capWidth=n, capAngle=0,
196 capPos=bottom, capVPos=center, objectPos=center, objectAngle=0,
197 floatCapSep=5pt, useOBox=false, nonFloat=false,
198 onlyText=false, wide=false, fullpage=false, FULLPAGE=false,
199 doubleFULLPAGE=false, doublePage=false, doublePAGE=false,
200 multiFloat=false, subFloat=false,
201 separatorLine,objectFrame=false,multiFloatSkip=\normalbaselineskip,
202 capFormat={}, subcapFormat={},
203 floatRef=object,
204 }%

```

## 25 The Package Source

```

205 }
206
207 \let\hvFloatSetDefaults\setDefaults
208
209 \newcommand\reset@special@float{%
210   \hv@set{subFloat=false,%fullpage=false,
211     multiFloat=false,%FULLPAGE=false
212   }}
213
214 \def\hv@vskip{\vspace{\hvMultiFloatSkip}}
215
216 %
217 \newlength\hvAboveCaptionSkip
218 \newlength\hvBelowCaptionSkip
219 \newcount\hv@capPos
220
221 \newlength\fbboxlinewidth
222 \AtBeginDocument{%
223   \setlength\fbboxlinewidth{\dimexpr\linewidth-2\fbboxrule-2\fbboxsep}%
224 }
225 \setlength\belowcaptionskip{\abovecaptionskip}% it is in latex.ltx = 0pt
226 \newcommand\saveCaptionSkip{%
227   \setlength{\hvAboveCaptionSkip}{\abovecaptionskip}%
228   \setlength{\hvBelowCaptionSkip}{\belowcaptionskip}%
229   \setlength{\abovecaptionskip}{0pt}%
230   \setlength{\belowcaptionskip}{0pt}%
231 }
232 \newcommand{\restoreCaptionSkip}{%
233   \setlength\abovecaptionskip{\hvAboveCaptionSkip}%
234   \setlength\belowcaptionskip{\hvBelowCaptionSkip}%
235 }
236 %
237 \newcommand\figcaption[2][]{%
238   \def\@captype{figure}%
239   \begingroup
240     \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
241     \if$#1$ \caption{#2}\else\caption[#1]{#2}\fi
242   \endgroup}
243 \newcommand\tabcaption[2][]{\def\@captype{table}%
244   \begingroup
245     \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
246     \ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi
247   \endgroup}
248 %
249 \newlength\hv@maxImageWidth
250 \AtBeginDocument{\hv@maxImageWidth=\columnwidth}
251
252 \define@key{Gin}{fullpage}[true]{%
253   \def\Gin@ewidth{\columnwidth}%
254   \def\Gin@eheight{\textheight}%
255   \Gin@boolkey{false}{iso}%
256 }
257 \define@key{Gin}{FullPage}[true]{%

```

```

258 \def\Gin@ewidth{\textwidth}%
259 \def\Gin@eheight{\textheight}%
260 \Gin@boolkey{false}{iso}%
261 }
262 \define@key{Gin}{FULLPAGE}[true]{%
263 \def\Gin@ewidth{\paperwidth}%
264 \def\Gin@eheight{\paperheight}%
265 \Gin@boolkey{false}{iso}%
266 }
267 \newcommand\IncludeGraphics[2][{}]{%
268 \vspace*{\the\dimexpr-\lin-\voffset+\topskip-\headheight-0.5\baselineskip}%
269 \leavevmode\checkoddpage
270 \ifoddpage
271 \hspace*{\dimexpr-\oddsidemargin-\parindent-\lin}%
272 \else
273 \hspace*{\dimexpr-\evensidemargin-\parindent-\lin}%
274 \fi\noindent
275 \includegraphics[#1,width=\paperwidth,height=\paperheight,keepaspectratio=false]{#2}%
276 }
277
278 \newcommand\put@CaptionBox[1][0]{%
279 \ifcase#1
280 \ifhv@fbox
281 \fbox{\parbox{\wd\hvCaptionBox}{\usebox{\hvCaptionBox}}}%
282 \else
283 \parbox{\wd\hvCaptionBox}{\usebox{\hvCaptionBox}}%
284 \fi
285 \or
286 \ifhv@fbox
287 \fbox{\raisebox{-\height}{\usebox{\hvCaptionBox}}}%
288 \else
289 \raisebox{-\height}{\usebox{\hvCaptionBox}}%
290 \fi
291 \or
292 \ifhv@fbox\fbox{\usebox{\hvCaptionBox}}\else\usebox{\hvCaptionBox}\fi
293 \fi
294 }
295
296 \newcommand\put@ObjectBox[1][0]{%
297 \ifcase#1
298 \ifhv@fbox
299 \fbox{\parbox{\wd\hvObjectBox}{\usebox{\hvObjectBox}}}%
300 \else
301 \parbox{\wd\hvObjectBox}{\ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi}%
302 \fi
303 \or
304 \ifhv@fbox
305 \fbox{\raisebox{-\height}{\usebox{\hvObjectBox}}}%
306 \else
307 \raisebox{-\height}{\ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi}%
308 \fi
309 \or
310 \ifhv@fbox

```

## 25 The Package Source

