

Package hvfloat

Rotating and scaling of objects and captions ver 2.18

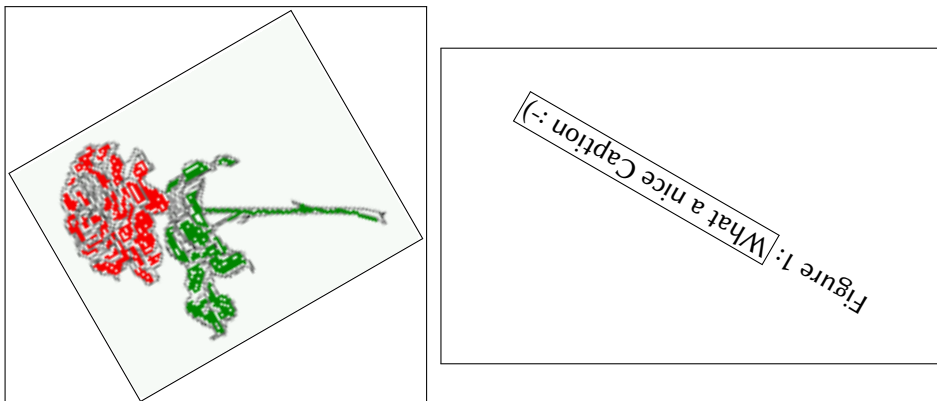
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The package hvfloat defines a macro to place objects and captions of floats in different positions with different rotating angles.

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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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 \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 `\setDefault`s, `\hvSet`, and `\hvFloat` is

```
\hvset{key=value list}
\setDefault
\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.

`\hvSet` allows the global setting of keywords and `\setDefault`s 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 `\defhvstyle` one can define a style which can be used instead of the individual setting:

`\defhvstyle{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>htb</code>	This is <i>not</i> the same default placement setting like the one from the floats.
<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>before</code>	The position of the caption relative to the object. Possible values are before: <i>always</i> before (left) from 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. right: <i>always</i> after (right) from the object, but on the <i>same page</i> in twocolumn mode. inner: in twoside mode always typeset at the inner margin. outer: in twoside mode always typeset at the outer margin. evenPage: in twoside mode with fullpage objects always on an even page. oddPage: in twoside mode with fullpage objects always on an odd page.
<code>capVPos</code>	<code>c</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 (l) eft (c)enter (r)ight.
<code>objectAngle</code>	<code>0</code>	The value for the angle if the object should be rotated. Counted anti clockwise.

Keyword	Default	Description
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 <code>\hvFloat</code> , the contents maybe saved in the box <code>\hv0Box</code> . With <code>use0Box=true</code> the contents of this box will be used.
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 <code>\textwidth+\marginparwidth</code> 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 <code>\caption</code> (see documentation of package <code>caption</code>).
subcapFormat	–	Define formatting options for <code>\subcaption</code> .

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}
```



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

Code for figure 2:

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

Code for table 3:

`float`

4 Caption width

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
\setDefault	command	sets all options to the defaults
\defhvstyle	command	define a user style

```
\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{setDefault} & command & sets all options to the defaults\\
\CMD{defhvstyle} & 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}
```



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

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}}
%
```



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

{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}

float

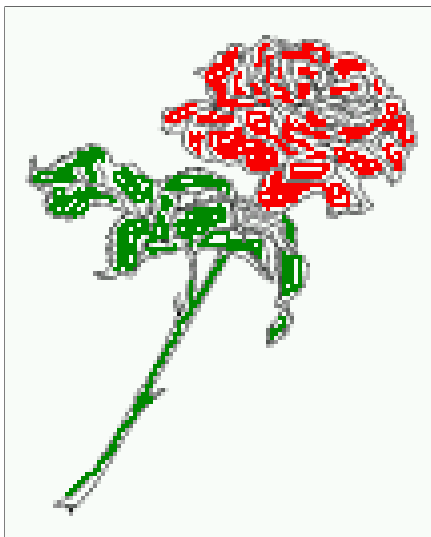


Figure 4: Caption right beside with a *natural* width, which is given by the width of the object, the separation between object and caption, and the current linewidth.

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.

```
\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}
```

float

4 Caption width



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\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  $0.9\text{\textbackslashlinewidth}$   
which is too big for this example and therefore corrected  
by the macro to the maximal width.}{fig:width3}
```

float

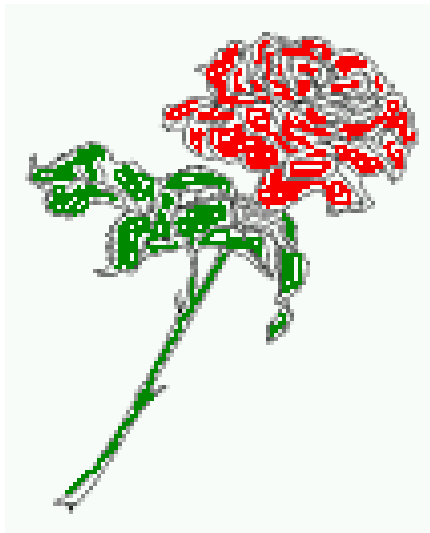
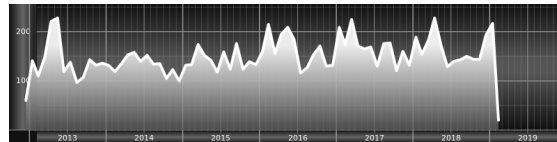


Figure 6: Caption right beside with a width setting of 0.9\linewidth which is too big for this example and therefore corrected by the macro to the maximal width.

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}
```



float

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}
```

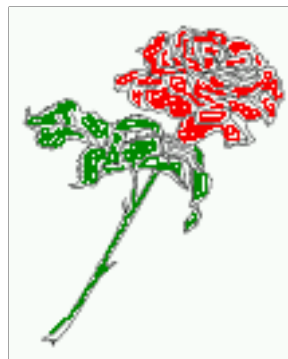


Figure 8: Caption beside with a width of the given object height which may be a problem if it is a very small object.

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}
```

float
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}
```

float
capAngle=90

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}
```

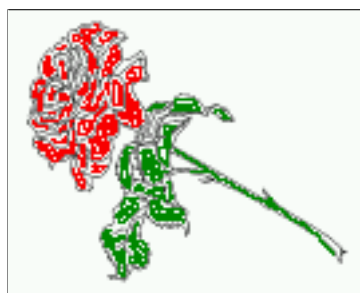


Figure 11: Caption vertically centered right beside the float with a caption width of the height of the image and a rotation of the caption and the object.

float

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}
```

float
capPos=inner



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}
```

floatfloat
capPos=outer

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}
```

float

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}
```

float



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}
```

float

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}
```

float



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}
```

float



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}
```

float



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` :

float
capPos=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.

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



float

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}
```

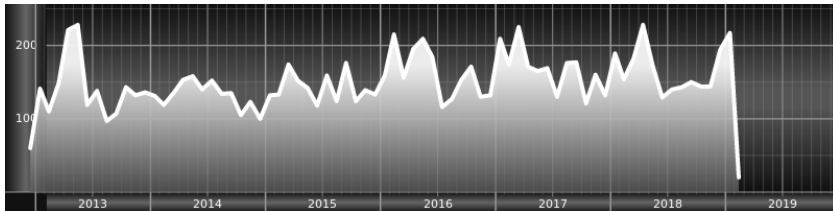
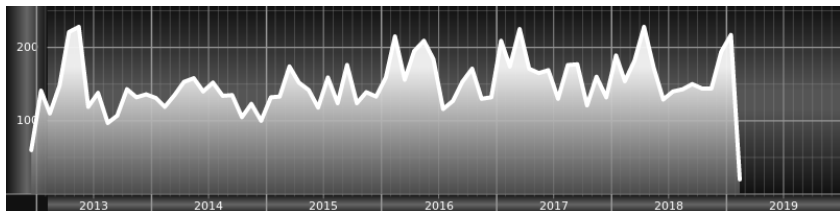


Figure 23: Caption at top right beside the float and object position left and the option wide.

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}
```

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



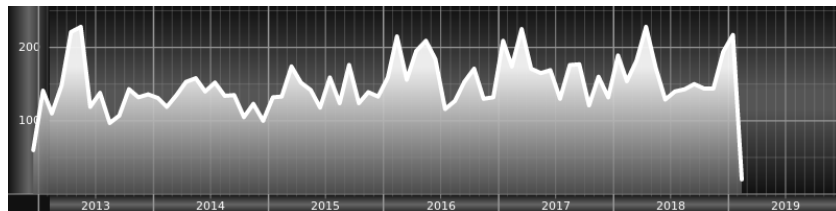
For a twosided document it will place the object always in the margin.

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.

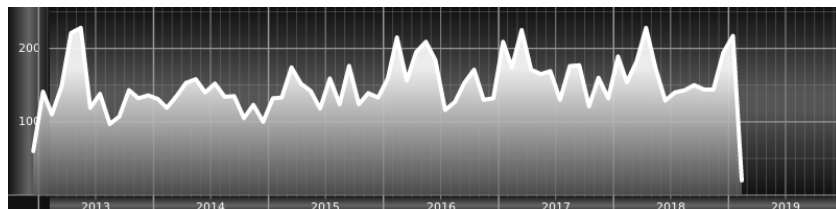


Now we set the same image with the same setting on the next page. The caption will change its side due to the setting `capPos=outer`.

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}.}{fig:811}
```

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

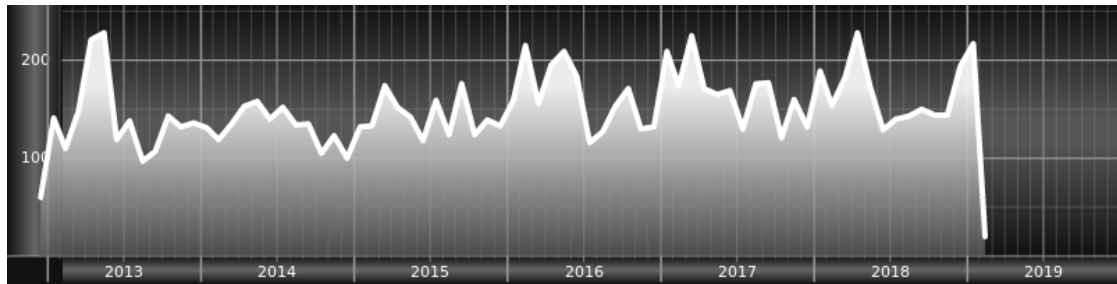


The caption can be typeset completely into the margin with:

```
\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:812}
```

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.

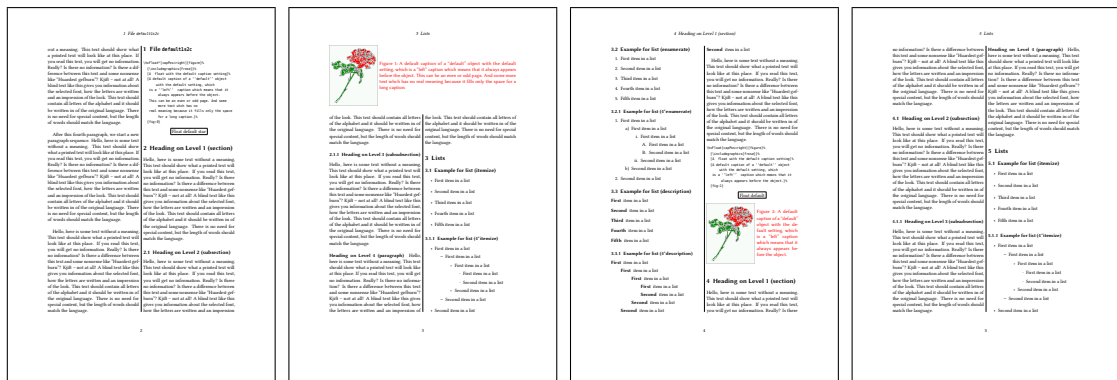


Figure 28: Output of default1s2c (pages 2–5)

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.

float landscape

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.

float

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.

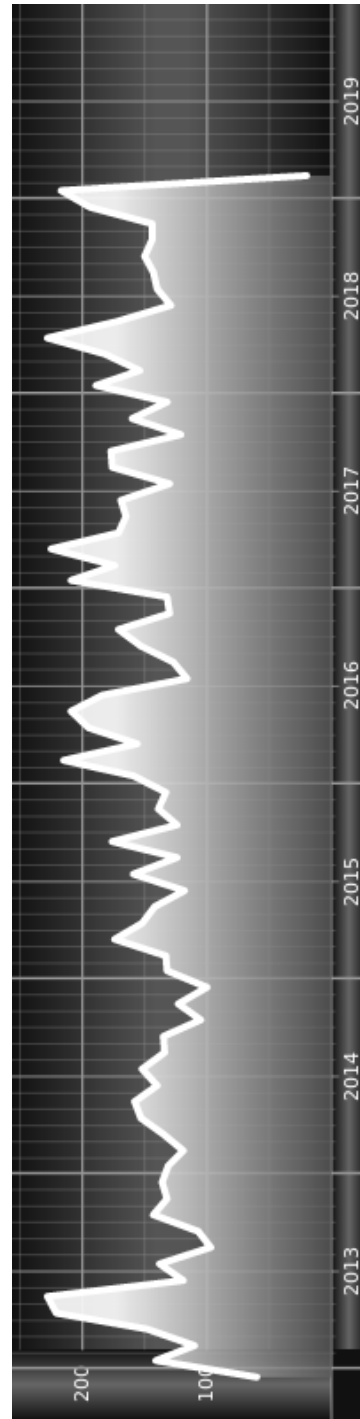
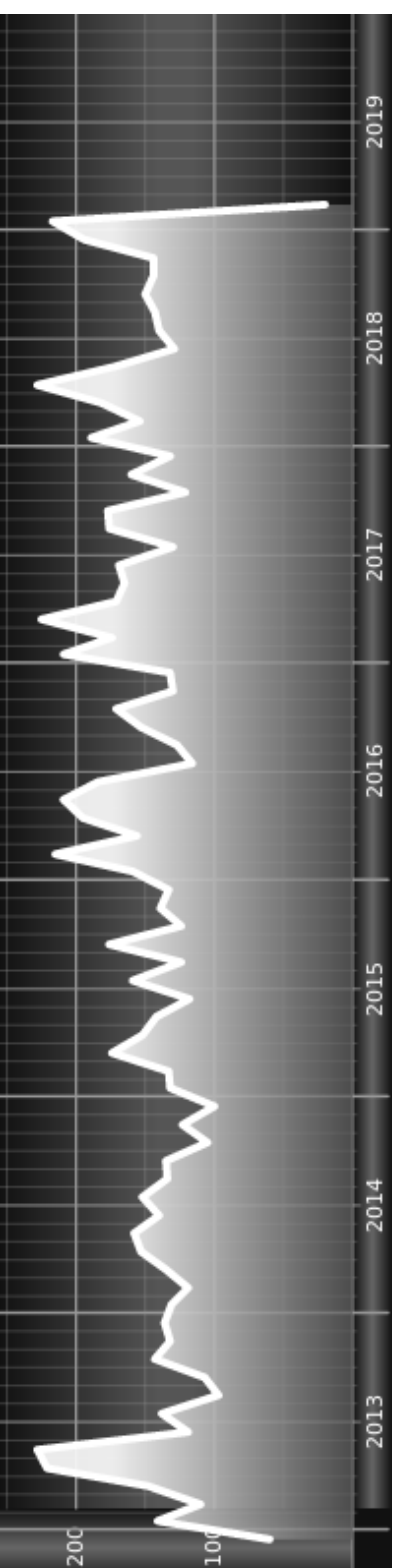


Figure 29: Caption and object in landscape mode. Hello, here is some text without a meaning. This text should show what a printed text will look like at this place. If you read this text, you will get no information. Really? Is there no information? Is there a difference between this text and some nonsense 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.

`float`

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

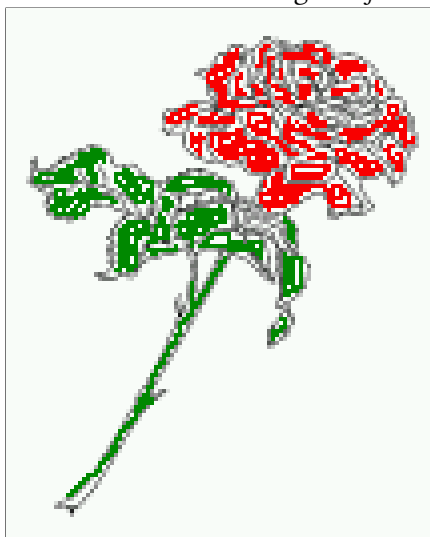


Figure 31: Caption of a “nonfloat” Object, using the nonfloat Package

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\@capttype{figure}\caption}
\newcommand{\tabcaption}{\def\@capttype{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{setDefault} & 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

\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.

float

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:

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
\setDefaultts	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
\setDefaultts	command	sets all options to the defaults

Table 5: Demonstration of the use0Box Parameter

```
\hvFloat[%  
  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:`

float

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
left & center & right \\
L & C & R \\
\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 `\includegraphics[...]{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.

