The **HEP-FLOAT** package∗

Convenience package for float placement

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2021/08/01

Abstract

The **HEP-FLOAT** package redefines some **\LaTeX** float placement defaults and defines convenience wrappers for floats.

The **HEP-FLOAT** package can be loaded with `\usepackage{hep-float}`.

```latex
\setcounter{bottomnumber}{0} no floats at the bottom of a page (default 1)
\setcounter{topnumber}{1} a single float at the top of a page (default 2)
\setcounter{dbltopnumber}{1} same for full widths floats in two-column mode
\renewcommand{\textfraction}{.1} large floats are allowed (default 0.2)
\renewcommand{\topfraction}{.9} (default 0.7)
\renewcommand{\dbltopfraction}{.9} (default 0.7)
\renewcommand{\floatpagefraction}{.8} float pages must be full (default 0.5)
```

The most useful float placement is usually archived by placing the float *in front of* the paragraph it is referenced in first. Additionally, manual float placement can be deactivated using the `manualplacement` package option.

```latex
\raggedright The float environments have been adjusted to center their content. The usual behaviour can be reactivated using `\raggedright`.
```

The **panels** environment makes use of the **subcaption** package [1]. It provides sub-floats and takes as mandatory argument either the number of sub-floats (default 2) or the width of the first sub-float as fraction of the **\linewidth**. Within the `\begin{panels}{⟨vertical alignment⟩}{⟨width⟩}` environment the `\panel{⟨width⟩}` macro initiates a new sub-float. In the case that the width of the first sub-float has been given as an optional argument to the `\panels` environment the `\panel{⟨width⟩}` macro takes the width of the next sub-float as mandatory argument. The example code is presented in table 1a.

```latex
\begin{panels}{vertical alignment}{width}
\begin{panel}{width}
\begin{figure}
\end{panel}
\end{panels}
```

The **booktabs** [2] and **multirow** [3] packages are loaded enabling publication quality tabulars such as in table 1b.

∗This document corresponds to **HEP-FLOAT** v1.0.
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\begin{panels}
\begin{center}
\begin{tabular}{ccc}
\hline
one & two \\
\hline
\hline
a & b & c & d \\
\hline
b & c & d \\
\end{tabular}
\end{center}
\end{panels}

(a) Code for this panel environment. (b) The \texttt{booktabs} and \texttt{multirow} features.

Table 1: Example use of the \texttt{panels} environment in Panel (a) and the features from the \texttt{booktabs} and \texttt{multirow} packages in Panel (b).

The \texttt{graphicx} package \cite{graphicx} is loaded and the \texttt{graphic\{\langle width\rangle\}\{(figure)\}} macro is defined, which is a wrapper for the \texttt{includegraphics\{(figure)\}} macro and takes the figure width as fraction of the \texttt{\linewidth} as optional argument (default 1). If the graphics are located in a sub-folder its path can be indicated by \texttt{graphics\{(subfolder)\}}.

References

\begin{enumerate}
\item A. Sommerfeldt. ‘The \texttt{subcaption} package: Support for sub-captions’ (2007). CTAN: \texttt{subcaption}. GitLab: \texttt{axelsommerfeldt/caption}.
\item D. Els and S. Fear. ‘The \texttt{booktabs} package: Publication quality tables in \LaTeX’ (1995). CTAN: \texttt{booktabs}.
\item P. van Oostrum and J. Leichter. ‘The \texttt{multirow}, \texttt{bigstrut} and \texttt{bigdelim} packages: Create tabular cells spanning multiple rows’ (1994). CTAN: \texttt{multirow}.
\item D. Carlisle and S. Rahtz. ‘Packages in the “graphics” bundle: Enhanced support for graphics’ (1994). CTAN: \texttt{graphicx}.
\end{enumerate}