```

311     \fbox{\usebox{\hvObjectBox}}%
312     \else
313     \ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi%
314     \fi
315 \fi
316 }
317
318 \newif\ifhv@star
319 \newif\ifhv@substar
320 \setDefault
321
322 \def\hvFloat{\ifnextchar*%      Main macro
323     {\global\hv@startrue\hv@maxImageWidth=\textwidth\hvFloat@i}%
324     {\global\hv@starfalse\hv@maxImageWidth=\columnwidth\hvFloat@i*}%
325 }
326
327 %\newcommand*{\hvFloat}[5][+]{%
328 % #1: keyvalues
329 % #2: type figure | table | ...
330 % #3: float contents
331 % #4: short caption
332 % #5: caption
333 % #6: label
334 %
335 \def\hvFloat@i*{\ifnextchar[{\do@hvFloat}{\do@hvFloat[]}}
336 \def\do@hvFloat[#1]{%
337     \begingroup
338     \setlength\hvWideWidth{\dimexpr\textwidth+\marginparwidth+\marginparsep}%
339     % \setlength\hvWideWidth{\dimexpr\linewidth+\marginparwidth}%
340     \hv@maxImageWidth=\textwidth
341     \reset@special@float
342     \setcounter{hv@pfigure}{\value{figure}}%
343     \setcounter{hv@ptable}{\value{table}}%
344     \gdef\hv@save@setting{#1}%
345     \ifx\relax#1\relax\else\setkeys{hvSet}{#1}\fi
346     \gdef\hv@floatType{figure}%
347     \@ifnextchar+{\do@multiFloat}{\hvFloat@ii[#1]}%
348 }
349
350 \ExplSyntaxOn
351
352 \def\do@multiFloat+#1#2{%
353     \clist_set:Nn\l_clist_Type{#1}%
354     \clist_set:Nn\l_clist_Object{#2}%
355     \ifnextchar[{\do@multiFloat@i{\do@multiFloat@i[]}}%
356 }
357 \def\do@multiFloat@i[#1]#2#3{% lof-caption, caption, label
358     \ifx\relax#1\relax
359         \clist_set:Nn\l_clist_LofCaption{#1}%
360     \else
361         \clist_set:Nn\l_clist_LofCaption{#1}%
362     \fi
363     \clist_set:Nn\l_clist_Caption{#2}%

```



```

364 \ifx\relax#3\relax
365 \clist_set:Nn\l_clist_Label{{}}%
366 \else
367 \clist_set:Nn\l_clist_Label{{#3}}%
368 \fi
369 \@ifnextchar+{\do@multiFloat@ii}{}%
370 }
371 \def\do@multiFloat@ii+#1#2{%
372 \clist_put_right:Nn\l_clist_Type{#1}%
373 \clist_put_right:Nn\l_clist_Object{#2}%
374 \@ifnextchar[\do@multiFloat@iii{\do@multiFloat@iii[]}%
375 }
376
377 \def\do@multiFloat@iii[#1]#2#3{% lof-caption, caption, label
378 \ifx\relax#1\relax
379 \clist_put_right:Nn\l_clist_LofCaption{{}}%
380 \else
381 \clist_put_right:Nn\l_clist_LofCaption{#1}%
382 \fi
383 \clist_put_right:Nn\l_clist_Caption{#2}%
384 \ifx\relax#3\relax
385 \clist_put_right:Nn\l_clist_Label{{}}%
386 \else
387 \clist_put_right:Nn\l_clist_Label{#3}%
388 \fi
389 \@ifnextchar+{\do@multiFloat@ii%
390 {\def\hvSet@CapWidth{n}%
391 \do@@@hvFloat}%
392 }
393 \ExplSyntaxOff
394
395
396 \newcounter{hv@pfigure}
397 \newcounter{hv@ptable}
398 \newcounter{subhv@pfigure}
399 \newcounter{subhv@ptable}
400
401 \def\drawSepLine{%
402 \par\noindent
403 \if@twocolumn\rule{\columnwidth}{0.4pt}\else\rule{\linewidth}{0.4pt}\fi
404 \vspace{0pt}%
405 }
406
407 \newcount\hv@cna
408 \newcount\hv@cna
409
410 \def\hvFloat@ii[#1]#2#3{% #1: key/value, #2: floattype, #3: object
411 \hv@maxImageWidth=\textwidth
412 \ifx\relax#1\relax\else\setkeys{hvSet}{#1}\fi
413 \gdef\hv@floatType{#2}%
414 \xdef\hv@floatListOfExt{\@nameuse{ext@\hv@floatType}}%
415 \ifx\relax#2\relax \setkeys{hvSet}{nonFloat=true}\fi
416 \gdef\hv@floatObject{#3}%

```

## 25 The Package Source

```

417 \ifnextchar[{\do@hvFloat}{\do@hvFloat[]}%
418 }
419
420 \def\do@hvFloat[#1]#2#3{%      #1: listof caption, #2: long caption #3: label
421 \gdef\hv@shortCap{#1}%
422 \gdef\hv@longCap{#2}%
423 \gdef\hv@label{#3}%
424 \ifhv@capbeside\def\@temp{1}\else\def\@temp{0}\fi
425 \ifhv@fullpage
426 \def\hvSet@CapWidth{n}% relative value
427 \do@@@hvFloat% fullpage with caption on other page
428 \else
429 \ifhv@FULLPAGE
430 \def\hvSet@CapWidth{n}% relative value
431 \do@@@hvFloat% fullpage with caption on other page
432 \else
433 \ifhv@doubleFULLPAGE
434 \setlength\hvCapWidth{\textheight}%
435 \expandafter\do@hvFloat@doubleFULLPAGE\@temp% fullpage with caption rotated or under on an odd page
436 \else
437 \ifhv@doublePAGE
438 \expandafter\do@hvFloat@doublePAGE\@temp% fullpage with caption rotated or under on an odd page
439 \else
440 \ifhv@doublePage
441 \expandafter\do@hvFloat@doublePage\@temp% fullpage with caption rotated or under on an odd page
442 \else
443 \do@@@hvFloat
444 \fi
445 \fi
446 \fi
447 \fi
448 \fi
449 % \global\hv@capbesidefalse
450 }
451 %
452 \def\do@@@hvFloat{% no special float page, caption and image on top of each other or side by side
453 \def\@tempa{90}%
454 \ifx\hvSet@rotAngle\@tempa
455 \setlength\hvMaxCapWidth{\textheight}%
456 \else
457 \setlength\hvMaxCapWidth{\hvWideWidth}%
458 \fi
459 %
460 % First we save the object in \hvObjectBox
461 %
462 \ifx\hvSet@objectAngle\hv@Zero% rotate the object?
463 \savebox{\hvObjectBox}{\ifhv@useOBox\usebox{\hvOBox}\else\hv@floatObject\fi}%
464 \else
465 \savebox{\hvObjectBox}{%
466 \rotatebox{\hvSet@objectAngle}{%
467 \ifhv@useOBox\usebox{\hvOBox}\else\hv@floatObject\fi
468 }%
469 }%

```