```
\hvFloat[fullpage]%
{figure}%
{\includegraphics[fullpage]{images/frose}}%
[A fullpage float with the default caption setting]%
[A default caption of a "fullpage" object with the default setting, which
```

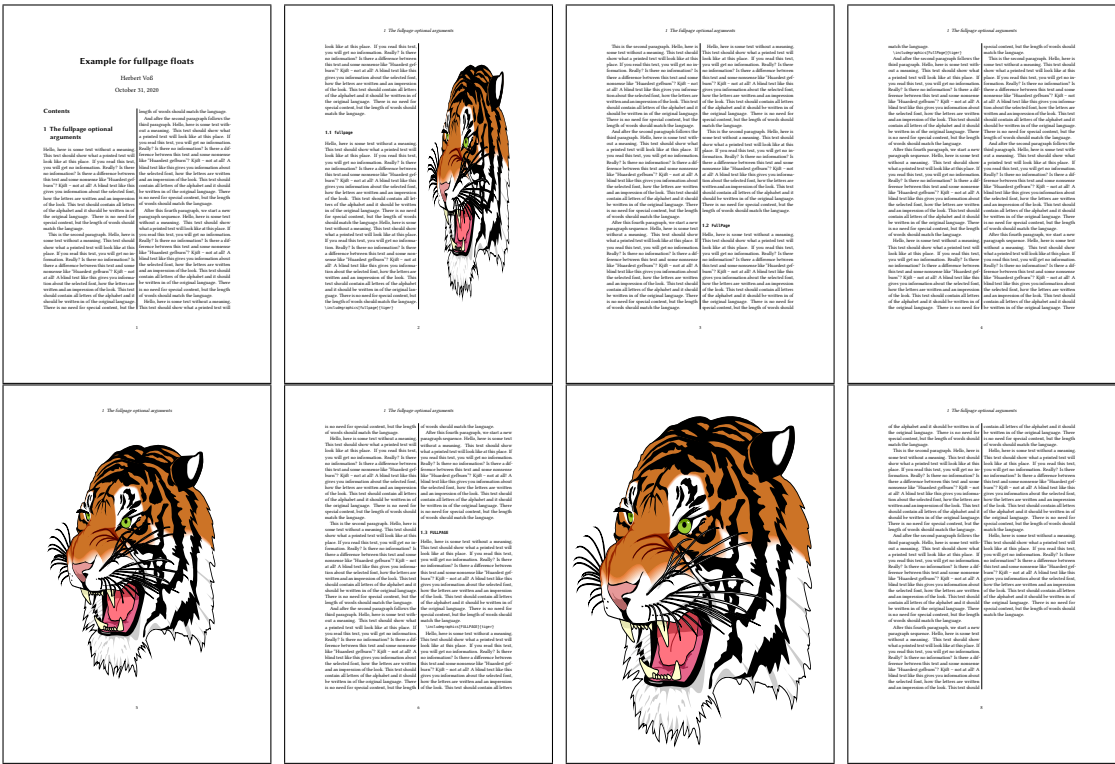


Figure 32: Output of fullpage1s2c (pages 1–8)

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.

17 Full page objects in onecolumn mode

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.

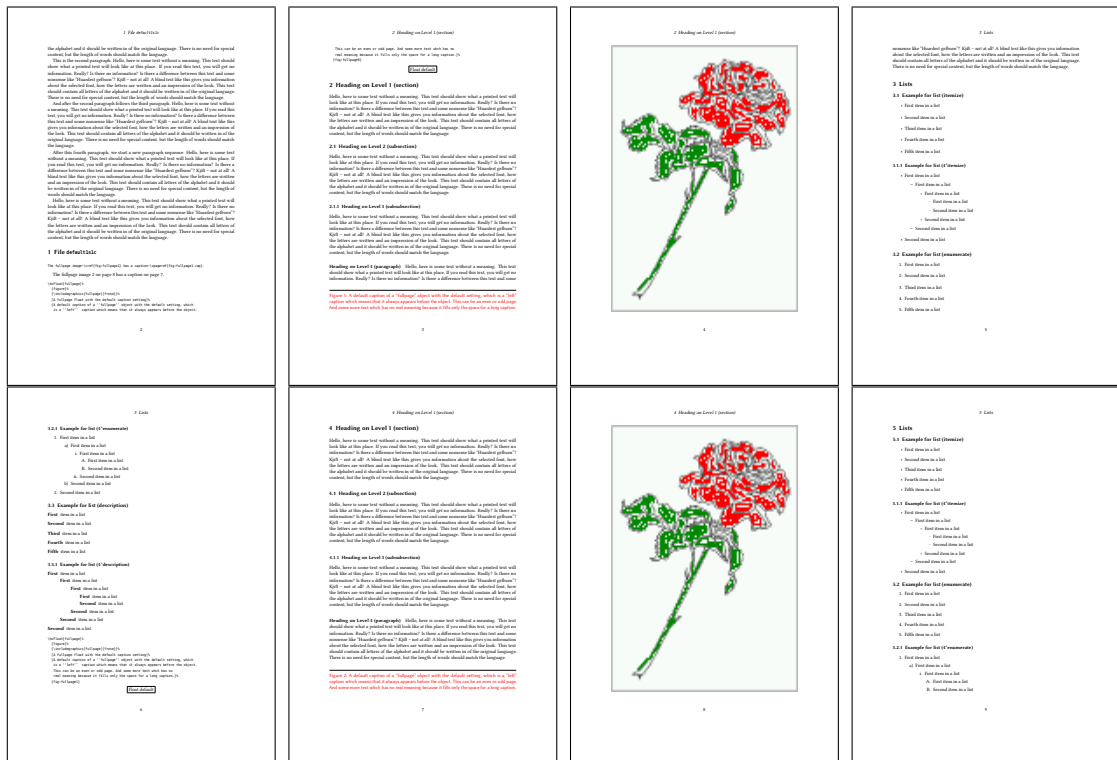


Figure 33: Output of default1s1c (pages 2–9)

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}
```

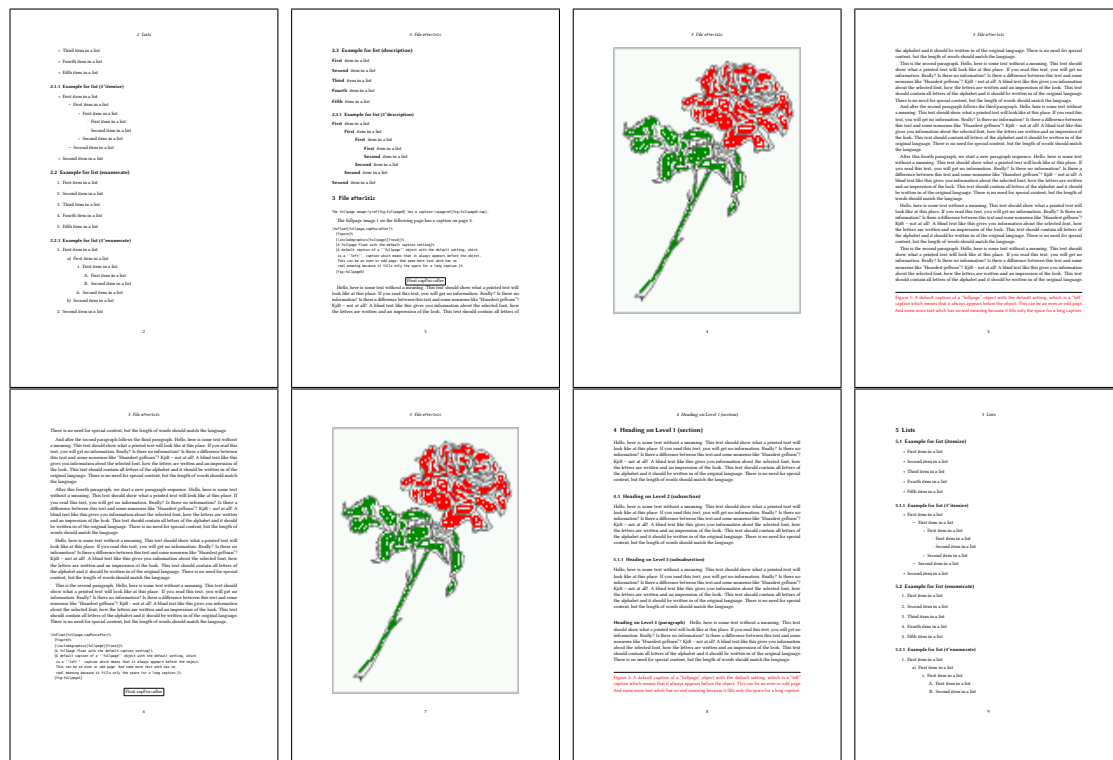


Figure 34: Output of after1s1c (pages 2–9)

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}
```

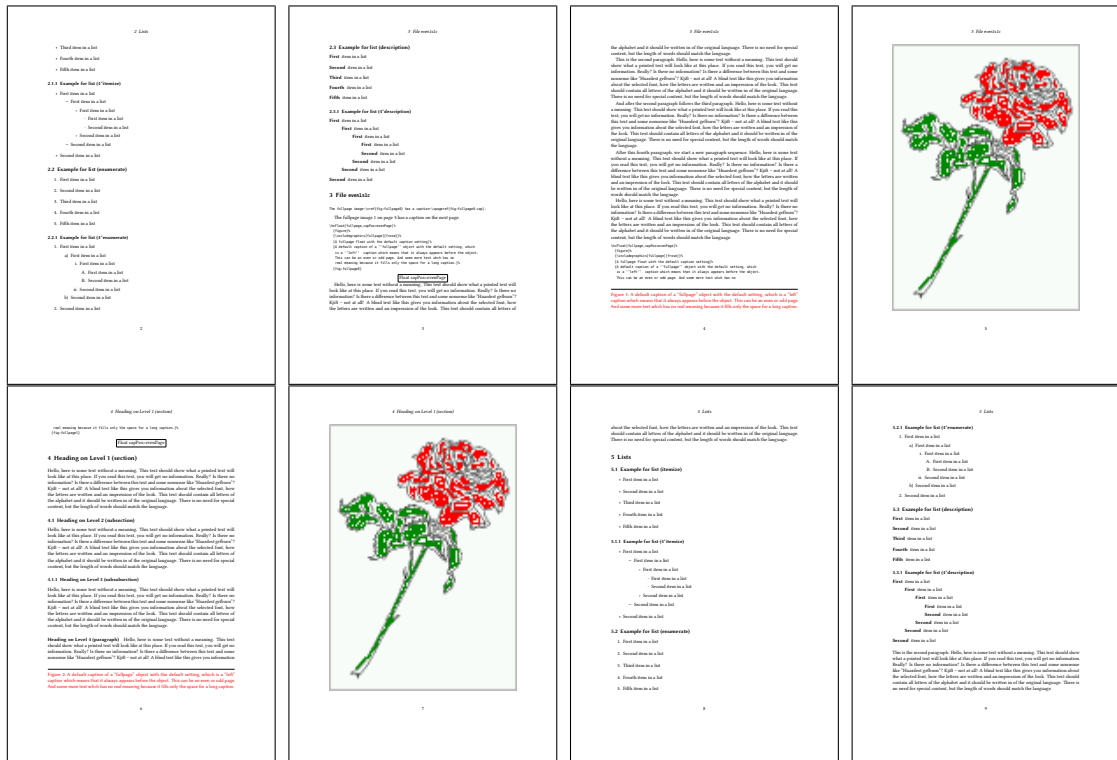


Figure 35: Output of even1s1c (pages 2–9)

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}
```

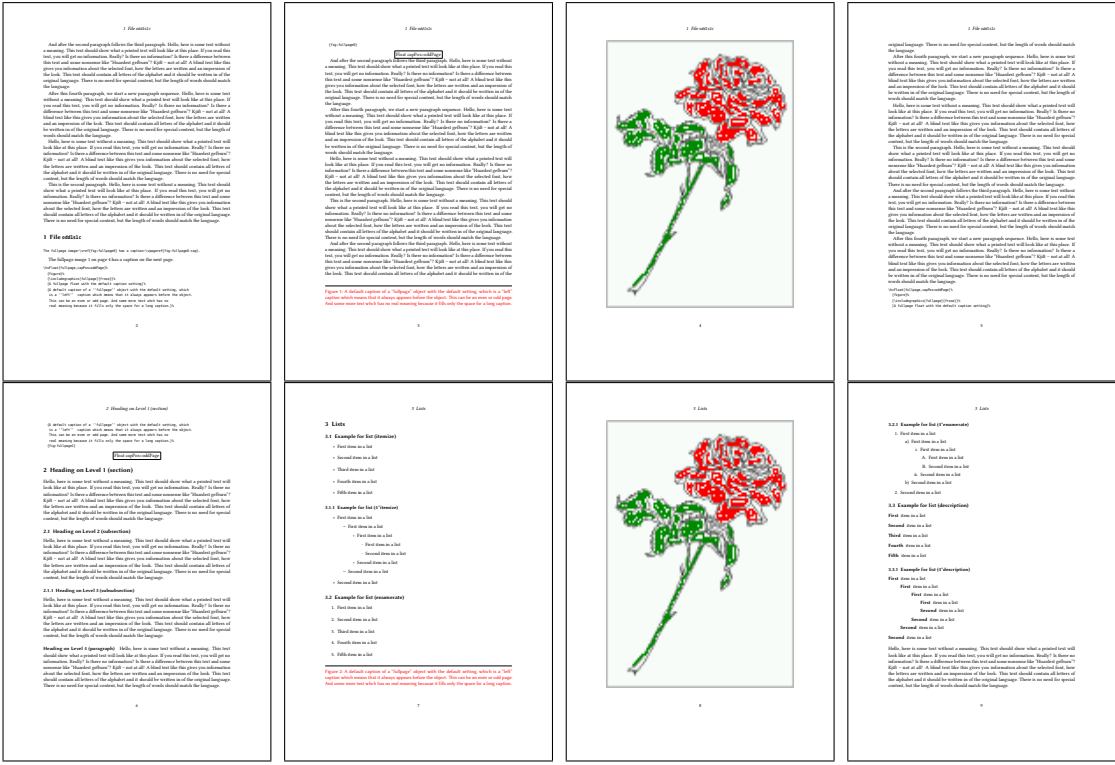


Figure 36: Output of odd1s1c (pages 2–9)