```

470 \fi
471 \setlength\hvObjectWidth{\wd\hvObjectBox}%
472 %
473 % Now we save the caption with its defined \hvCapWidth
474 %
475 \ifx\hvSet@capWidth\hv@Width% captionwidth=objectwidth
476 \setlength\hvCapWidth{\hvObjectWidth}%
477 \else
478 \ifx\hvSet@capWidth\hv@Height% captionwidth=objectheight
479 \setlength\hvCapWidth{\ht\hvObjectBox}%
480 \else
481 \ifx\hvSet@capWidth\hv@Natural% captionwidth=\linewidth-\objectwidth-separation
482 \ifhv@capbeside
483 \ifhv@wide
484 \setlength\hvCapWidth{\the\dimexpr\hvWideWidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
485 \else
486 \ifhv@star
487 \setlength\hvCapWidth{\the\dimexpr\textwidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
488 \else
489 \setlength\hvCapWidth{\the\dimexpr\linewidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
490 \fi
491 \fi
492 \else
493 \setlength\hvCapWidth{\columnwidth}%
494 \fi
495 \else
496 \ifhv@capbeside
497 \ifhv@wide
498 \setlength\hvCapWidth{\hvSet@capWidth\hvWideWidth}%
499 \setlength\@tempdima{\the\dimexpr\hvWideWidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
500 \else
501 \setlength\hvCapWidth{\hvSet@capWidth\columnwidth}%
502 \setlength\@tempdima{\the\dimexpr\columnwidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
503 \fi
504 \ifdim\hvCapWidth>\@tempdima
505 \setlength\hvCapWidth{\@tempdima}%
506 \fi
507 \else
508 \ifhv@wide
509 \setlength\hvCapWidth{\hvSet@capWidth\hvWideWidth}%
510 \else
511 \setlength\hvCapWidth{\hvSet@capWidth\columnwidth}%
512 \fi
513 \fi
514 \fi
515 \fi
516 \fi
517 \saveCaptionSkip% we put this space ourselve
518 \ifx\hvSet@capAngle\hv@Zero% need rotation?
519 \savebox\hvCaptionBox{% NO rotation
520 \begin{minipage}[b]{\hvCapWidth}% minipage, to get hyphenation
521 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
522 \ifhv@nonFloat

```

## 25 The Package Source

```

523 \ifhv@onlyText
524 \hv@longCap
525 \else
526 \ifx\hv@floatType\hv@figure
527 \ifx\relax\hv@shortCap\relax
528 \figcaption{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
529 \else
530 \figcaption[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
531 \fi
532 \else
533 \ifx\relax\hv@shortCap\relax
534 \tabcaption{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
535 \else
536 \tabcaption[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
537 \fi
538 \fi
539 \fi
540 \else
541 \ifhv@onlyText
542 \hv@longCap
543 \else
544 \let\@captype\hv@floatType
545 \expandafter\ifx\expandafter\relax\hv@shortCap\relax
546 \caption{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
547 \else
548 \caption[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
549 \fi
550 % \fi
551 \fi
552 \fi
553 % \expandafter\label\expandafter{\hv@label}% 2.17 put label into the caption argument
554 \end{minipage}%
555 }%
556 \else
557 \savebox\hvCaptionBox{% Rotation
558 \rotatebox{\hvSet@capAngle}{%
559 \begin{minipage}[b]{\hvCapWidth}% minipage, to get hyphenation
560 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
561 \ifhv@nonFloat
562 \ifhv@onlyText
563 \hv@longCap
564 \else
565 \ifx\hv@floatType\hv@figure
566 \ifx\relax\hv@shortCap\relax \figcaption{\hv@longCap}\else\figcaption[\hv@shortCap]{\hv@longCap}\fi
567 \else
568 \ifx\relax\hv@shortCap\relax \tabcaption{\hv@longCap}\else\tabcaption[\hv@shortCap]{\hv@longCap}\fi
569 \fi
570 \fi
571 \else
572 \ifhv@onlyText
573 \hv@longCap

```

```

574         \else
575         \let\@capttype\hv@floatType
576         \expandafter\ifx\expandafter\relax\hv@shortCap\relax
577         \caption{\hv@longCap}\else\caption[\hv@shortCap]{\hv@longCap}%
578         \fi
579     \fi
580 \fi
581 \label{\hv@label}%
582 \end{minipage}%
583 }% rotatebox
584 }% \sbox
585 \fi
586 %
587 % now we have the object and the caption with the right
588 % rotated angles saved in different boxes
589 %%
590 \restoreCaptionSkip% save old values
591 % \def\fps@figure{\hvSet@floatPos}%
592 \ifx\hvSet@floatPos\@empty % use type default
593 \else
594 \@namedef{fps@\hv@floatType}{\hvSet@floatPos}%
595 \fi
596 \ifhv@nonFloat
597 \begin{group} % Start the nonfloat part
598 \else
599 \ifhv@star
600 \@nameuse{\hv@floatType}% Start the floating environment *****
601 \else
602 \begin{\hv@floatType}% Start the floating environment
603 \fi
604 \fi
605 \checkoddpage
606 \ifx\hvSet@objectPos\hv@Right\raggedleft\fi
607 \ifx\hvSet@objectPos\hv@Center
608 \ifhv@nonFloat\hspace*{\fill}\else\centering\fi
609 \fi
610 \ifx\hvSet@objectPos\hv@Outer
611 \ifoddpage\raggedleft\fi
612 \fi
613 \ifx\hvSet@objectPos\hv@Inner
614 \ifoddpage\else\raggedleft\fi
615 \fi
616 %
617 % to rotate object and caption together, we save all in another box
618 % the caption comes first, if its on the left or the top
619 % 0 caption left, inner and odd page, oneside inner
620 % 1 caption top
621 % 2 caption right, inner and even page, oneside outer
622 % 3 caption bottom
623 %
624 \ifx\hvSet@capPos\hv@Left
625 \hv@@capPos=0
626 \else

```

## 25 The Package Source