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}
```

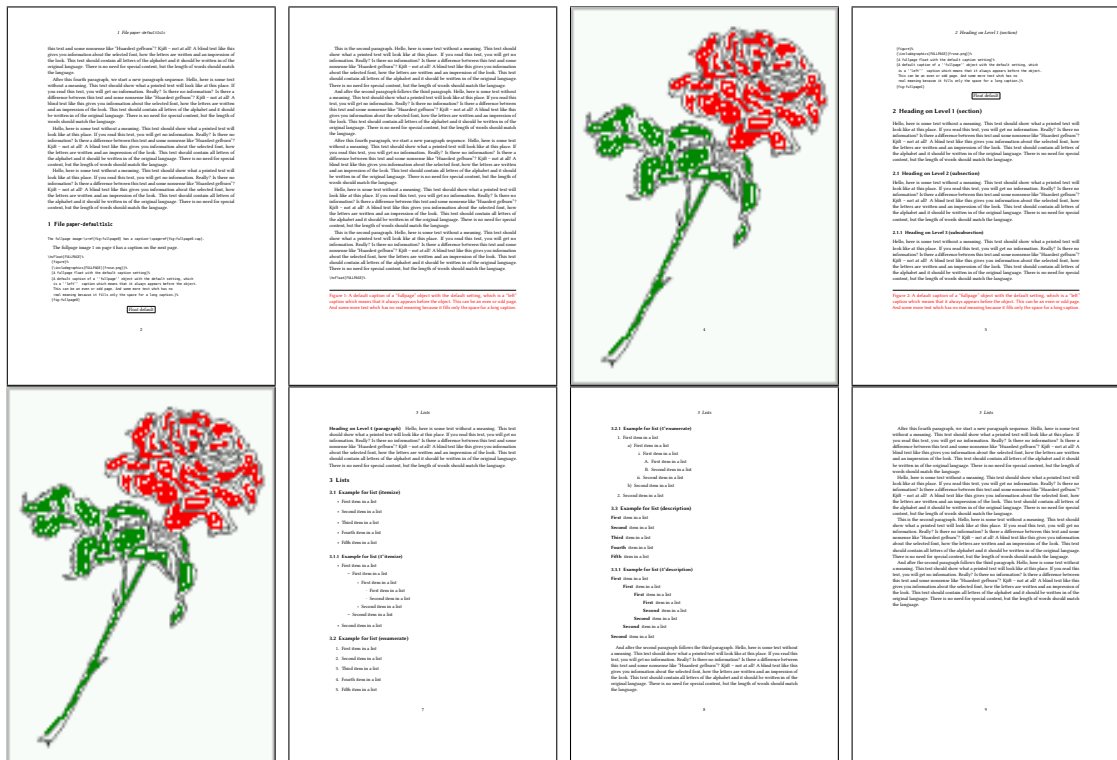


Figure 37: Output of paper-default1s1c (pages 2–9)

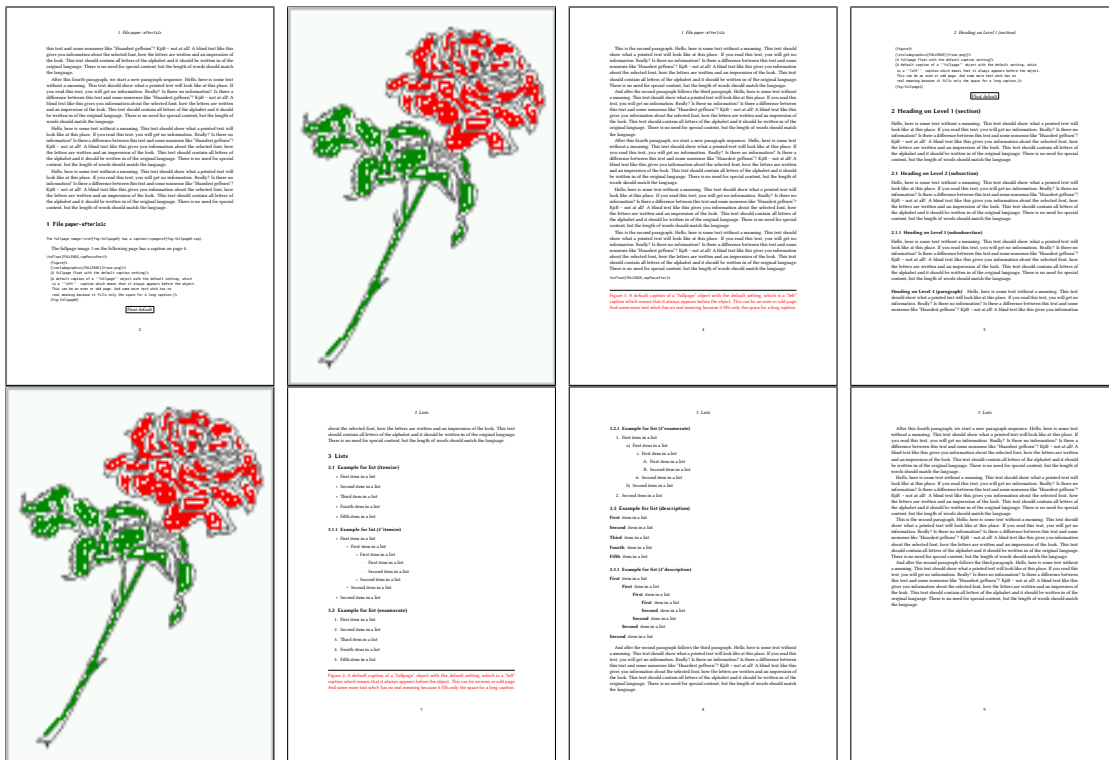


Figure 38: Output of paper-after1s1c (pages 2–9)

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

```
\hvFloat [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}
\hvFloat[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.}%


```

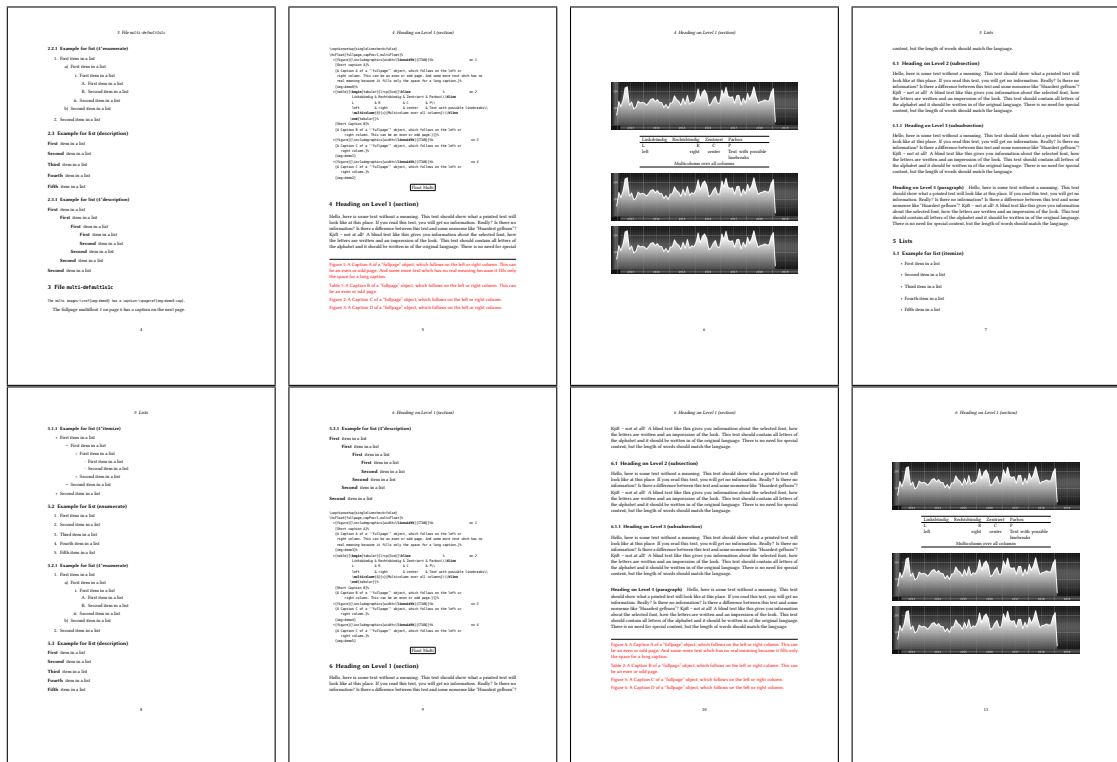


Figure 39: Output of multi-default1s1c (pages 4–11)

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

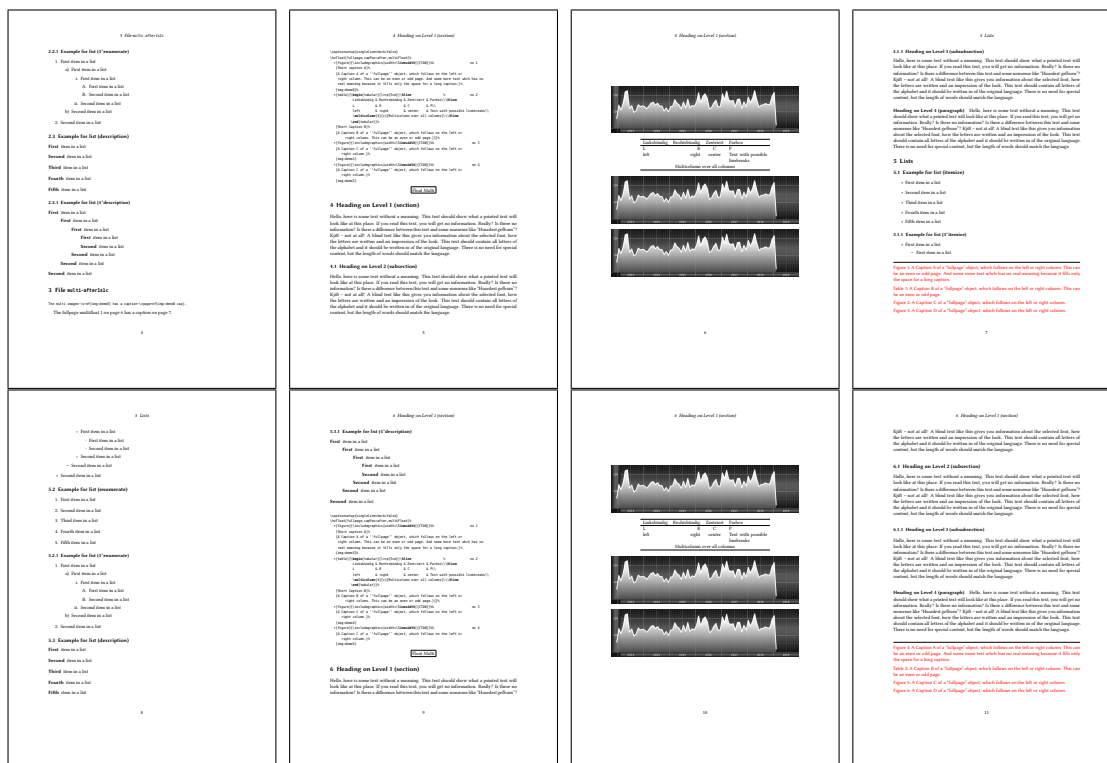


Figure 40: Output of multi-afterls1c (pages 4–11)

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]`.

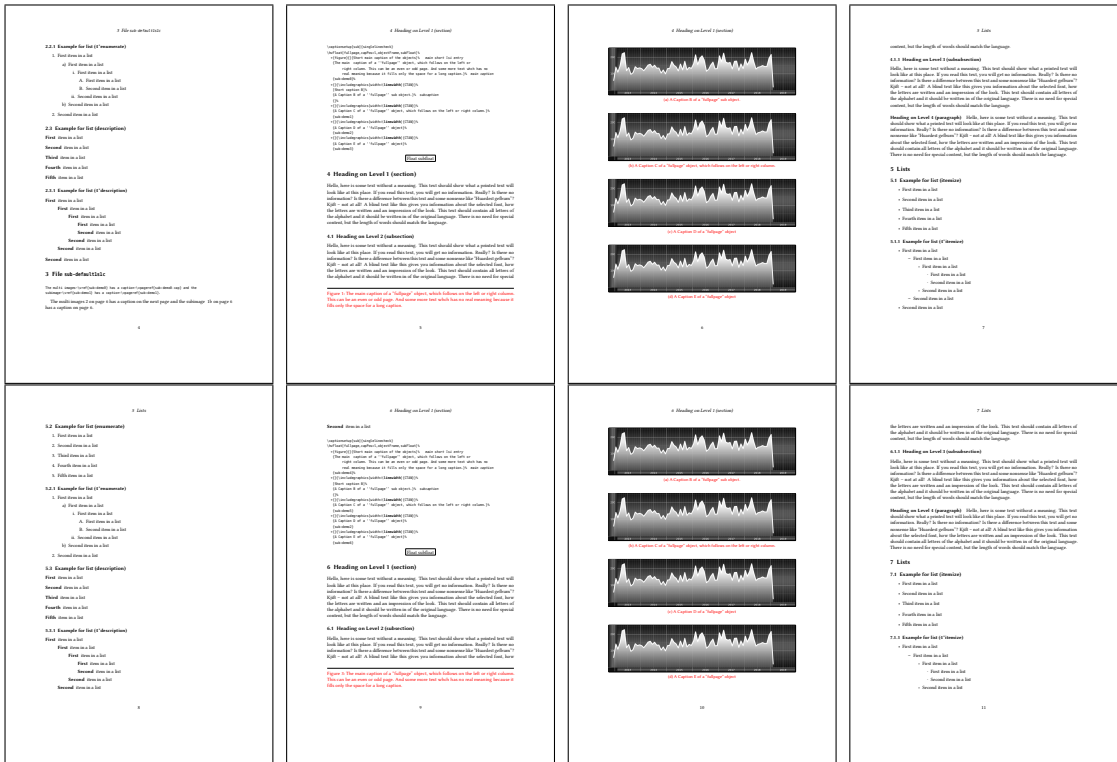


Figure 41: Output of sub-default1s1c (pages 4–11)

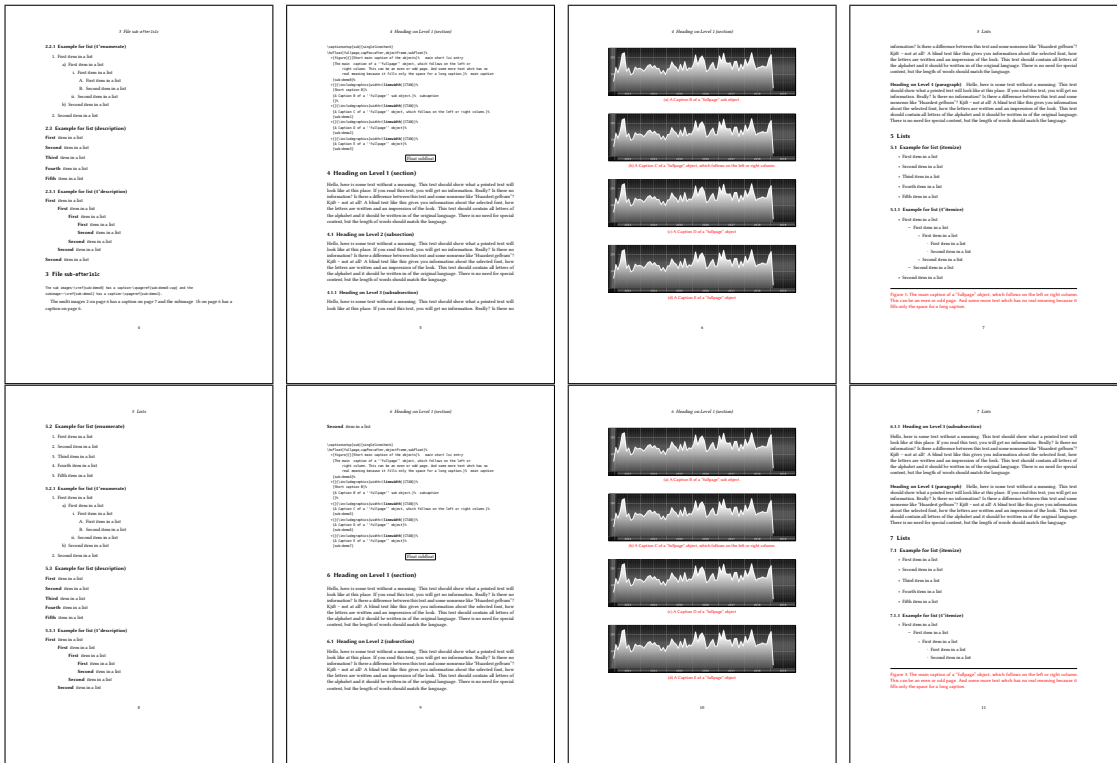


Figure 42: Output of sub-after1s1c (pages 4–11)

{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).

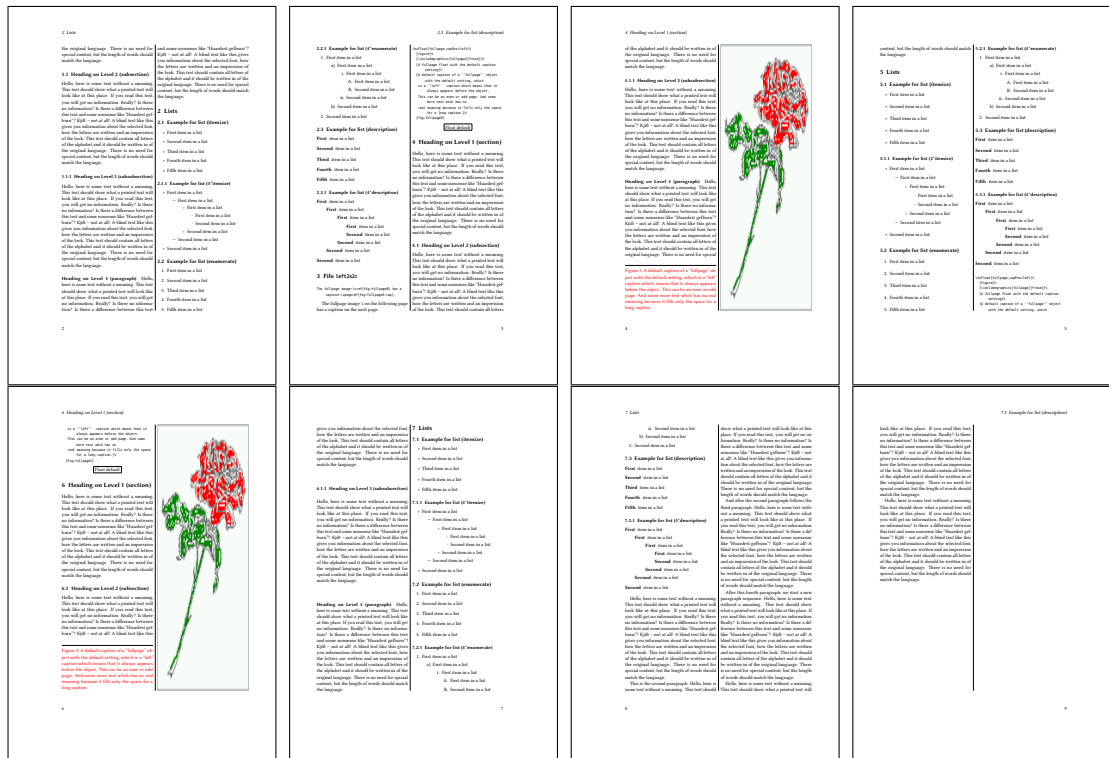


Figure 44: Output of left2s2c (pages 2–9)

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)

```
\hvFloat[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}

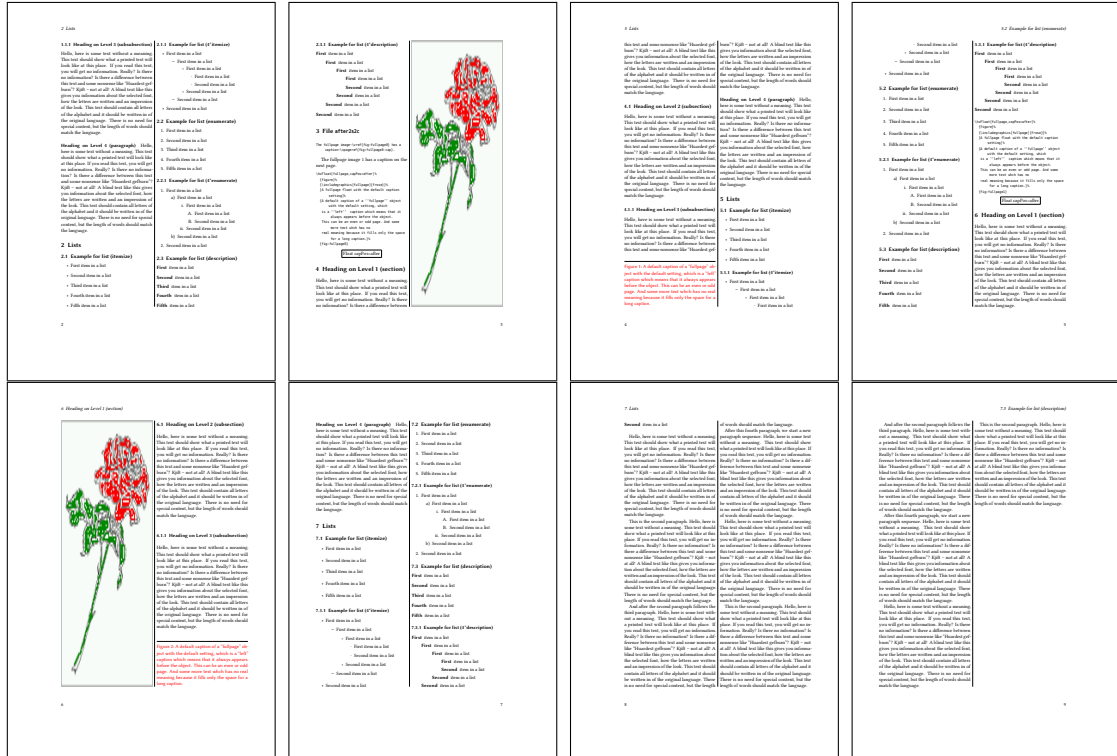


Figure 45: Output of after2s2c (pages 2–9)

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.

<p>2 Lists</p> <p>2.1 Example for List (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>	<p>2.2 Example for List (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>	<p>2.3 Example for List (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>	<p>2.4 Example for List (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>	<p>2.5 Example for List (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>
<p>4 Heading on Level 1 (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>	<p>4.1 Heading on Level 1 (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>	<p>4.2 Example for List (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>	<p>4.3 Example for List (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>	<p>4.4 Example for List (intention)</p> <p>First item is a list Second item is a list Third item is a list Fourth item is a list Fifth item is a list</p>

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`.

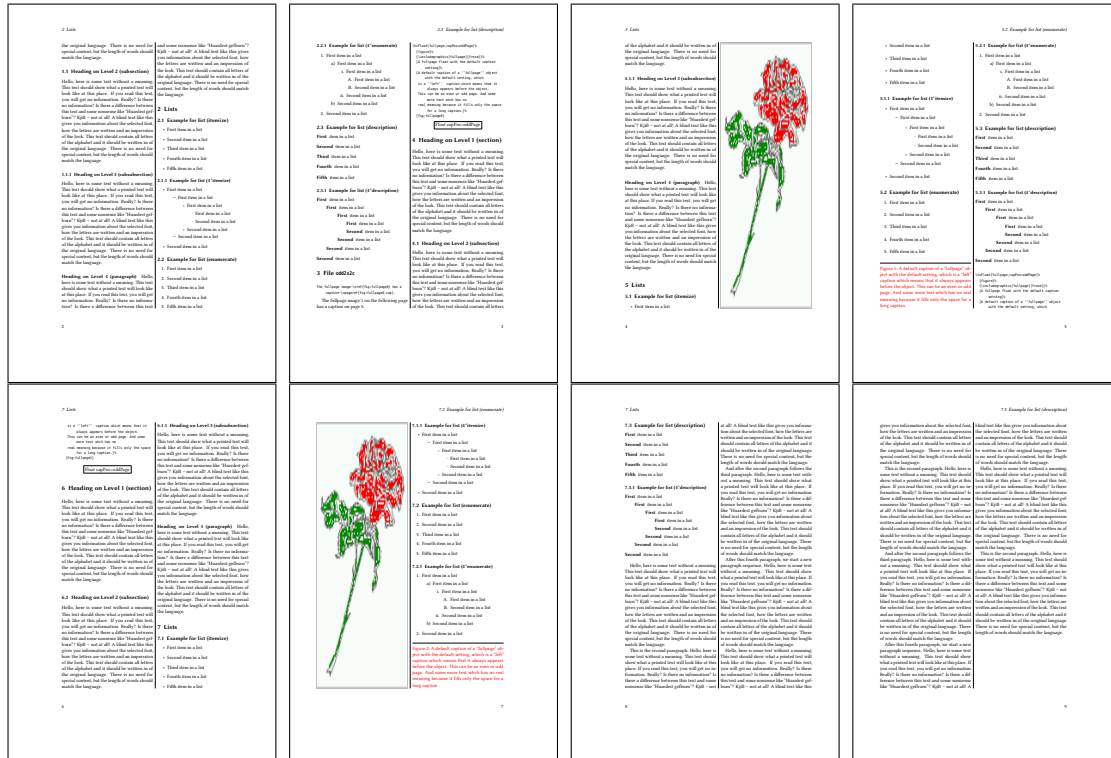


Figure 48: Output of odd2s2c (pages 2–9)

19 Full page objects in twocolumn mode

19.1.4 Using capPos=inner — caption in the inner column

The caption will be printed in the right column for an even page and in the left column for an odd page.

```
\hvflo{[fullpage,capPos=inner]{figure}{\includegraphics[fullpage]{images/rose}}%  
[A float which needs the complete column width and height.]%  
{A 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.}}{fig:fullpage3-2}
```

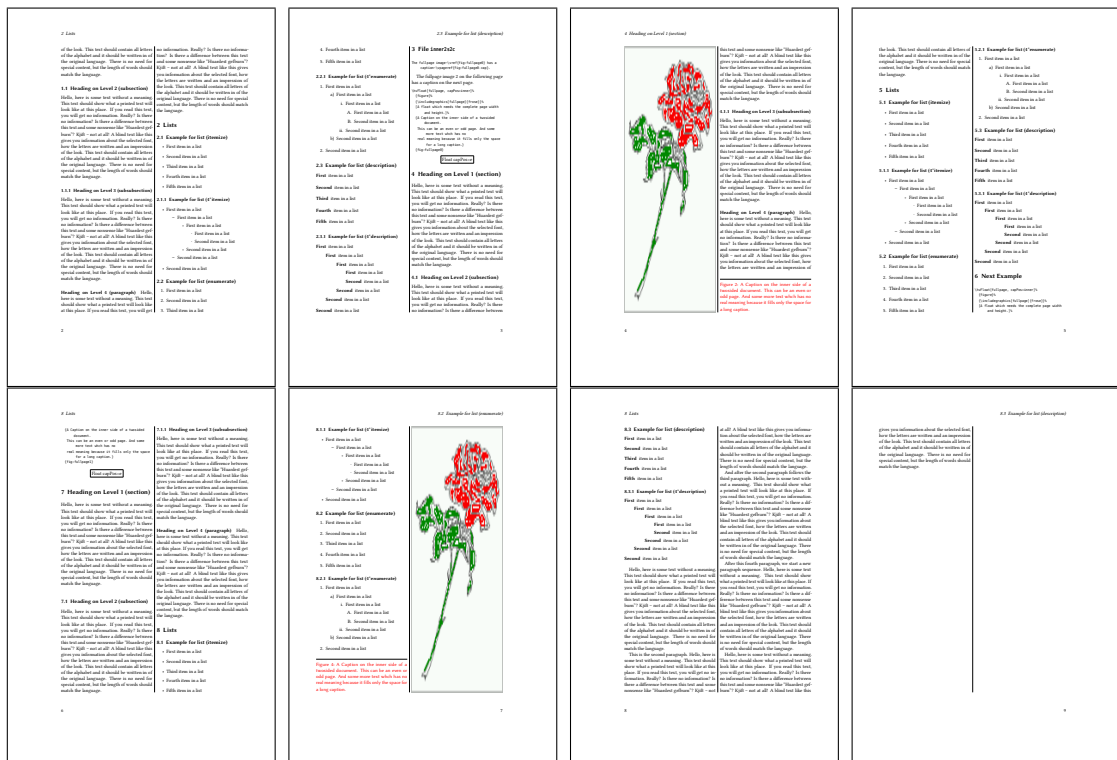


Figure 49: Output of inner2s2c (pages 2–9)

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}
```

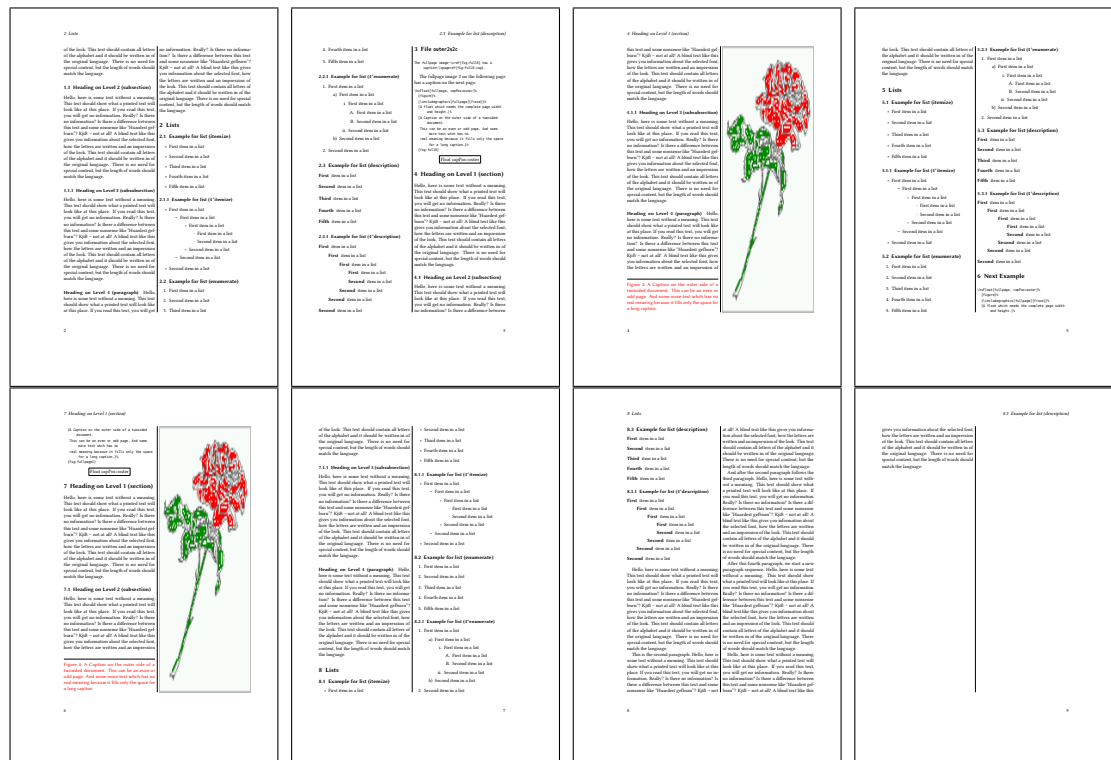


Figure 50: Output of outer2s2c (pages 2–9)

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}
```

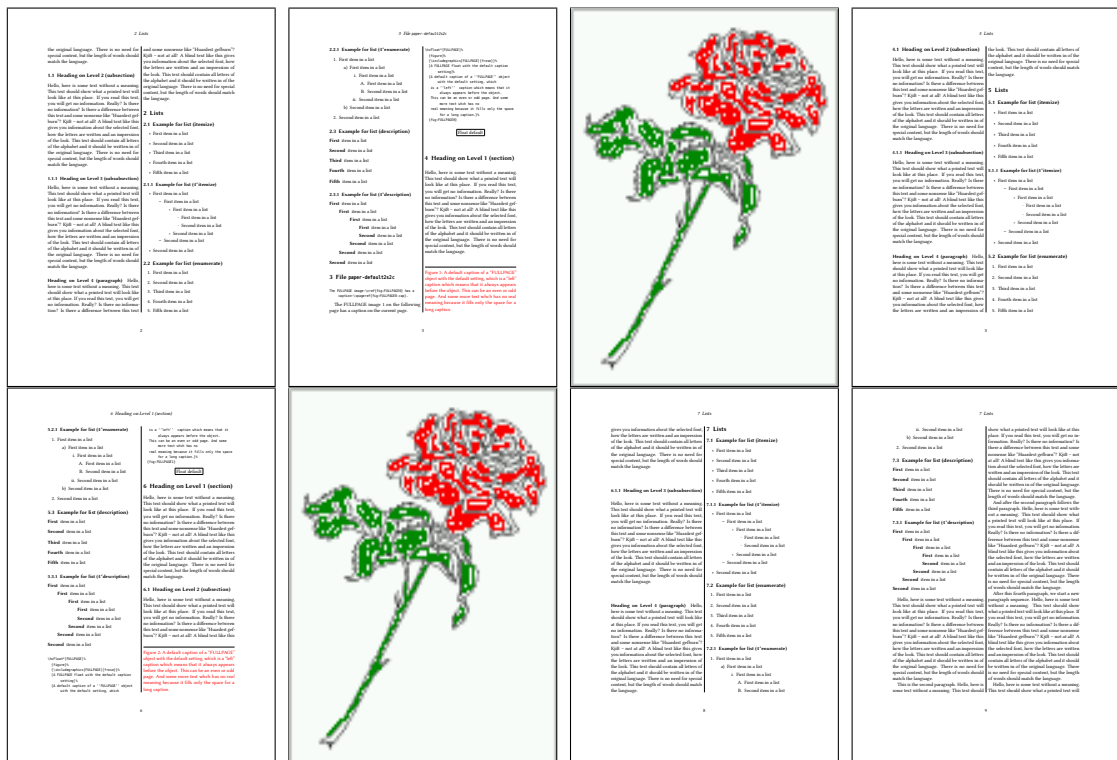


Figure 51: Output of paper-default2s2c (pages 2–9)

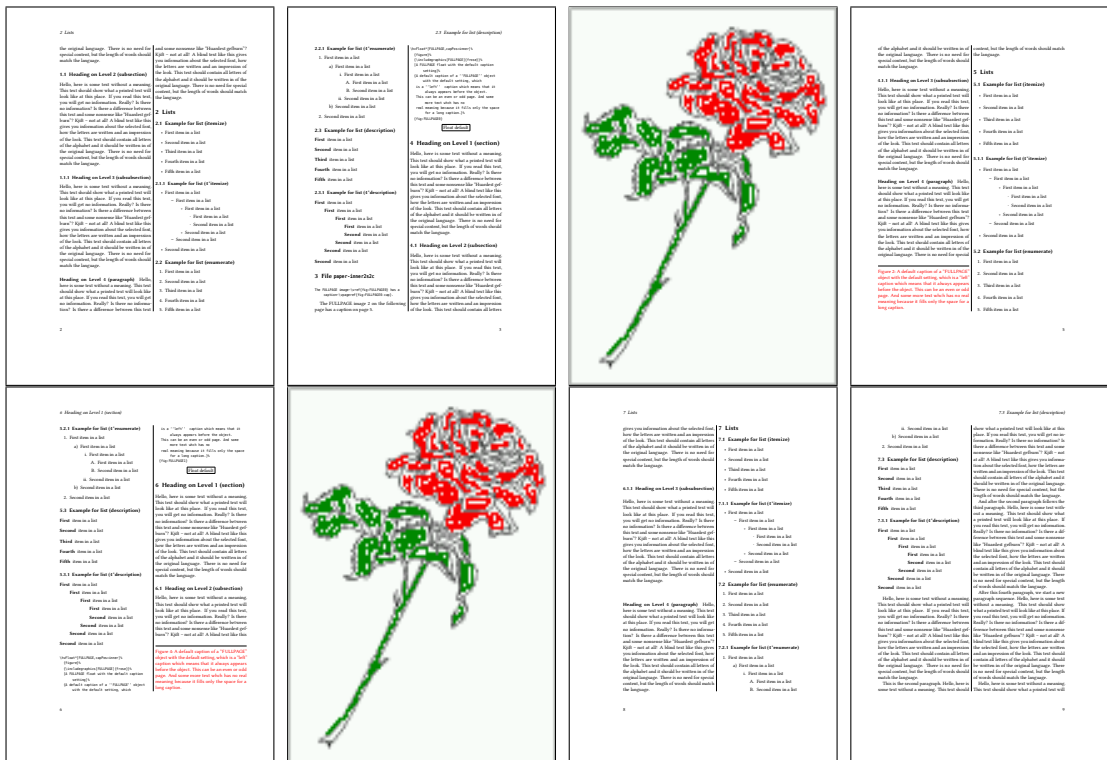


Figure 52: Output of paper-inner2s2c (pages 2–9)

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.