```

627 \ifx\hvSet@capPos\hv@Top
628 \hv@@capPos=1
629 \else
630 \ifx\hvSet@capPos\hv@Right
631 \hv@@capPos=2
632 \else
633 \ifx\hvSet@capPos\hv@Bottom
634 \hv@@capPos=3
635 \else
636 \ifx\hvSet@capPos\hv@Inner
637 \ifoddpageoroneside\hv@@capPos=0\else\hv@@capPos=2\fi
638 \else
639 \ifx\hvSet@capPos\hv@Outer
640 \ifoddpageoroneside\hv@@capPos=2\else\hv@@capPos=0\fi
641 \else
642 \ifx\hvSet@capPos\hv@Before
643 \hv@@capPos=0% same as capPos=right
644 \else
645 \ifx\hvSet@capPos\hv@After
646 \hv@@capPos=2% same as capPos=right
647 \fi
648 \fi
649 \fi
650 \fi
651 \fi
652 \fi
653 \fi
654 \fi
655 %%%
656 \savebox{\@tempboxa}{% ***** @tempbox start
657 \expandafter\ifcase\the\hv@@capPos% 0 is LEFT START \ifcase
658 \ifx\hvSet@capVPos\hv@Center
659 \put@CaptionBox
660 \hspace{\hvSet@floatCapSep}% capfloatsep
661 \put@ObjectBox
662 \else
663 \ifx\hvSet@capVPos\hv@Top% caption and object at top aligned
664 \put@CaptionBox[1]%
665 \hspace{\hvSet@floatCapSep}% capfloatsep
666 \put@ObjectBox[1]%
667 \else% caption on bottom
668 \put@CaptionBox[2]%
669 \hspace{\hvSet@floatCapSep}% capfloatsep
670 \put@ObjectBox[2]%
671 \fi
672 \fi% end caption left
673 \or%1 is top
674 \ifdim\wd\hvCaptionBox>\wd\hvObjectBox
675 \begin{minipage}{\wd\hvCaptionBox}%
676 \else
677 \begin{minipage}{\wd\hvObjectBox}%
678 \fi
679 \centering

```



```

680     \ifhv@fbox
681     \fbox{\usebox{\hvCaptionBox}}\[\hvBelowCaptionSkip]%
682     \fbox{\usebox{\hvObjectBox}}%
683     \else
684     \usebox{\hvCaptionBox}\[\hvBelowCaptionSkip]%
685     \usebox{\hvObjectBox}%
686     \fi
687     \end{minipage}%
688     \or%2 is right
689     \ifx\hvSet@capVPos\hv@Center
690     \put@ObjectBox
691     \hspace{\hvSet@floatCapSep}%
692     \put@CaptionBox
693     \else
694     \ifx\hvSet@capVPos\hv@Top
695     \put@ObjectBox[1]%
696     \hspace{\hvSet@floatCapSep}% capfloatsep
697     \put@CaptionBox[1]%
698     \else
699     \put@ObjectBox[2]%
700     \hspace{\hvSet@floatCapSep}% capfloatsep
701     \put@CaptionBox[2]%
702     \fi
703     \fi
704     \or%3 bottom
705     \ifdim\wd\hvCaptionBox>\wd\hvObjectBox
706     \begin{minipage}{\wd\hvCaptionBox}%
707     \else
708     \begin{minipage}{\wd\hvObjectBox}%
709     \fi
710     \centering
711     \ifhv@fbox
712     \fbox{\usebox{\hvObjectBox}}\[\hvAboveCaptionSkip]%
713     \fbox{\usebox{\hvCaptionBox}}%
714     \else
715     \ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi\[\hvAboveCaptionSkip]%
716     \usebox{\hvCaptionBox}%
717     \fi
718     \end{minipage}%
719     \fi% \ifcase\the\hv@@capPos
720 }% End savebox Object and caption %%%%%%%%% @tempboxa
721 %
722 % now we rotate the object and caption, if needed
723 %
724 \ifhv@wide
725 \ifoddpageoroneside\else\ifoddpage\else\hspace*{\dimexpr-\marginparwidth-\marginparsep}\fi\fi% <- for
    wide and left page
726 \fi
727 \ifx\hvSet@rotAngle\hv@Zero
728 \usebox{@tempboxa}%
729 \else
730 \rotatebox{\hvSet@rotAngle}{\usebox{@tempboxa}}%
731 \fi

```

## 25 The Package Source

```

732 \ifhv@nonFloat
733 \ifx\hvSet@objectPos\hv@Center
734 \ifhv@nonFloat
735 \hspace{\fill}%
736 \fi
737 \fi
738 \endgroup% End the nonfloat part
739 \else
740 \ifhv@star
741 \@nameuse{end\hv@floatType*}% End the floating environment
742 \else
743 \end{\hv@floatType}% End the floating environment
744 \fi
745 \fi
746 \endgroup% startet at main \hvFloat
747 }
748 %
749 \newenvironment{hvFloatEnv}[1][\textwidth]
750 {\minipage{#1}\center}
751 {\endcenter\endminipage}
752 %
753
754 \ExplSyntaxOn
755 \let\clist@item@Nn\clist_item:Nn
756 \let\l@clist@Type\l_clist_Type
757 \let\l@clist@LofCaption\l_clist_LofCaption
758 \let\l@clist@Label\l_clist_Label
759 \let\clist@count@N\clist_count:N
760 \ExplSyntaxOff
761
762 \def\do@@@hvFloat{% special float page: caption <-> fullpage image
763 \ifx\hvSet@capPos\hv@After \hv@@capPos=1
764 \else
765 \ifx\hvSet@capPos\hv@Even \hv@@capPos=2
766 \else
767 \ifx\hvSet@capPos\hv@Odd \hv@@capPos=3
768 \else
769 \ifx\hvSet@capPos\hv@Inner \hv@@capPos=4
770 \else
771 \ifx\hvSet@capPos\hv@Outer \hv@@capPos=5
772 \else
773 \ifx\hvSet@capPos\hv@Right \hv@@capPos=6% only for twocolumn mode
774 \else
775 \ifx\hvSet@capPos\hv@Left \hv@@capPos=7% only for twocolumn mode
776 \else
777 \hv@@capPos=0
778 \fi
779 \fi
780 \fi
781 \fi
782 \fi
783 \fi
784 \fi

```