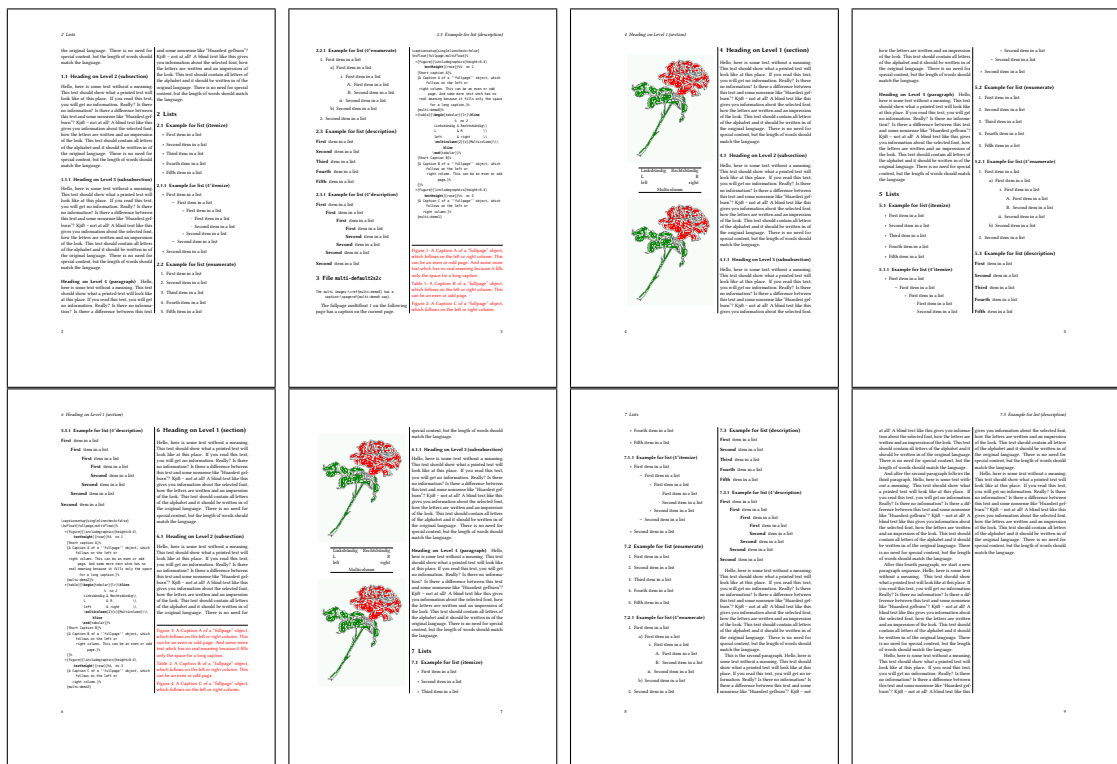


Figure 53: Output of multi-default2s2c (pages 2-9)

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.

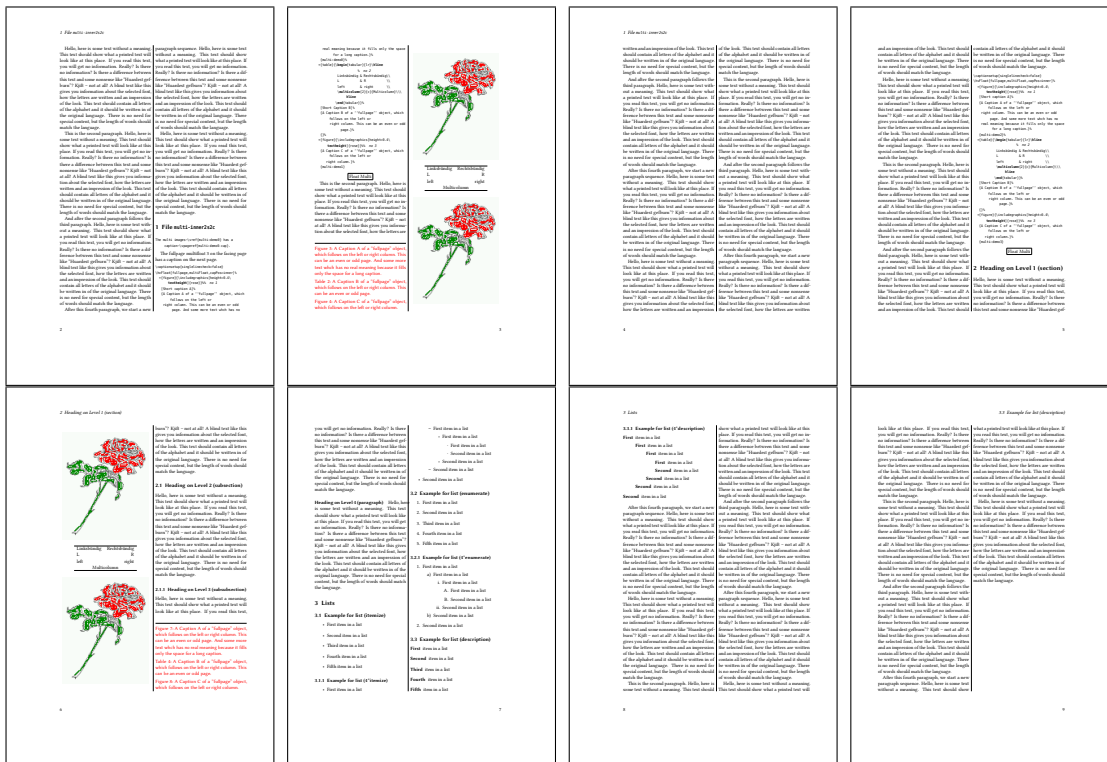


Figure 54: Output of multi-inner2s2c (pages 2-9)

```
\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

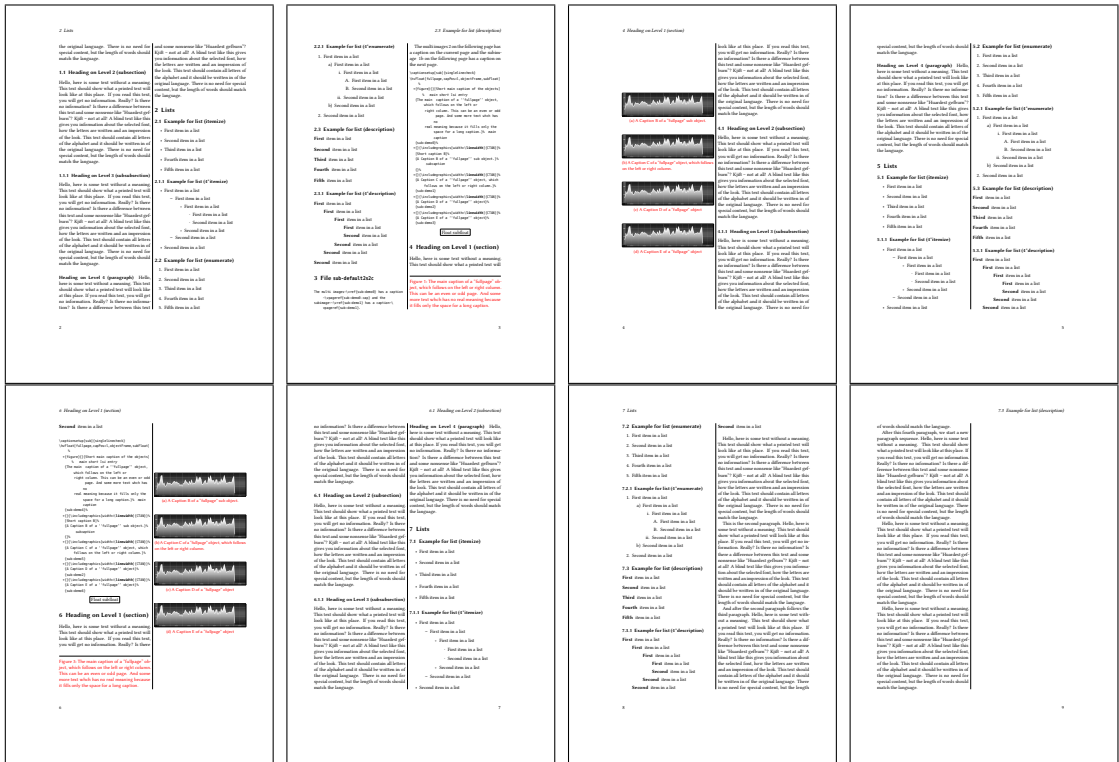


Figure 55: Output of sub-defaultt2s2c (pages 2-9)

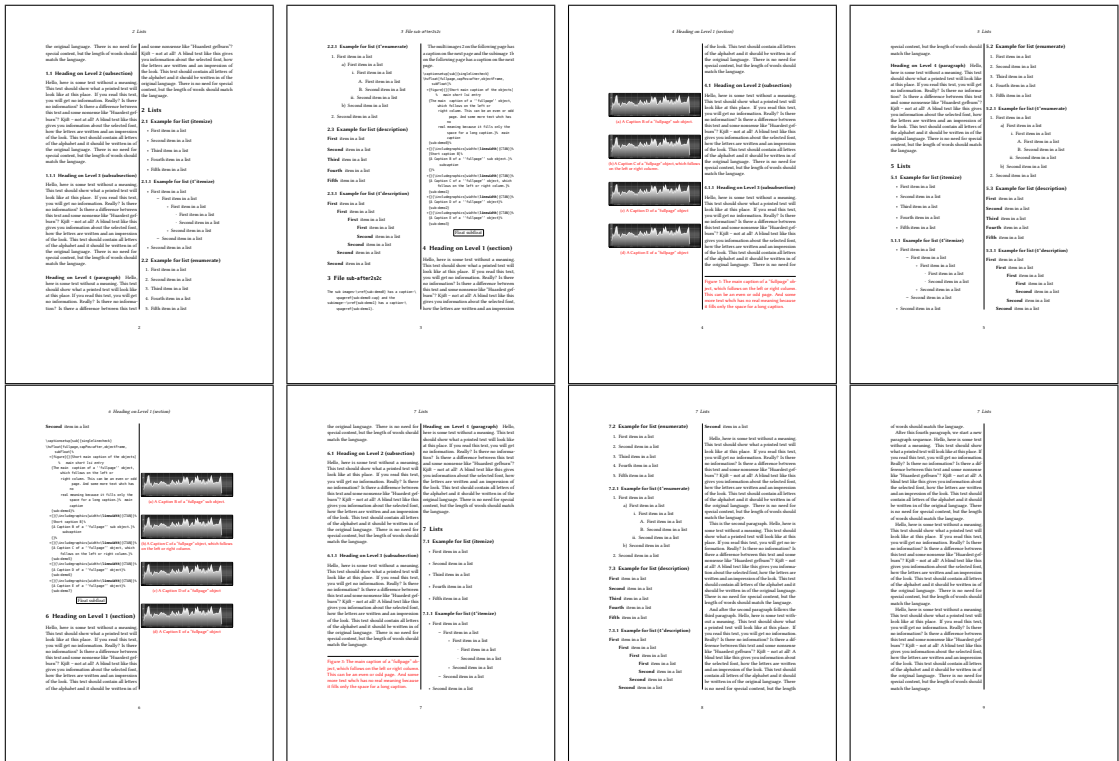


Figure 56: Output of sub-after2s2c (pages 2-9)

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 $2\text{\paperwidth}-4\text{\margin}$. 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\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 top of a double page, beginning at the left top paper edge and filling the complete double page. The user has to scale the image to be sure that the object will not be greater than 2\paperwidth . A caption will be rotated and written *over* the object. 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 right or bottom of the object. A pagenumber will not be printed. 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=r,capAngle=90]%
{figure}%
{\includegraphics[angle=90,width=2\paperwidth]{images/raphi}}%
[Eine doppelseitige Abbildung mit Caption auf der Abbildung]%
{Eine Beschriftung einer doppelseitigen Abbildung, die ÜBER den rechten
Teil der Abbildung platziert wird. Die Abbildung beginnt am linken
Papierrand. Auf den Seiten wird kein weiterer Text
platziert. Für das LOF wird dabei eine Kurzform berücksichtigt. Parameter
ist \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.

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.

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.





Figure 57: Eine Beschriftung einer doppelseitigen Abbildung, die ÜBER den rechten Teil der Abbildung platziert wird. Die Abbildung beginnt am linken Paperrand. Auf den Seiten wird kein weiterer Text platziert. Für das LOF wird dabei eine Kurzform berücksichtigt. Parameter ist 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.

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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21.2 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/felsen-wasser}}%
[Eine doppelseitige Abbildung mit Caption unterhalb der rechten Abbildung]%
{Eine Beschriftung einer doppelseitigen Abbildung, die unterhalb der rechten
Teils der Abbildung platziert wird. Die Abbildung beginnt am linken
Papierrand. Auf den Seiten wird kein weiterer Text
platziert. Für das LOF wird dabei eine Kurzform berücksichtigt. Parameter
ist \texttt{doublePAGE}}%
{fig:doublePAGE0}
```

`\Blindtext`

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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doublePAGE0

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 58: Eine Beschriftung einer doppelseitigen Abbildung, die unterhalb der rechten Teils der Abbildung platziert wird. Die Abbildung beginnt am linken Papierrand. Auf den Seiten wird kein weiterer Text platziert. Für das LOF wird dabei eine Kurzform berücksichtigt. Parameter ist doublePAGE

21 Doublepage objects – images and/or tabulars

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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21.3 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=r]%  
  {figure}%  
  {\includegraphics[width=2\textwidth]{images/felsen-wasser-small}}%  
  [Eine doppelseitige Abbildung mit rechtsseitiger Caption unterhalb]%  
  {Eine Beschriftung einer doppelseitigen Abbildung, die unterhalb des rechten  
    Teils der Abbildung platziert wird. Die Abbildung beginnt am linken  
    Textrand. Auf den Seiten wird ansonsten weiterer Text  
    platziert. Für das LOF wird dabei eine Kurzform berücksichtigt. Parameter  
    ist \texttt{doublePage}}%
```

{fig:doublePage0}

\Blindtext

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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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

doublePage0



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 59: Eine Beschriftung einer doppelseitigen Abbildung, die unterhalb des rechten Teils der Abbildung platziert wird. Die Abbildung beginnt am linken Textrand. Auf den Seiten wird ansonsten weiterer Text platziert. Für das LOF wird dabei eine Kurzform berücksichtigt. Parameter ist doublePage

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 image 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 column.

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 \\ \addlinespace[3pt]
Zeile 2 & 1 & 1 & 3 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 2 & 1 & 3 & 4 & 4 & 6 & 4 & 2 \\ \addlinespace[3pt]
```

21 Doublepage objects – images and/or tabulars

```
Zeile 3 & 2 & 1 & 2 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 5 & 3 & 1 & 7 & 7 & 3\\addlinespace[3pt]
Zeile 4 & 1 & 0 & 5 & 1 & 2 & 0 & 0 & 0 & 0 & 0 & 2 & 1 & 0 & 1 & 0 & 3 & 7 & 2 & 1\\addlinespace[3pt]
Zeile 6 & 2 & 1 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 2 & 0 & 5 & 2 & 2 & 5 & 4 & 2\\addlinespace[3pt]
Zeile 5 & 0 & 0 & 0 & 4 & 2 & 1 & 2 & 2 & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 2 & 5 & 4 & 3\\addlinespace[3pt]
Zeile 8 & 0 & 1 & 1 & 0 & 0 & 0 & 1 & 1 & 0 & 3 & 2 & 1 & 2 & 1 & 3 & 5 & 3 & 4\\addlinespace[3pt]
Zeile 9 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 2 & 1 & 0 & 0 & 0 & 0 & 4 & 2 & 1 & 4 & 5 & 2\\addlinespace[3pt]
Zeile10 & 0 & 1 & 3 & 0 & 1 & 0 & 1 & 0 & 0 & 1 & 1 & 0 & 1 & 1 & 1 & 4 & 4 & 1\\addlinespace[3pt]
Zeile11 & 0 & 2 & 2 & 1 & 1 & 0 & 1 & 0 & 0 & 0 & 0 & 2 & 6 & 1 & 0 & 2 & 1 & 1 \\addlinespace[3pt]
Zeile12 & 2 & 0 & 2 & 4 & 1 & 0 & 4 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 3\\addlinespace[3pt]
Lärm & 2 & 3 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 2 & 0 & 0 & 2 & 2 & 2\\addlinespace[3pt]
Zeile13 & 0 & 1 & 0 & 0 & 1 & 0 & 3 & 0 & 0 & 0 & 0 & 2 & 0 & 1 & 3 & 0 & 2\\addlinespace[3pt]
Zeile14 & 0 & 1 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 3 & 3 & 2 & 1 & 1 & 0\\addlinespace[3pt]
Zeile15 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 & 0 & 0 & 4 & 0 & 0 & 3 & 1 & 1\\addlinespace[3pt]
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}}

\hvfFloat[doublePage,capWidth=n,capPos=r]%
{table}%
{\usebox\hv0Box}%%%%%%%%%
[Eine doppelseitige Tabelle mit rechtsseitiger Caption unterhalb]%
{Eine Beschriftung einer doppelseitigen Tabelle, die unterhalb des rechten
Teils der Abbildung platziert wird. Die Tabelle beginnt am linken
Textrand. Auf den Seiten wird ansonsten weiterer Text
platziert. Für das LOT wird dabei eine Kurzform berücksichtigt. Parameter
ist \texttt{doublePage}}%
{tab:doublePage3}

\Blindtext
```

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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doublePage1

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After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text

	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

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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: Eine Beschriftung einer doppelseitigen Tabelle, die unterhalb des rechten Teils der Abbildung platziert wird. Die Tabelle beginnt am linken Textrand. Auf den Seiten wird ansonsten weiterer Text platziert. Für das L^OT wird dabei eine Kurzform berücksichtigt. Parameter ist doublePage

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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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”?

22 References to the page

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.

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 refence to the page where the object is set. Let’s assume that we use something like

```
\setDefaults
\hvfFloat[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 61 is on page 76, but the image itself is on page 77. With package `varioref` it is:

Whith 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 floatinmg 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}

Whith the package `varioref` (<https://ctan.org/pkg/varioref>) one can get something like: see figure 61 on page 77, which uses a correct page number of the floating object and not the caption pagenumber which is on page 76. The figure 61 is on page 77 and the caption on page 76

23 Defining a style

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

`\defhvstyle{name}{setting}`

For example:

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

```
\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}
```



Figure 60: Caption at bottom right beside the float with a caption width of `0.5\columnwidth`.

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 `hvfload-fps`. It allows optional package options to set the global placement:

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

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.

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After this fourth paragraph, we start a new paragraph sequence. Hello, here is some text

Figure 61: 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



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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25 The Package Source

```
1 %% $Id: hvfloat.sty 41 2020-11-21 21:03:28Z 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{2.18}
19 \def\filedate{2021/03/12}
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}
```

25 The Package Source

```

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}{htbp}{%      LaTeX's position parameters htpb
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 \define@key{hvSet}{capPos}[bottom]{%      (l)eft|(b)ottom|(t)op|(r)ight|(i)nn(er)|(o)uter|(e)ven|(o)(d)d
104   \def\hvSet@capPos{#1}%      it is relativ to the object, (e),(d) only valid for fullpage float

```

```

104 \edef\@tempa{#1}%
105 \ifx\hv@Bottom\@tempa
106 \hv@capbesidefalse
107 \else
108 \ifx\hv@Top\@tempa
109 \hv@capbesidefalse
110 \else
111 \hv@capbesidetrue
112 \fi
113 \fi
114 }
115 \define@key{hvSet}{capVPos}[center]{% bottom|center|top
116 \def\hvSet@capVPos{#1}% it is relativ to the object
117 }
118 \define@key{hvSet}{objectPos}[center]{% (l)eft|(c)enter|(r)ight|(i)nnner|(o)uter
119 \def\hvSet@objectPos{#1}% it is relativ to the document
120 }
121 \define@key{hvSet}{objectAngle}[0]{% -360...+360
122 \def\hvSet@objectAngle{#1}%
123 }
124 \define@key{hvSet}{floatCapSep}[5pt]{% a width with the unit pt
125 \def\hvSet@floatCapSep{#1}%
126 }
127 \define@key{hvSet}{multiFloatSkip}{\normalbaselineskip}{% a width with the unit pt
128 \setlength\hvMultiFloatSkip{#1}%
129 }
130 \define@boolkey{hvSet}[hv@]{use0Box}[true]{}% use of the hv0Box contents
131 \define@boolkey{hvSet}[hv@]{nonFloat}[true]{}% Do not use float environment
132 \define@boolkey{hvSet}[hv@]{onlyText}[true]{}% Write the caption only as text
133 \define@boolkey{hvSet}[hv@]{wide}[true]{}% Write the caption only as text
134
135
136 \newif\ifhv@fullpage
137 \newif\ifhv@FULLPAGE
138 \newif\ifhv@doubleFULLPAGE
139 \newif\ifhv@doublePAGE
140 \newif\ifhv@doublePage
141
142 \define@key{hvSet}{fullpage}[true]{\global\@nameuse{hv@fullpage#1}}% wegen \afterpage problem
143 \define@key{hvSet}{FULLPAGE}[true]{\global\@nameuse{hv@FULLPAGE#1}}
144 \define@key{hvSet}{doubleFULLPAGE}[true]{\global\@nameuse{hv@doubleFULLPAGE#1}\hv@doublePagefalse\
145 hv@doublePAGEfalse}
146 \define@key{hvSet}{doublePAGE}[true]{\global\@nameuse{hv@doublePAGE#1}\hv@doublePagefalse\
147 hv@doubleFULLPAGEfalse}
148 \define@key{hvSet}{doublePage}[true]{\global\@nameuse{hv@doublePage#1}\hv@doublePAGEfalse\
149 hv@doubleFULLPAGEfalse}
150
151 \define@boolkey{hvSet}[hv@]{subFloat}[true]{% typeset values as subfloats
152 \ifhv@subFloat\setkeys{hvSet}{multiFloat=false}\fi
153 }%
154
155 \define@boolkey{hvSet}[hv@]{multiFloat}[true]{% typeset values as continous floats
156 \ifhv@multiFloat\setkeys{hvSet}{subFloat=false}\fi
157 }%

```

25 The Package Source

```

154 \define@boolkey{hvSet}[hv@]{separatorLine}[true]{}% separator line for caption of a full page float
155 \define@boolkey{hvSet}[hv@]{objectFrame}[true]{}% a frame around the object with no separation
156 \define@key{hvSet}{style}{}%
157 \ifundefined{hv@#1}%
158 {\errmessage{Custom style '#1' undefined}}%
159 {\beginingroup
160 \edef\x{\endgroup\noexpand\setkeys{hvSet}{\@nameuse{hv@#1}}}\x}% use a defined style
161 }
162 \define@key{hvSet}{capFormat}[]{\def\hv@caption@format{#1}}%
163 \define@key{hvSet}{subcapFormat}[]{\def\hv@subcaption@format{#1}}%
164
165 \def\hv@set#1{\beginingroup\edef\x{\endgroup\noexpand\setkeys{hvSet}{#1}}\x}
166 \let\hvFloatSet\hv@set
167 %
168 \def\defhvstyle#1#2{\@namedef{hv@#1}{#2}}
169 %
170 \newcommand{\setDefaults}{%
171 \hv@set{%
172 floatPos=htbp, rotAngle=0, capWidth=n, capAngle=0,
173 capPos=bottom, capVPos=center, objectPos=center, objectAngle=0,
174 floatCapSep=5pt, useOBox=false, nonFloat=false,
175 onlyText=false, wide=false, fullpage=false, FULLPAGE=false,
176 doubleFULLPAGE=false, doublePage=false, doublePAGE=false,
177 multiFloat=false, subFloat=false,
178 separatorLine, objectFrame=false, multiFloatSkip=\normalbaselineskip,
179 capFormat={}, subcapFormat={},
180 }%
181 }
182 \newcommand\reset@special@float{%
183 \hv@set{subFloat=false,%fullpage=false,
184 multiFloat=false,%FULLPAGE=false
185 }}
186
187 \def\hv@vskip{\vspace{\hvMultiFloatSkip}}
188
189 %
190 \newlength\hvAboveCaptionSkip
191 \newlength\hvBelowCaptionSkip
192 \newcount\hv@capPos
193
194 \newlength\fbboxlinewidth
195 \AtBeginDocument{%
196 \setlength\fbboxlinewidth{\dimexpr\linewidth-2\fbboxrule-2\fbboxsep}%
197 }
198 \setlength\belowcaptionskip{\abovecaptionskip}% it is in latex.ltx = 0pt
199 \newcommand\saveCaptionSkip{%
200 \setlength{\hvAboveCaptionSkip}{\abovecaptionskip}
201 \setlength{\hvBelowCaptionSkip}{\belowcaptionskip}
202 \setlength{\abovecaptionskip}{0pt}
203 \setlength{\belowcaptionskip}{0pt}
204 }
205 \newcommand{\restoreCaptionSkip}{%
206 \setlength\abovecaptionskip{\hvAboveCaptionSkip}%

```

```

207 \setlength\belowcaptionskip{\hvBelowCaptionSkip}%
208 }
209 %
210 \newcommand\figcaption[2][{}]{\def\capttype{figure}%
211 \begingroup
212 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
213 \ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi
214 \endgroup}
215 \newcommand\tabcaption[2][{}]{\def\capttype{table}%
216 \begingroup
217 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
218 \ifx\relax#1\relax \caption{#2}\else\caption[#1]{#2}\fi
219 \endgroup}
220 %
221 \newlength\hv@maxImageWidth
222 \AtBeginDocument{\hv@maxImageWidth=\columnwidth}
223
224 \define@key{Gin}{fullpage}[true]{%
225 \def\Gin@ewidth{\columnwidth}%
226 \def\Gin@eheight{\textheight}%
227 \Gin@boolkey{false}{iso}%
228 }
229 \define@key{Gin}{FullPage}[true]{%
230 \def\Gin@ewidth{\textwidth}%
231 \def\Gin@eheight{\textheight}%
232 \Gin@boolkey{false}{iso}%
233 }
234 \define@key{Gin}{FULLPAGE}[true]{%
235 \def\Gin@ewidth{\paperwidth}%
236 \def\Gin@eheight{\paperheight}%
237 \Gin@boolkey{false}{iso}%
238 }
239 \newcommand\IncludeGraphics[2][{}]{%
240 \vspace*{\the\dimexpr-\lin-\voffset+\topskip-\headheight-0.5\baselineskip}%
241 \leavevmode\checkoddpage
242 \ifoddpage
243 \hspace*{\dimexpr-\oddsidemargin-\parindent-\lin}%
244 \else
245 \hspace*{\dimexpr-\evensidemargin-\parindent-\lin}%
246 \fi\noindent
247 \includegraphics[#1,width=\paperwidth,height=\paperheight,keepaspectratio=false]{#2}%
248 }
249
250 \newcommand\put@CaptionBox[1][0]{%
251 \ifcase#1
252 \ifhv@fbox
253 \fbox{\parbox{\wd\hvCaptionBox}{\usebox{\hvCaptionBox}}}%
254 \else
255 \parbox{\wd\hvCaptionBox}{\usebox{\hvCaptionBox}}%
256 \fi
257 \or
258 \ifhv@fbox
259 \fbox{\raisebox{-\height}{\usebox{\hvCaptionBox}}}%

```

25 The Package Source

```

260     \else
261       \raisebox{-\height}{\usebox{\hvCaptionBox}}%
262     \fi
263   \or
264     \ifhv@fbox\fbbox{\usebox{\hvCaptionBox}}\else\usebox{\hvCaptionBox}\fi
265   \fi
266 }
267
268 \newcommand\put@ObjectBox[1][0]{%
269   \ifcase#1
270     \ifhv@fbox
271       \fbbox{\parbox{\wd\hvObjectBox}{\usebox{\hvObjectBox}}}%
272     \else
273       \parbox{\wd\hvObjectBox}{\ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi}%
274     \fi
275   \or
276     \ifhv@fbox
277       \fbbox{\raisebox{-\height}{\usebox{\hvObjectBox}}}%
278     \else
279       \raisebox{-\height}{\ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi}%
280     \fi
281   \or
282     \ifhv@fbox
283       \fbbox{\usebox{\hvObjectBox}}%
284     \else
285       \ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi
286     \fi
287   \fi
288 }
289
290 \newif\ifhv@star
291 \newif\ifhv@substar
292 \setDefaults
293
294 \def\hvFloat{\@ifnextchar*%      Main macro
295   {\global\hv@startrue\hv@maxImageWidth=\textwidth\hvFloat@i}%
296   {\global\hv@starfalse\hv@maxImageWidth=\columnwidth\hvFloat@i*}%
297 }
298
299 %\newcommand*{\hvFloat}[5][+]{%
300 %  [#1]: keyvalues
301 %  #2: type figure | table | ...
302 %  #3: float contents
303 %  [#4]: short caption
304 %  #5: caption
305 %  #6: label
306 %
307 \def\hvFloat@i*{\@ifnextchar[{\do@hvFloat}{\do@hvFloat[]}}
308 \def\do@hvFloat[#1]{%
309   \begingroup
310   \setlength\hvWideWidth{\dimexpr\linewidth+\marginparwidth}%
311   \hv@maxImageWidth=\textwidth
312   \reset@special@float

```



```

313 \setcounter{hv@pfigure}{\value{figure}}%
314 \setcounter{hv@ptable}{\value{table}}%
315 \gdef\hv@save@setting{#1}%
316 \ifx\relax#1\relax\else\setkeys{hvSet}{#1}\fi
317 \gdef\hv@floatType{figure}%
318 \@ifnextchar+{\do@multiFloat}{\hvFloat@ii[#1]}%
319
320 \ExplSyntaxOn
321
322 \def\do@multiFloat+#1#2{%
323 \clist_set:Nn\l_clist_Type{#1}%
324 \clist_set:Nn\l_clist_Object{#2}%
325 \@ifnextchar[\do@multiFloat@i{\do@multiFloat@ii}%
326 }
327 \def\do@multiFloat@i[#1]#2#3{% lof-caption, caption, label
328 \ifx\relax#1\relax
329 \clist_set:Nn\l_clist_LofCaption{}%
330 \else
331 \clist_set:Nn\l_clist_LofCaption{#1}%
332 \fi
333 \clist_set:Nn\l_clist_Caption{#2}%
334 \ifx\relax#3\relax
335 \clist_set:Nn\l_clist_Label{}%
336 \else
337 \clist_set:Nn\l_clist_Label{#3}%
338 \fi
339 \@ifnextchar+{\do@multiFloat@ii}{}%
340 }
341 \def\do@multiFloat@ii+#1#2{%
342 \clist_put_right:Nn\l_clist_Type{#1}%
343 \clist_put_right:Nn\l_clist_Object{#2}%
344 \@ifnextchar[\do@multiFloat@iii{\do@multiFloat@iii}%
345 }
346
347 \def\do@multiFloat@iii[#1]#2#3{% lof-caption, caption, label
348 \ifx\relax#1\relax
349 \clist_put_right:Nn\l_clist_LofCaption{}%
350 \else
351 \clist_put_right:Nn\l_clist_LofCaption{#1}%
352 \fi
353 \clist_put_right:Nn\l_clist_Caption{#2}%
354 \ifx\relax#3\relax
355 \clist_put_right:Nn\l_clist_Label{}%
356 \else
357 \clist_put_right:Nn\l_clist_Label{#3}%
358 \fi
359 \@ifnextchar+{\do@multiFloat@ii%
360 {\def\hvSet@CapWidth{n}%
361 \do@@@hvFloat}%
362 }
363 \ExplSyntaxOff
364
365

```

```

366 \newcounter{hv@pfigure}
367 \newcounter{hv@ptable}
368 \newcounter{subhv@pfigure}
369 \newcounter{subhv@ptable}
370
371 \def\drawSepLine{%
372   \par\noindent
373   \if@twocolumn\rule{\columnwidth}{0.4pt}\else\rule{\linewidth}{0.4pt}\fi
374   \vspace{0pt}%
375 }
376
377 \newcount\hv@cmta
378 \newcount\hv@cmtb
379
380
381 \def\hvFloat@ii[#1]#2#3{%
382   \hv@maxImageWidth=\textwidth
383   \ifx\relax#1\relax\else\setkeys{hvSet}{#1}\fi
384   \gdef\hv@floatType{#2}%
385   \ifx\relax#2\relax \setkeys{hvSet}{nonFloat=true}\fi
386   \gdef\hv@floatObject{#3}%
387   \@ifnextchar[{\do@hvFloat}{\do@hvFloat[]}%
388 }
389 \def\do@hvFloat[#1]#2#3{%
390   \gdef\hv@shortCap{#1}%
391   \gdef\hv@longCap{#2}%
392   \gdef\hv@label{#3}%
393   \ifhv@capbeside\def\@temp{1}\else\def\@temp{0}\fi
394   \ifhv@fullpage
395     \def\hvSet@CapWidth{n}% relative value
396     \do@@@hvFloat% fullpage with caption on other page
397   \else
398     \ifhv@FULLPAGE
399       \def\hvSet@CapWidth{n}% relative value
400       \do@@@hvFloat% fullpage with caption on other page
401     \else
402       \ifhv@doubleFULLPAGE
403         \setlength\hvCapWidth{\textheight}
404         \do@hvFloat@doubleFULLPAGE% fullpage with caption rotated or under on an odd page
405       \else
406         \ifhv@doublePAGE
407           \expandafter\do@hvFloat@doublePAGE\@temp% fullpage with caption rotated or under on an odd page
408         \else
409           \ifhv@doublePage
410             \expandafter\do@hvFloat@doublePage\@temp% fullpage with caption rotated or under on an odd page
411           \else
412             \do@@@hvFloat
413           \fi
414         \fi
415       \fi
416     \fi
417   \fi
418 % \global\hv@capbesidefalse

```