```

785 \checkoddpage
786 \set@caption@object% set caption and object into a box
787 \ifcase\hv@capPos% caption before object 0-> _always_ left
788 \setBottomCaption\setPageObject
789 \or% caption after object 1-> _always_ right
790 \setPageObject\setBottomCaption
791 \or% caption on even page 2-> left page
792 \ifoddpage
793 \afterpage{\setBottomCaption\setPageObject}%
794 \else% we are on an even page
795 % \zsaveposy{hv@currentPos}%
796 % \ifdim\the\dimexpr\zposy{hv@currentPos}sp-\hv@BottomSpace-1cm>\ht\TBox % enough space*
797 \setBottomCaption\setPageObject
798 % \else
799 % \afterpage{\afterpage{\setBottomCaption\setPageObject}}%
800 % \fi
801 \fi
802 \or% caption on odd page 3->right page
803 \if@twoside
804 \if@twocolumn
805 \ifoddpage
806 \if@firstcolumn% on right side
807 \setBottomCaption\setPageObject
808 \else
809 \afterpage{\setPageObject\setBottomCaption}% start next column
810 \fi
811 \else% left (even) page
812 \if@firstcolumn
813 \afterpage{\setPageObject\setBottomCaption}% start next column
814 \else
815 \setPageObject\setBottomCaption
816 \fi
817 \fi
818 \else% onecolumn
819 \ifoddpage
820 \setPageObject\setBottomCaption
821 \else% even page
822 \afterpage{\setPageObject\setBottomCaption}%
823 \fi
824 \fi
825 \else% oneside
826 \if@twocolumn
827 \ifoddpage
828 \if@firstcolumn% on right side
829 \setBottomCaption\setPageObject
830 \else
831 \setPageObject\setBottomCaption
832 \fi
833 \else
834 \if@firstcolumn% on left side
835 \afterpage{\setPageObject\setBottomCaption}%
836 \else
837 \setPageObject\setBottomCaption

```

## 25 The Package Source

```

838     \fi
839   \fi
840   \else % onecolumn
841     \ifoddpage
842       \setBottomCaption\setPageObject
843     \else
844       \afterpage{\setBottomCaption\setPageObject}%
845     \fi
846   \fi
847 \fi
848 \or%          caption on the inner column 4->inner
849 \set@caption@object
850 \if@twocolumn
851   \ifoddpage
852     \if@firstcolumn% on right side
853       \setBottomCaption\setPageObject
854     \else          % right column on right side
855       \setPageObject\setBottomCaption% start next firstcolumn next page
856     \fi
857   \else
858     \if@firstcolumn% on left side
859       \afterpage{\afterpage{\setBottomCaption\setPageObject}}% start next page/first column
860     \else% left page/column
861       \setBottomCaption\setPageObject% start on same page/column
862     \fi
863   \fi
864 \else% onecolumn
865   \setBottomCaption\setPageObject
866 \fi
867 \or%          caption on the outer column 5->outer
868 \set@caption@object
869 \if@twocolumn
870   \ifoddpage
871     \if@firstcolumn
872       \afterpage{\afterpage{\setBottomCaption\setPageObject}}%
873     \else
874       \afterpage{\setBottomCaption\setPageObject}%
875     \fi
876   \else% even page (left)
877     \if@firstcolumn
878       \setBottomCaption\setPageObject
879     \else
880 %%%          !!!! to-do: !!!!
881     \fi
882   \fi
883 \else% onecolumn
884   \setBottomCaption\setPageObject
885 \fi
886 \or%          caption after object on same page 6->right for twocolumn
887 \if@twocolumn
888   \if@firstcolumn
889     \afterpage{\setPageObject\setBottomCaption}%
890   \else

```

```

891     \setPageObject\setBottomCaption
892     \fi
893     \else% always caption _after_ object for onecolumn
894         \setPageObject\setBottomCaption
895     \fi
896 \or% caption before object on same page 7->left for twocolumn
897     \if@twocolumn
898         \if@firstcolumn
899             \setBottomCaption\setPageObject
900         \else
901             \afterpage{\setBottomCaption\setPageObject}%
902         \fi
903     \else% onecolumn -> same as before
904         \setBottomCaption\setPageObject
905     \fi
906 \fi
907 \endgroup% startet at main \hvFloat
908 }
909 %
910 %
911 \def\do@hvFloat@doublePage#1{% image on left and right page with caption on the right
912     -----
913     % #1-> 0/1 caption under/right
914     \checkoddpage
915     \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
916     \ifoddpage
917     \afterpage{%
918         \noindent
919         \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
920         \global\@tempdima=\dimexpr\paperwidth-lin-\evensidemargin\relax
921         \clipbox*{0 -\depth}{\@tempdima}{\height}{\usebox{\hvObjectBox}%
922         \par\bigskip
923         \afterpage{%
924             \newpage
925             \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
926             \hspace*{\dimexpr-lin-\oddsidemargin-\parindent}%
927             \clipbox*{\@tempdima}{-\depth}{\width}{\height}{\usebox{\hvObjectBox}%
928             \ifnum#1>0
929                 \medskip
930                 \ifdim\dp\hvObjectBox > \z@
931                     \rotatebox[origin=c]{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
932                         \ifx\hv@shortCap\@empty
933                             \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
934                         \else
935                             \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
936                         }}%
937                     \fi
938                 }}%
939             \else
940                 \rotatebox{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
941                     \ifx\hv@shortCap\@empty
942                         \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
943                     \else

```

```

942         \captionof{\hv@floatType}[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label
          }}%
943     \fi
944 }}%
945 \fi
946 \else
947     \ifx\hv@shortCap\empty
948         \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
949     \else
950         \captionof{\hv@floatType}[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
951     \fi
952 \fi
953 }%
954 }%
955 \else
956     \afterpage{%
957         \afterpage{%
958             \newpage
959 %             \noindent\null
960             \global\savebox{\hv0objectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
961             \global\@tempdima=\dimexpr\paperwidth-1in-\evensidemargin\relax{}
962             \hspace*{\@tempdima}%
963             \clipbox*{0 -\depth{} \@tempdima{} \height}{\usebox{\hv0objectBox}%
964             \par\bigskip
965             \afterpage{%
966                 \global\savebox{\hv0objectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
967                 \noindent
968                 \hspace*{\dimexpr-1in-\marginparwidth}%
969                 \clipbox*{\@tempdima{} -\depth{} \width{} \height}{\usebox{\hv0objectBox}%
970                 \ifnum#1>0
971                     \medskip
972                     \ifdim\dp\hv0objectBox > \z@
973                         \rotatebox[origin=c]{90}{\parbox{\the\dimexpr\ht\hv0objectBox+\dp\hv0objectBox}{%
974                             \ifx\hv@shortCap\empty
975                                 \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
976                             \else
977                                 \captionof{\hv@floatType}[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label
978                                     }}%
979                             \fi
980                         }}%
981                     \else
982                         \rotatebox{90}{\parbox{\the\dimexpr\ht\hv0objectBox+\dp\hv0objectBox}{%
983                             \ifx\hv@shortCap\empty
984                                 \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
985                             \else
986                                 \captionof{\hv@floatType}[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label
987                                     }}%
988                             \fi
989                         \else
990                             \ifx\hv@shortCap\empty
991                                 \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%

```