```

419 }
420 %
421 \def\do@@hvFloat{% no special float page
422 \def\@tempa{90}%
423 \ifx\hvSet@rotAngle\@tempa
424 \setlength\hvMaxCapWidth{\textheight}%
425 \else
426 \setlength\hvMaxCapWidth{\hvWideWidth}%
427 \fi
428 %
429 % First we save the object in \hvObjectBox
430 %
431 \ifx\hvSet@objectAngle\hv@Zero % rotate the object?
432 \savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
433 \else
434 \savebox{\hvObjectBox}{%
435 \rotatebox{\hvSet@objectAngle}{%
436 \ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi
437 }%
438 }%
439 \fi
440 \setlength\hvObjectWidth{\wd\hvObjectBox}%
441 %
442 % Now we save the caption with its defined \hvCapWidth
443 %
444 \ifx\hvSet@capWidth\hv@Width% captionwidth=objectwidth
445 \setlength\hvCapWidth{\hvObjectWidth}%
446 \else
447 \ifx\hvSet@capWidth\hv@Height% captionwidth=objectheight
448 \setlength\hvCapWidth{\ht\hvObjectBox}%
449 \else
450 \ifx\hvSet@capWidth\hv@Natural% captionwidth=\linewidth-\objectwidth-separation
451 \ifhv@capbeside
452 \ifhv@wide
453 \setlength\hvCapWidth{\the\dimexpr\hvWideWidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
454 \else
455 \ifhv@star
456 \setlength\hvCapWidth{\the\dimexpr\textwidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
457 \else
458 \setlength\hvCapWidth{\the\dimexpr\linewidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
459 \fi
460 \fi
461 \else
462 \setlength\hvCapWidth{\columnwidth}%
463 \fi
464 \else
465 \ifhv@capbeside
466 \ifhv@wide
467 \setlength\hvCapWidth{\hvSet@capWidth\hvWideWidth}%
468 \setlength\@tempdima{\the\dimexpr\hvWideWidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%
469 \else
470 \setlength\hvCapWidth{\hvSet@capWidth\columnwidth}%
471 \setlength\@tempdima{\the\dimexpr\columnwidth-\hvObjectWidth-\hvSet@floatCapSep\relax}%

```

25 The Package Source

```

472         \fi
473         \ifdim\hvCapWidth>\@tempdima
474             \setlength\hvCapWidth{\@tempdima}%
475         \fi
476     \else
477         \ifhv@wide
478             \setlength\hvCapWidth{\hvSet@capWidth\hvWideWidth}%
479         \else
480             \setlength\hvCapWidth{\hvSet@capWidth\columnwidth}%
481         \fi
482     \fi
483 \fi
484 \fi
485 \fi
486 \saveCaptionSkip           % we put this space ourselves
487 \ifx\hvSet@capAngle\hv@Zero % need rotation?
488     \savebox\hvCaptionBox{% NO rotation
489         \begin{minipage}[b]{\hvCapWidth}% minipage, to get hyphenation
490         \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
491         \ifhv@nonFloat
492         \ifhv@onlyText\hv@longCap
493     \else
494         \ifx\hv@floatType\hv@figure
495             \ifx\relax\hv@shortCap\relax
496                 \figcaption{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
497             \else
498                 \figcaption[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
499             \fi
500         \else
501             \ifx\relax\hv@shortCap\relax
502                 \tabcaption{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
503             \else
504                 \tabcaption[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
505             \fi
506         \fi
507     \fi
508 \else
509     \let\@captype\hv@floatType
510     \expandafter\ifx\expandafter\relax\hv@shortCap\relax
511         \caption{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
512     \else
513         \caption[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
514     \fi
515 \fi
516 % \expandafter\label\expandafter{\hv@label}% 2.17 put label into the caption argument
517     \end{minipage}%
518 }%
519 \else
520     \savebox\hvCaptionBox{% Rotation
521         \rotatebox{\hvSet@capAngle}{%
522             \begin{minipage}[b]{\hvCapWidth}% minipage, to get hyphenation
523             \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
524             \ifhv@nonFloat

```

```

525     \ifhv@onlyText\hv@longCap
526 \else
527     \ifx\hv@floatType\hv@figure
528         \ifx\relax\hv@shortCap\relax \figcaption{\hv@longCap}\else\figcaption[\hv@shortCap]{\hv@longCap}\fi
529     \else
530         \ifx\relax\hv@shortCap\relax \tabcaption{\hv@longCap}\else\tabcaption[\hv@shortCap]{\hv@longCap}\fi
531     \fi
532 \fi
533 \else
534     \let\@capttype\hv@floatType
535     \expandafter\ifx\expandafter\relax\hv@shortCap\relax \caption{\hv@longCap}\else\caption[\hv@shortCap]{\hv@longCap}\fi
536     \fi
537     \label{\hv@label}%
538     \end{minipage}%
539 }% rotatebox
540 }% \sbox
541 \fi
542 %
543 % now we have the object and the caption with the right
544 % rotated angles saved in different boxes
545 %%
546 \restoreCaptionSkip% save old values
547 \def\fps@figure{\hvSet@floatPos}%
548 \ifhv@nonFloat
549     \beginngroup%      Start the nonfloat part
550 \else
551     \ifhv@star
552         \@nameuse{\hv@floatType*}%      Start the floating environment *****
553     \else
554         \begin{\hv@floatType} %      Start the floating environment
555     \fi
556 \fi
557 \checkoddpage
558 \ifx\hvSet@objectPos\hv@Right\raggedleft\fi
559 \ifx\hvSet@objectPos\hv@Center
560     \ifhv@nonFloat\hspace*{\fill}\else\centering\fi
561 \fi
562 \ifx\hvSet@objectPos\hv@Outer
563     \ifoddpage\raggedleft\fi
564 \fi
565 \ifx\hvSet@objectPos\hv@Inner
566     \ifoddpage\else\raggedleft\fi
567 \fi
568 %
569 % to rotate object and caption together, we save all in another box
570 % the caption comes first, if its on the left or the top
571 % 0 caption left, inner and odd page, oneside inner
572 % 1 caption top
573 % 2 caption right, inner and even page, oneside outer
574 % 3 caption bottom
575 %
576 \ifx\hvSet@capPos\hv@Left

```

25 The Package Source

```

577 \hv@@capPos=0
578 \else
579 \ifx\hvSet@capPos\hv@Top
580 \hv@@capPos=1
581 \else
582 \ifx\hvSet@capPos\hv@Right
583 \hv@@capPos=2
584 \else
585 \ifx\hvSet@capPos\hv@Bottom
586 \hv@@capPos=3
587 \else
588 \ifx\hvSet@capPos\hv@Inner
589 \ifoddpageoroneside\hv@@capPos=0\else\hv@@capPos=2\fi
590 \else
591 \ifx\hvSet@capPos\hv@Outer
592 \ifoddpageoroneside\hv@@capPos=2\else\hv@@capPos=0\fi
593 \else
594 \ifx\hvSet@capPos\hv@Before
595 \hv@@capPos=0 % same as capPos=right
596 \else
597 \ifx\hvSet@capPos\hv@After
598 \hv@@capPos=2 % same as capPos=right
599 \fi
600 \fi
601 \fi
602 \fi
603 \fi
604 \fi
605 \fi
606 \fi
607 %%%
608 \savebox{\@tempboxa}{% ***** @tempbox start
609 \expandafter\ifcase\the\hv@@capPos% 0 is LEFT START \ifcase
610 \ifx\hvSet@capVPos\hv@Center
611 \put@CaptionBox
612 \hspace{\hvSet@floatCapSep}% capfloatsep
613 \put@ObjectBox
614 \else
615 \ifx\hvSet@capVPos\hv@Top% caption and object at top aligned
616 \put@CaptionBox[1]%
617 \hspace{\hvSet@floatCapSep}% capfloatsep
618 \put@ObjectBox[1]%
619 \else% caption on bottom
620 \put@CaptionBox[2]%
621 \hspace{\hvSet@floatCapSep}% capfloatsep
622 \put@ObjectBox[2]%
623 \fi
624 \fi% end caption left
625 \or%1 is top
626 \ifdim\wd\hvCaptionBox>\wd\hvObjectBox
627 \begin{minipage}{\wd\hvCaptionBox}%
628 \else
629 \begin{minipage}{\wd\hvObjectBox}%

```

```

630     \fi
631     \centering
632     \ifhv@fbox
633     \fbox{\usebox{\hvCaptionBox}}\[\hvBelowCaptionSkip]%
634     \fbox{\usebox{\hvObjectBox}}%
635     \else
636     \usebox{\hvCaptionBox}\[\hvBelowCaptionSkip]%
637     \usebox{\hvObjectBox}%
638     \fi
639     \end{minipage}%
640     \or %2 is right
641     \ifx\hvSet@capVPos\hv@Center
642     \put@ObjectBox
643     \hspace{\hvSet@floatCapSep}%
644     \put@CaptionBox
645     \else
646     \ifx\hvSet@capVPos\hv@Top
647     \put@ObjectBox[1]%
648     \hspace{\hvSet@floatCapSep}% capfloatsep
649     \put@CaptionBox[1]%
650     \else
651     \put@ObjectBox[2]%
652     \hspace{\hvSet@floatCapSep}% capfloatsep
653     \put@CaptionBox[2]%
654     \fi
655     \fi
656     \or %3 bottom
657     \ifdim\wd\hvCaptionBox>\wd\hvObjectBox
658     \begin{minipage}{\wd\hvCaptionBox}%
659     \else
660     \begin{minipage}{\wd\hvObjectBox}%
661     \fi
662     \centering
663     \ifhv@fbox
664     \fbox{\usebox{\hvObjectBox}}\[\hvAboveCaptionSkip]%
665     \fbox{\usebox{\hvCaptionBox}}%
666     \else
667     \ifhv@objectFrame\frame{\usebox{\hvObjectBox}}\else\usebox{\hvObjectBox}\fi\[\hvAboveCaptionSkip]%
668     \usebox{\hvCaptionBox}%
669     \fi
670     \end{minipage}%
671     \fi% \ifcase\the\hv@capPos
672 }% End savebox Object and caption %%%%%%%%% @tempboxa
673 %
674 % now we rotate the object and caption, if needed
675 %
676 \ifhv@wide
677 \ifoddpageoroneside\else\ifoddpage\else\hspace*{-\marginparwidth}\fi\fi% <- for wide and left page
678 \fi
679 \ifx\hvSet@rotAngle\hv@Zero
680 \usebox{\@tempboxa}%
681 \else
682 \rotatebox{\hvSet@rotAngle}{\usebox{\@tempboxa}}%

```

25 The Package Source

```

683 \fi
684 \ifhv@nonFloat
685   \ifx\hvSet@objectPos\hv@Center
686     \ifhv@nonFloat
687       \hspace{\fill}%
688       \fi
689     \fi
690   \endgroup% End the nonfloat part
691 \else
692   \ifhv@star
693     \@nameuse{end\hv@floatType*}% End the floating environment
694   \else
695     \end{\hv@floatType}% End the floating environment
696   \fi
697 \fi
698 \endgroup% startet at main \hvFloat
699 }
700 %
701 \newenvironment{hvFloatEnv}[1][\textwidth]
702   {\minipage{#1}\center}
703   {\endcenter\endminipage}
704 %
705
706 \ExplSyntaxOn
707 \let\clist@item@Nn\clist_item:Nn
708 \let\l@clist@Type\l_clist_Type
709 \let\l@clist@LofCaption\l_clist_LofCaption
710 \let\l@clist@Label\l_clist_Label
711 \let\clist@count@N\clist_count:N
712 \ExplSyntaxOff
713
714 \def\do@@@hvFloat{% special float page: caption <-> fullpage image
715   \ifx\hvSet@capPos\hv@After \hv@@capPos=1
716   \else
717     \ifx\hvSet@capPos\hv@Even \hv@@capPos=2
718     \else
719       \ifx\hvSet@capPos\hv@Odd \hv@@capPos=3
720       \else
721         \ifx\hvSet@capPos\hv@Inner \hv@@capPos=4
722         \else
723           \ifx\hvSet@capPos\hv@Outer \hv@@capPos=5
724           \else
725             \ifx\hvSet@capPos\hv@Right \hv@@capPos=6 % only for twocolumn mode
726             \else
727               \ifx\hvSet@capPos\hv@Left \hv@@capPos=7 % only for twocolumn mode
728               \else
729                 \hv@@capPos=0
730               \fi
731             \fi
732           \fi
733         \fi
734       \fi
735     \fi

```



```

736 \fi
737 \checkoddpage
738 \set@caption@object% set caption and object into a box
739 \ifcase\hv@capPos% caption before object 0-> _always_ left
740 \setBottomCaption\setPageObject
741 \or% caption after object 1-> _always_ right
742 \setPageObject\setBottomCaption
743 \or% caption on even page 2-> left page
744 \ifoddpage
745 \afterpage{\setBottomCaption\setPageObject}%
746 \else% we are on an even page
747 % \zsaveposy{hv@currentPos}%
748 % \ifdim\the\dimexpr\zposy{hv@currentPos}sp-\hv@BottomSpace-1cm>\ht\TBox % enough space*
749 \setBottomCaption\setPageObject
750 % \else
751 % \afterpage{\afterpage{\setBottomCaption\setPageObject}}%
752 % \fi
753 \fi
754 \or% caption on odd page 3->right page
755 \if@twoside
756 \if@twocolumn
757 \ifoddpage
758 \if@firstcolumn% on right side
759 \setBottomCaption\setPageObject
760 \else
761 \afterpage{\setPageObject\setBottomCaption}% start next column
762 \fi
763 \else% left (even) page
764 \if@firstcolumn
765 \afterpage{\setPageObject\setBottomCaption}% start next column
766 \else
767 \setPageObject\setBottomCaption
768 \fi
769 \fi
770 \else % onecolumn
771 \ifoddpage
772 \setPageObject\setBottomCaption
773 \else% even page
774 \afterpage{\setPageObject\setBottomCaption}%
775 \fi
776 \fi
777 \else % oneside
778 \if@twocolumn
779 \ifoddpage
780 \if@firstcolumn% on right side
781 \setBottomCaption\setPageObject
782 \else
783 \setPageObject\setBottomCaption
784 \fi
785 \else
786 \if@firstcolumn% on left side
787 \afterpage{\setPageObject\setBottomCaption}%
788 \else

```

25 The Package Source

```

789         \setPageObject\setBottomCaption
790     \fi
791 \fi
792 \else % onecolumn
793     \ifoddpage
794         \setBottomCaption\setPageObject
795     \else
796         \afterpage{\setBottomCaption\setPageObject}%
797     \fi
798 \fi
799 \fi
800 \or%           caption on the inner column 4->inner
801 \set@caption@object
802 \if@twocolumn
803     \ifoddpage
804         \if@firstcolumn% on right side
805         \setBottomCaption\setPageObject
806     \else      % right column on right side
807         \setPageObject\setBottomCaption% start next firstcolumn next page
808     \fi
809 \else
810     \if@firstcolumn% on left side
811         \afterpage{\afterpage{\setBottomCaption\setPageObject}}% start next page/first column
812     \else% left page/column
813         \setBottomCaption\setPageObject% start on same page/column
814     \fi
815 \fi
816 \else % onecolumn
817     \setBottomCaption\setPageObject
818 \fi
819 \or%           caption on the outer column 5->outer
820 \set@caption@object
821 \if@twocolumn
822     \ifoddpage
823         \if@firstcolumn
824             \afterpage{\afterpage{\setBottomCaption\setPageObject}}%
825         \else
826             \afterpage{\setBottomCaption\setPageObject}%
827         \fi
828     \else% even page (left)
829         \if@firstcolumn
830             \setBottomCaption\setPageObject
831         \else
832
833         \fi
834     \fi
835 \else% onecolumn
836     \setBottomCaption\setPageObject
837 \fi
838 \or%           caption after object on same page 6->right for twocolumn
839 \if@twocolumn
840     \if@firstcolumn
841         \afterpage{\setPageObject\setBottomCaption}%

```

```

842     \else
843         \setPageObject\setBottomCaption
844     \fi
845 \else% always caption _after_ object for onecolumn
846     \setPageObject\setBottomCaption
847 \fi
848 \or% caption before object on same page 7->left for twocolumn
849     \if@twocolumn
850         \if@firstcolumn
851             \setBottomCaption\setPageObject
852         \else
853             \afterpage{\setBottomCaption\setPageObject}
854         \fi
855     \else% onecolumn -> same as before
856         \setBottomCaption\setPageObject
857     \fi
858 \fi
859 \endgroup% startet at main \hvFloat
860 }
861 %
862 %
863 \def\do@hvFloat@doublePage#1{% image on left and right page with caption on the right
864     -----
865     \checkoddpage
866     \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
867     \ifoddpage
868     \afterpage{%
869         \noindent
870         \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
871         \global\@tempdima=\dimexpr\paperwidth-lin-\evensidemargin\relax
872         \clipbox*{0 -\depth}{\@tempdima}{\height}{\usebox{\hvObjectBox}%
873         \par\bigskip
874         \afterpage{%
875             \newpage
876             \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
877             \hspace*{\dimexpr-lin-\oddsidemargin-\parindent}%
878             \clipbox*{\@tempdima}{-\depth}{\width}{\height}{\usebox{\hvObjectBox}%
879             \ifnum#1>0
880                 \medskip
881                 \ifdim\dp\hvObjectBox > \z@
882                     \rotatebox[origin=c]{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
883                         \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}
884                     %
885                 \else
886                     \rotatebox{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
887                         \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}
888                     %
889                 \fi
890             \else
891                 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
892             \fi
893         }%
894     }%

```

```

892 \else
893 \afterpage{%
894 \afterpage{%
895 % \newpage
896 \noindent\null
897 \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
898 \global\@tempdima=\dimexpr\paperwidth-1in-\evensidemargin\relax{}
899 \hspace*{\@tempdima}%
900 \clipbox*{0 -\depth{} \@tempdima{} \height}{\usebox{\hvObjectBox}%
901 \par\bigskip
902 \afterpage{%
903 \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
904 \noindent
905 \hspace*{\dimexpr-1in-\marginparwidth}%
906 \clipbox*{\@tempdima{} -\depth{} \width{} \height}{\usebox{\hvObjectBox}%
907 \ifnum#1>0
908 \medskip
909 \ifdim\dp{\hvObjectBox} > \z@
910 \rotatebox[origin=c]{90}{\parbox{\the\dimexpr\ht{\hvObjectBox}+\dp{\hvObjectBox}{%
911 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}
912 %
913 \else
914 \rotatebox{90}{\parbox{\the\dimexpr\ht{\hvObjectBox}+\dp{\hvObjectBox}{%
915 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}
916 %
917 \fi
918 \else
919 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
920 \fi
921 }}}%
922 \fi
923 \endgroup
924 }
925
926 \def\do@hvFloat@doublePAGE#1{% image on left and right page with caption on the right
927 -----
928 \checkoddpage
929 \ifoddpage
930 \afterpage{%
931 \newpage
932 \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
933 \hspace*{\the\dimexpr-\evensidemargin-\parindent-1in}%
934 \clipbox*{0 -\depth{} \paperwidth{} \height}{\usebox{\hvObjectBox}%
935 \newpage
936 \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
937 \hspace*{\the\dimexpr-\oddsidemargin-\parindent-1in}%
938 \clipbox*{\paperwidth{} -\depth{} \width{} \height}{\usebox{\hvObjectBox}%
939 \ifnum#1>0
940 \medskip
941 \ifdim\dp{\hvObjectBox} > \z@
942 \rotatebox[origin=c]{90}{\parbox{\the\dimexpr\ht{\hvObjectBox}+\dp{\hvObjectBox}{%
943 \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}
944 %

```

```

941         \else
942         \rotatebox{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
943         \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}
944         %
945         \fi
946         \else
947         \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
948         \fi
949         \newpage
950     }%
951 \else
952     \afterpage{%
953     %
954     \AddToHookNext{shipout/before}{%
955     %
956     \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
957     \hspace*{\dimexpr-\evensidemargin-\lin-\parindent}%
958     \clipbox*{0 -\depth{} \paperwidth{} \height}{\usebox\hvObjectBox}%
959     \newpage
960     \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
961     \hspace*{\the\dimexpr-\lin-\oddsidemargin-\parindent\relax}%
962     \clipbox*{\paperwidth{} -\depth{} \width{} \height}{\usebox\hvObjectBox}%
963     \ifnum#1>0
964     \medskip
965     \ifdim\dp\hvObjectBox > \z@
966     \rotatebox[origin=c]{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
967     \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}
968     %
969     \else
970     \rotatebox{90}{\parbox{\the\dimexpr\ht\hvObjectBox+\dp\hvObjectBox}{%
971     \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}
972     %
973     \fi
974     \else
975     \captionof{\hv@floatType}{\hv@shortCap}{\hv@longCap\expandafter\label\expandafter{\hv@label}}%
976     \fi
977     \newpage
978     }}%
979 \fi
980 \endgroup
981 }
982 %
983 \def\do@hvFloat@doubleFULLPAGE{% image on left and right page with caption on the right
984 -----
985 \checkoddpage
986 \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
987 \ifoddpage
988     \afterpage{%
989         \global\savebox{\hvObjectBox}{\ifhv@use0Box\usebox{\hv0Box}\else\hv@floatObject\fi}%
990         \vspace*{\the\dimexpr-\lin-\voffset-\topmargin-\headheight-\headsep+0.5\paperheight-0.5\ht\hvObjectBox
991         -\normalbaselineskip}%
992         \hspace*{\the\dimexpr-\evensidemargin-\parindent-\lin}%
993         \thispagestyle{empty}%
994         \clipbox*{0 0 \paperwidth{} \height}{\usebox\hvObjectBox}%

```

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```

989     \newpage
990     \thispagestyle{empty}%
991     \vspace*{\the\dimexpr-\lin-\voffset-\topmargin-\headheight-\headsep-0.5\paperheight+0.5\ht\hvObjectBox
        -\normalbaselineskip}%
992     \hspace*{\the\dimexpr-\oddsidemargin-\parindent-\lin}%
993     \clipbox*{\paperwidth{} 0 \wd\hvObjectBox{} \paperheight{}}{\usebox\hvObjectBox}%
994     \savebox\hvCaptionBox{\parbox{0.9\ht\hvObjectBox}{%
995         \captionof{\hv@floatType}[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}}%
996     \put(-\ht\hvCaptionBox,0.5\ht\hvObjectBox){\makebox(0,0){\rotatebox{90}{\parbox{0.9\ht\hvObjectBox}{%
997         \captionof{\hv@floatType}[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}}}
998     \newpage
999 }%
1000 \else
1001     \afterpage{%
1002         \AddToHookNext{shipout/before}{%
1003             \global\savebox{\hvObjectBox}{\ifhv@useOBox\usebox{\hvOBox}\else\hv@floatObject\fi}%
1004             \vspace*{\the\dimexpr-\lin-\voffset-\topmargin-\headheight-\headsep-0.75\paperheight+0.75\ht\
                hvObjectBox}%
1005             \hspace*{\the\dimexpr-\evensidemargin-\parindent-\lin}%
1006             \thispagestyle{empty}%
1007             \clipbox*{0 0 \paperwidth{} \paperheight}{\usebox\hvObjectBox}%
1008             \newpage
1009             \thispagestyle{empty}%
1010             \vspace*{\the\dimexpr-\lin-\voffset-\topmargin-\headheight-\headsep-0.5\paperheight+0.5\ht\hvObjectBox
                -\normalbaselineskip}%
1011             \hspace*{\the\dimexpr-\oddsidemargin-\parindent-\lin}%
1012             \clipbox*{\paperwidth{} 0 \wd\hvObjectBox{} \paperheight{}}{\usebox\hvObjectBox}%
1013             \savebox\hvCaptionBox{\parbox{0.9\ht\hvObjectBox}{%
1014                 \captionof{\hv@floatType}[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}}%
1015             \put(-\ht\hvCaptionBox,0.5\ht\hvObjectBox){\makebox(0,0){\rotatebox{90}{\parbox{0.9\ht\hvObjectBox}{%
1016                 \captionof{\hv@floatType}[\hv@shortCap]{\hv@longCap\expandafter\label\expandafter{\hv@label}}}}}}
1017             \newpage
1018             }%
1019         }%
1020     \fi
1021     \endgroup
1022 }
1023
1024 \def\setBottomCaption{%
1025     \begin{\hv@floatType}[!b]
1026     \ifhv@separatorLine\drawSepLine\fi
1027     \par
1028     \usebox\hvCaptionBox
1029     \end{\hv@floatType}%
1030 }
1031
1032 \def\setPageObject{%
1033     \ifhv@star
1034         \begin{\hv@floatType*}[p]%
1035     \else
1036         \begin{\hv@floatType}[p]%
1037     \fi
1038     \ifhv@FULLPAGE

```

```

1039 \vspace*{\the\dimexpr-\voffset-\topmargin-\headheight-\headsep}%-0.5\baselineskip}%
1040 \checkoddpages
1041 \if@twoside
1042 \ifoddpage
1043 \hspace*{\the\dimexpr-\oddsidemargin-\parindent-\lin}%
1044 \else
1045 \hspace*{\the\dimexpr-\evensidemargin-\parindent-\lin}%
1046 \fi
1047 \else
1048 \hspace*{\the\dimexpr-\oddsidemargin-\parindent-\lin}%
1049 \fi
1050 %\put(0,0){
1051 \AtBeginShipoutNext{\thispagestyle{empty}}%
1052 \usebox\hvObjectBox}%
1053 \else
1054 \usebox\hvObjectBox
1055 \fi
1056 \ifhv@star
1057 \end{\hv@floatType}%
1058 \else
1059 \end{\hv@floatType}%
1060 \fi
1061 }
1062
1063 \ExplSyntaxOn
1064
1065 \def\getMultiCaptionAndLabel{%
1066 \global\abox\hvCaptionBox{\minipage[b]{\linewidth}}%
1067 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
1068 \setlength\belowcaptionskip{5pt}%
1069 \setlength\abovecaptionskip{0pt}%
1070 \hv@cmtb=\clist_count:N\l_clist_Type
1071 \advance\hv@cmtb by \@ne
1072 \hv@cmta=1
1073 \loop
1074 \edef\@captype{\clist_item:Nn\l_clist_Type{\hv@cmta}}%
1075 \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{\hv@cmta}}%
1076 \ifx\@tempa\empty
1077 \caption{\clist_item:Nn\l_clist_Type{\hv@cmta}}%
1078 \else
1079 \expandafter\caption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Type{\hv@cmta}}%
1080 \fi
1081 \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cmta}}%
1082 \ifx\@tempa\empty
1083 \else
1084 \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cmta}-cap}\fi
1085 \advance\hv@cmta by \@ne
1086 \ifnum\hv@cmta<\hv@cmtb
1087 \repeat
1088 \endminipage}%
1089 }
1090 \def\getMultiObjectAndLabel{%
1091 \global\abox\hvObjectBox{\minipage{\linewidth}}%

```

```

1092 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
1093 \ifx\hvSet@objectPos\hv@Right\raggedleft\else
1094 \ifx\hvSet@objectPos\hv@Left\raggedleft\else
1095 \ifx\hvSet@objectPos\hv@Center\centering
1096 \fi\fi\fi
1097 \hv@cntb=\clist_count:N\l_clist_Type
1098 \advance\hv@cntb by \@ne
1099 \hv@cmta=1
1100 \loop
1101 \def\@temp{\clist_item:Nn\l_clist_Object{\hv@cmta}}%
1102 \ifhv@objectFrame\frame{\@temp}\else\@temp\fi
1103 \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cmta}}%
1104 \ifx\@tempa\@empty
1105 \else
1106 \refstepcounter{\@captype}%
1107 \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cmta}}%
1108 \fi
1109 \ifnum\hv@cmta<\clist_count:N\l_clist_Type\par\hv@vskip\fi
1110 \advance\hv@cmta by \@ne
1111 \ifnum\hv@cmta<\hv@cntb
1112 \repeat
1113 \endminipage}%
1114 }
1115
1116 \def\getMultiSubCaptionAndLabel{%
1117 \global\sbox\hvCaptionBox{\minipage{\linewidth}%
1118 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
1119 \setlength\belowcaptionskip{5pt}%
1120 \setlength\abovecaptionskip{0pt}%
1121 \xdef\@captype{\clist_item:Nn\l_clist_Type{1}}% the same for all subfloats
1122 \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{1}}%
1123 \ifx\@tempa\@empty
1124 \caption{\clist_item:Nn\l_clist_Caption{1}}%
1125 \else
1126 \expandafter\caption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{1}}%
1127 \fi
1128 \edef\@tempa{\clist_item:Nn\l_clist_Label{1}}%
1129 \ifx\@tempa\@empty\else\expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{1}-cap}\fi
1130 \endminipage}%
1131 }
1132
1133 \def\getMultiSubObjectAndLabel{%
1134 \global\sbox\hvObjectBox{\minipage{\linewidth}%
1135 \ifx\relax\hv@subcaption@format\relax\else\captionsetup[sub]{\hv@subcaption@format}\fi
1136 \ifx\hvSet@objectPos\hv@Right\raggedleft\else
1137 \ifx\hvSet@objectPos\hv@Left\raggedleft\else
1138 \ifx\hvSet@objectPos\hv@Center\centering
1139 \fi\fi\fi
1140 \hv@cntb=\clist_count:N\l_clist_Caption
1141 \advance\hv@cntb by \@ne
1142 \hv@cmta=2
1143 \xdef\@captype{\clist_item:Nn\l_clist_Type{1}}% the same for all subfloats
1144 \loop

```



```

1145 \def\@temp{\clist_item:Nn\l_clist_Object{\hv@cna}}%
1146 \ifhv@objectFrame\frame{\@temp}\else\@temp\fi
1147 \begingroup
1148 \edef\@tempa{\clist_item:Nn\l_clist_LofCaption{\hv@cna}}%
1149 \ifx\@tempa\empty
1150 \subcaption{\clist_item:Nn\l_clist_Caption{\hv@cna}}%
1151 \else
1152 \expandafter\subcaption\expandafter[\@tempa]{\clist_item:Nn\l_clist_Caption{\hv@cna}}%
1153 \fi
1154 \edef\@tempa{\clist_item:Nn\l_clist_Label{\hv@cna}}%
1155 \ifx\@tempa\empty
1156 \else
1157 \expandafter\label\expandafter{\clist_item:Nn\l_clist_Label{\hv@cna}}%
1158 \fi
1159 \endgroup
1160 \ifnum\hv@cna<\clist_count:N\l_clist_Type\par\hv@vskip\fi
1161 \advance\hv@cna by \@ne
1162 \ifnum\hv@cna<\hv@cntb
1163 \repeat
1164 \edef\@tempa{\clist_item:Nn\l_clist_Label{1}}% the main label at the end
1165 \ifx\@tempa\empty
1166 \else
1167 \refstepcounter{\@captype}
1168 \expandafter\label\expandafter{\@tempa}%
1169 \fi
1170 \endminipage}%
1171 }
1172 \ExplSyntaxOff
1173
1174 \def\getSingleCaptionAndLabel{%
1175 \global\sbox\hvCaptionBox{\minipage{\linewidth}%
1176 \ifx\relax\hv@caption@format\relax\else\expandafter\captionsetup\expandafter{\hv@caption@format}\fi
1177 \setlength\belowcaptionskip{5pt}%
1178 \setlength\abovecaptionskip{0pt}%
1179 \edef\@captype{\hv@floatType}%
1180 \expandafter\ifx\expandafter\relax\hv@shortCap\relax
1181 \caption{\hv@longCap}%
1182 \else
1183 \caption[\hv@shortCap]{\hv@longCap}%
1184 \fi
1185 \expandafter\ifx\expandafter\relax\hv@label\relax\else\label{\hv@label-cap}\fi
1186 \endminipage}%
1187 }
1188
1189 \def\set@caption@object{% first caption, then object
1190 \ifhv@multiFloat
1191 \getMultiCaptionAndLabel
1192 \else
1193 \ifhv@subFloat
1194 \getMultiSubCaptionAndLabel
1195 \else
1196 \getSingleCaptionAndLabel
1197 \fi

```

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```
1198 \fi
1199 \edef\@capttype{hv@p\hv@floatType}%
1200 \ifhv@multiFloat
1201   \getMultiObjectAndLabel
1202 \else
1203   \ifhv@subFloat
1204     \getMultiSubObjectAndLabel
1205   \else
1206     \global\sbox\hvObjectBox{%
1207       \refstepcounter{\@capttype}%
1208       \ifhv@objectFrame\frame{\hv@floatObject}\else\hv@floatObject\fi
1209       \expandafter\ifx\expandafter\relax\hv@label\relax
1210         \else
1211           \expandafter\label\expandafter{\hv@label}%
1212         \fi
1213     }%
1214   \fi
1215 \fi
1216 }
1217 %
1218 \endinput
```