```

992         \else
993         \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
994         \fi
995     \fi
996 }}}%
997 \fi
998 \endgroup
999 }
1000
1001 \def\do@hvFloat@doublePAGE#1{% image on left and right page with caption on the right
-----
1002 % #1-> 0/1 caption under/right
1003 \hv@typeout{>>>>do@hvFloat@doublePAGE}%
1004 \checkoddpages
1005 \ifoddpage
1006 \afterpage{%
1007     \newpage
1008     \global\savebox{\hv0objectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
1009     \hspace*{\the\dimexpr-\evensidemargin-\parindent-1in}%
1010     \clipbox*{0 -\depth{} \paperwidth{} \height}{\usebox{\hv0objectBox}}%
1011     \newpage
1012     \global\savebox{\hv0objectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
1013     \hspace*{\the\dimexpr-\oddsidemargin-\parindent-1in}%
1014     \clipbox*{\paperwidth{} -\depth{} \width{} \height}{\usebox{\hv0objectBox}}%
1015     \ifnum#1>0
1016         \medskip
1017         \ifdim\dp{\hv0objectBox} > \z@
1018             \rotatebox[origin=c]{90}{\parbox{\the\dimexpr\ht{\hv0objectBox}+\dp{\hv0objectBox}{%
1019                 \ifx\hv@shortCap\@empty
1020                     \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1021                 \else
1022                     \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1023                 }}%
1024             \fi
1025         \else
1026             \rotatebox{90}{\parbox{\the\dimexpr\ht{\hv0objectBox}+\dp{\hv0objectBox}{%
1027                 \ifx\hv@shortCap\@empty
1028                     \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1029                 \else
1030                     \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1031                 }}%
1032             \fi
1033         \fi
1034     \else
1035         \ifx\hv@shortCap\@empty
1036             \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1037         \else
1038             \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1039         \fi
1040     \fi
1041     \newpage

```

## 25 The Package Source

```

1042 }%
1043 \else
1044 \afterpage{%
1045 \AddToHookNext{shipout/before}{%
1046 % \newpage
1047 \global\savebox{\hvObjectBox}{\ifhv@useOBox\usebox{\hvOBox}\else\hv@floatObject\fi}%
1048 \hspace*{\the\dimexpr-\evensidemargin-\lin-\parindent}%
1049 \clipbox*{0 -\depth{\paperwidth{\height}{\usebox{\hvObjectBox}}}%
1050 \newpage
1051 \global\savebox{\hvObjectBox}{\ifhv@useOBox\usebox{\hvOBox}\else\hv@floatObject\fi}%
1052 \hspace*{\the\dimexpr-\lin-\oddsidemargin-\parindent\relax}%
1053 \clipbox*{\paperwidth{\depth{\width{\height}}}{\usebox{\hvObjectBox}}}%
1054 \ifnum#1>0 % caption right and rotated
1055 \medskip
1056 \ifdim\dp\hvObjectBox > \z@
1057 \rotatebox[origin=c]{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
1058 \ifx\hv@shortCap\@empty
1059 \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1060 \else
1061 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1062 \fi
1063 }}%
1064 \else
1065 \rotatebox{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
1066 \ifx\hv@shortCap\@empty
1067 \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1068 \else
1069 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1070 \fi
1071 }}%
1072 \fi
1073 \else
1074 \ifx\hv@shortCap\@empty
1075 \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1076 \else
1077 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1078 \fi
1079 \fi
1080 \newpage
1081 }}%
1082 \fi
1083 \endgroup
1084 }
1085 %
1086 \def\do@hvFloat@doubleFULLPAGE#1{% image on left and right page with caption on the right
-----
1087 % #1-> 0/1 caption under/right
1088 \hv@typeout{>>>>\do@hvFloat@doubleFULLPAGE}%
1089 \checkoddpage
1090 \global\savebox{\hvObjectBox}{\ifhv@useOBox\usebox{\hvOBox}\else\hv@floatObject\fi}%
1091 \ifoddpage

```

```

1092 \hv@typeout{>>>>doubleFULLPAGE->oddpage}%
1093 \afterpage{%
1094   \global\savebox{\hv0objectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
1095   \beginingroup
1096   \nointerlineskip
1097   \vspace*{\the\dimexpr-\lin-\voffset-\topmargin-\headheight-\headsep-\baselineskip+2\lineskip}% no
       interlineskip
1098   \hspace*{\the\dimexpr-\evensidemargin-\parindent-\lin}%
1099   \endgroup
1100   \AtBeginShipoutNext{\thispagestyle{empty}}%
1101   \clipbox*{0 0 \paperwidth{\height}}{\usebox{\hv0objectBox}}%
1102   \newpage
1103   \AtBeginShipoutNext{\thispagestyle{empty}}%
1104   \beginingroup
1105   \nointerlineskip
1106   \vspace*{\the\dimexpr-\lin-\voffset-\topmargin-\headheight-\headsep-\baselineskip+2\lineskip}%
       -0.5\paperheight+0.5\ht\hv0objectBox
1107   \hspace*{\the\dimexpr-\oddsidemargin-\parindent-\lin}%
1108   \endgroup
1109   \clipbox*{\paperwidth{\height}\wd\hv0objectBox}{\paperheight}}{\usebox{\hv0objectBox}}%
1110   \savebox{\hvCaptionBox}{\parbox{0.9\ht\hv0objectBox}{%
1111     \captionof*{\hv@floatType}{\hv@longCap}}}%
1112   \captionof*{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}%
1113   \ifnum#1>0
1114     \ifdim\dimexpr\ht\hvCaptionBox+\wd\hv0objectBox\relax < 2\paperwidth
1115       \hv@typeout{>>>>doubleFULLPAGE->oddpage->floatRefTo0Object=false}%
1116       \rotatebox{90}{\qqquad\parbox{0.9\ht\hv0objectBox}{%
1117         \if$\hv@shortCap$
1118           \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}%
1119         \else
1120           \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}%
1121         \fi
1122       }}%
1123     \fi
1124   \else
1125     \put(-\ht\hvCaptionBox,0.5\ht\hv0objectBox){\makebox(0,0){\rotatebox{90}{\minipage{\textwidth}\
       centering
1126       \parbox{0.8\textwidth}{%
1127         \hv@typeout{>>>>doubleFULLPAGE->oddpage->#1<0->floatRefTo0Object=false}%
1128         \ifx\relax\hv@shortCap\relax
1129           \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}%
1130         \else
1131           \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\
             hv@label}}}%
1132         \fi
1133       }}%
1134     \endminipage}}}%
1135   \fi
1136 \else
1137   \ifx\relax\hv@shortCap\relax
1138     \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1139   \else

```

## 25 The Package Source

```

1140         \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1141         \fi
1142     \fi
1143     \newpage
1144 }%
1145 \else
1146     \hv@typeout{>>>>doubleFULLPAGE->evenpage}%
1147     \afterpage{%
1148         \AddToHookNext{shipout/before}{%
1149             \newpage
1150             \AddToHook{begin/page}{\thispagestyle{empty}}
1151             \global\savebox{\hv0objectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
1152             \begingroup
1153             \nointerlineskip
1154             \vspace*{\the\dimexpr-\lin-\voffset-\topmargin-\headheight-\headsep-\baselineskip+2\lineskip}% no
1155                 interlineskip
1156             \hspace*{\the\dimexpr-\evensidemargin-\parindent-\lin}%
1157             \endgroup
1158             \AtBeginShipoutNext{\thispagestyle{empty}}%
1159             \clipbox*{0 0 \paperwidth{} \paperheight}{\usebox{\hv0objectBox}%
1160             \newpage
1161             \begingroup
1162             \nointerlineskip
1163             \vspace*{\the\dimexpr-\lin-\voffset-\topmargin-\headheight-\headsep-\baselineskip+2\lineskip}% no
1164                 interlineskip
1165             \hspace*{\the\dimexpr-\oddsidemargin-\parindent-\lin}%
1166             \endgroup
1167             \clipbox*{\paperwidth{} 0 \wd{\hv0objectBox} \paperheight}{\usebox{\hv0objectBox}%
1168             \AtBeginShipoutNext{\thispagestyle{empty}}%
1169             \savebox{\hvCaptionBox}{\parbox{0.9\ht{\hv0objectBox}}{\captionof*{\hv@floatType}{\hv@shortCap}{\hv@longCap}}}%
1170             \captionof*{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}%
1171             \ifnum#1>0
1172                 \ifdim\dimexpr\ht{\hvCaptionBox}+\wd{\hv0objectBox}\relax < 2\paperwidth
1173                     \rotatebox{90}{\minipage{\the\ht{\hv0objectBox}}\centering\parbox{0.75\textwidth}{%
1174                         \ifx\hv@shortCap\@empty
1175                             \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1176                         \else
1177                             \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1178                         }%
1179                     }%
1180                     \fi
1181                 \else% no space on the right, put it over the imag
1182                     \put(-\ht{\hvCaptionBox},0.5\ht{\hv0objectBox}){\makebox(0,0){\rotatebox{90}{\minipage{\the\dimexpr\ht
1183                         \hv0objectBox}%
1184                         \centering\parbox{0.8\textwidth}{%
1185                             \ifx\hv@shortCap\@empty
1186                                 \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1187                             \else
1188                                 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1189                             }%
1190                         }%
1191                     }%
1192                 \fi
1193             \fi
1194         }%
1195     }%
1196 \fi

```

```

1187         }%
1188         \endminipage}}}%
1189     \fi
1190     \else
1191         \ifx\hv@shortCap\@empty
1192             \captionof{\hv@floatType}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1193         \else
1194             \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
1195         \fi
1196     \fi
1197     \newpage
1198 }%
1199 }%
1200 \fi
1201 \endgroup
1202 }
1203
1204 \def\setBottomCaption{%
1205     \begin{\hv@floatType}[!b]%
1206     \ifhv@separatorLine\drawSepLine\fi
1207     \par
1208     \usebox\hvCaptionBox
1209     \end{\hv@floatType}%
1210 }
1211
1212 \def\setPageObject{%
1213     \ifhv@star
1214         \begin{\hv@floatType*}[p]%
1215     \else
1216         \begin{\hv@floatType}[p]%
1217     \fi
1218     \ifhv@FULLPAGE
1219         \vspace*{\the\dimexpr-\voffset-\topmargin-\headheight-\headsep}%-0.5\baselineskip%
1220         \checkoddpages
1221         \if@twoside
1222             \ifoddpage
1223                 \hspace*{\the\dimexpr-\oddsidemargin-\parindent-\lin}%
1224             \else
1225                 \hspace*{\the\dimexpr-\evensidemargin-\parindent-\lin}%
1226             \fi
1227         \else
1228             \hspace*{\the\dimexpr-\oddsidemargin-\parindent-\lin}%
1229         \fi
1230         %\put(0,0){%
1231         \AtBeginShipoutNext{\thispagestyle{empty}}%
1232         \usebox\hvObjectBox}%
1233     \else
1234         \usebox\hvObjectBox
1235     \fi
1236     \ifhv@star
1237         \end{\hv@floatType*}%
1238     \else
1239         \end{\hv@floatType}%

```

## 25 The Package Source

```

1240   \fi
1241 }
1242
1243 \ExplSyntaxOn
1244
1245 \def\getMultiCaptionAndLabel{%
1246   \global\sbox\hvCaptionBox{\minipage[b]{\linewidth}%
1247     \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
1248     \setlength\belowcaptionskip{5pt}%
1249     \setlength\abovecaptionskip{0pt}%
1250     \hv@cntb=\clist_count:N\l_clist_Type
1251     \advance\hv@cntb by \@ne
1252     \hv@cнта=1
1253     \loop
1254       \edef\@captype{\clist_item:Nn\l_clist_Type{\hv@cнта}}%
1255       \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{\hv@cнта}}%
1256       \ifx\@tempa\@empty
1257         \caption{\clist_item:Nn\l_clist_Caption{\hv@cнта}}%
1258       \else
1259         \expandafter\caption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{\hv@cнта}}%
1260       \fi
1261       \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cнта}}%
1262       \ifx\@tempa\@empty
1263       \else
1264         \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cнта}-cap}\fi
1265       \advance\hv@cнта by \@ne
1266       \ifnum\hv@cнта<\hv@cntb
1267       \repeat
1268   \endminipage}%
1269 }
1270 \def\getMultiObjectAndLabel{%
1271   \global\sbox\hvObjectBox{\minipage{\linewidth}%
1272     \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
1273     \ifx\hvSet@objectPos\hv@Right\raggedleft\else
1274     \ifx\hvSet@objectPos\hv@Left\raggedleft\else
1275     \ifx\hvSet@objectPos\hv@Center\centering
1276     \fi\fi\fi
1277     \hv@cntb=\clist_count:N\l_clist_Type
1278     \advance\hv@cntb by \@ne
1279     \hv@cнта=1
1280     \loop
1281       \def\@temp{\clist_item:Nn\l_clist_Object{\hv@cнта}}%
1282       \ifhv@objectFrame\frame{\@temp}\else\@temp\fi
1283       \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cнта}}%
1284       \ifx\@tempa\@empty
1285       \else
1286         \refstepcounter{\@captype}%
1287         \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cнта}}%
1288       \fi
1289       \ifnum\hv@cнта<\clist_count:N\l_clist_Type\par\hv@vskip\fi
1290       \advance\hv@cнта by \@ne
1291     \ifnum\hv@cнта<\hv@cntb
1292     \repeat

```

```

1293 \endminipage}%
1294 }
1295
1296 \def\getMultiSubCaptionAndLabel{%
1297 \global\sbox\hvCaptionBox{\minipage{\linewidth}%
1298 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
1299 \setlength\belowcaptionskip{5pt}%
1300 \setlength\abovecaptionskip{0pt}%
1301 \xdef\@captive{\clist_item:Nn\l_clist_Type{1}}% the same for all subfloats
1302 \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{1}}%
1303 \ifx\@tempa\@empty
1304 \caption{\clist_item:Nn\l_clist_Caption{1}}%
1305 \else
1306 \expandafter\caption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{1}}%
1307 \fi
1308 \edef\@tempa{\clist_item:Nn\l_clist_Label{1}}%
1309 \ifx\@tempa\@empty\else\expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{1}-cap}\fi
1310 \endminipage}%
1311 }
1312
1313 \def\getMultiSubObjectAndLabel{%
1314 \global\sbox\hvObjectBox{\minipage{\linewidth}%
1315 \ifx\relax\hv@subcaption@format\relax\else\captionsetup[sub]{\hv@subcaption@format}\fi
1316 \ifx\hvSet@objectPos\hv@Right\raggedleft\else
1317 \ifx\hvSet@objectPos\hv@Left\raggedleft\else
1318 \ifx\hvSet@objectPos\hv@Center\centering
1319 \fi\fi\fi
1320 \hv@cntb=\clist_count:N\l_clist_Caption
1321 \advance\hv@cntb by \@ne
1322 \hv@cna=2
1323 \xdef\@captive{\clist_item:Nn\l_clist_Type{1}}% the same for all subfloats
1324 \loop
1325 \def\@temp{\clist_item:Nn\l_clist_Object{\hv@cna}}%
1326 \ifhv@objectFrame\frame{\@temp}\else\@temp\fi
1327 \begingroup
1328 \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{\hv@cna}}%
1329 \ifx\@tempa\@empty
1330 \subcaption{\clist_item:Nn\l_clist_Caption{\hv@cna}}%
1331 \else
1332 \expandafter\subcaption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{\hv@cna}}%
1333 \fi
1334 \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cna}}%
1335 \ifx\@tempa\@empty
1336 \else
1337 \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cna}}%
1338 \fi
1339 \endgroup
1340 \ifnum\hv@cna<\clist_count:N\l_clist_Type\par\hv@vskip\fi
1341 \advance\hv@cna by \@ne
1342 \ifnum\hv@cna<\hv@cntb
1343 \repeat
1344 \edef\@tempa{\clist_item:Nn\l_clist_Label{1}}% the main label at the end
1345 \ifx\@tempa\@empty

```



## 25 The Package Source

```

1346     \else
1347       \refstepcounter{\@capttype}
1348       \expandafter\label\expandafter{\@tempa}%
1349     \fi
1350   \endminipage}%
1351 }
1352 \ExplSyntaxOff
1353
1354 \def\getSingleCaptionAndLabel{%
1355   \global\sbox\hvCaptionBox{\minipage{\linewidth}%
1356     \if\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
1357     \setlength\belowcaptionskip{5pt}%
1358     \setlength\abovecaptionskip{0pt}%
1359     \edef\@capttype{\hv@floatType}%
1360     \expandafter\ifx\expandafter\relax\hv@shortCap\relax
1361       \caption{\hv@longCap}%
1362     \else
1363       \caption[\hv@shortCap]{\hv@longCap}%
1364     \fi
1365     \expandafter\ifx\expandafter\relax\hv@label\relax\else\label{\hv@label-cap}\fi
1366   \endminipage}%
1367 }
1368
1369 \def\set@caption@object{%   first caption, then object
1370   \ifhv@multiFloat
1371     \getMultiCaptionAndLabel
1372   \else
1373     \ifhv@subFloat
1374       \getMultiSubCaptionAndLabel
1375     \else
1376       \getSingleCaptionAndLabel
1377     \fi
1378   \fi
1379   \edef\@capttype{\hv@p\hv@floatType}%
1380   \ifhv@multiFloat
1381     \getMultiObjectAndLabel
1382   \else
1383     \ifhv@subFloat
1384       \getMultiSubObjectAndLabel
1385     \else
1386       \global\sbox\hvObjectBox{%
1387         \refstepcounter{\@capttype}%
1388         \ifhv@objectFrame\frame{\hv@floatObject}\else\hv@floatObject\fi
1389         \expandafter\ifx\expandafter\relax\hv@label\relax
1390           \else
1391             \expandafter\label\expandafter{\hv@label}%
1392           \fi
1393       }%
1394     \fi
1395   \fi
1396 }
1397 %
1398 \endinput

```