

The HEP-FLOAT package*

Convenience package for float placement

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2026/08/01

Abstract

The HEP-FLOAT package configures float placement for publication-style documents and adds convenience wrappers for figures, tables, sub-floats, and graphics. It centres float contents by default, provides side-by-side figure and table environments, loads BOOKTABS, MULTIROW, and SUBCAPTION, and defines compact graphics helpers.

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

figure (*env.*) Automatic float placement is adjusted to place a single float at the top of pages and to reduce the number of float pages, using the L^AT_EX macros.

table (*env.*)

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

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

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

figures (*env.*) The **figures** environment places several figure panels next to each other inside one **figure** float. It takes an optional vertical alignment and a mandatory argument that is either the number of equal-width figures or the width of the first figure as a fraction of `\linewidth`. Inside the environment the **\figure** macro starts the next figure panel. The horizontal and vertical spacing are controlled by **\figurehspace** and **\figurevspace**.

tables (*env.*) The **tables** environment is the analogous wrapper for several tables inside one **table** float. Inside the environment **\table** starts the next table panel, and **\tablehspace** and **\tablevspace** control the spacing.

\tablehspace 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** 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*]

*This document corresponds to HEP-FLOAT v1.5.

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```

\begin{panels}{2}
  code
\panel
  \begin{tabular}...\end{tabular}
\end{panels}

```

(a) Code for this panel environment.

one		two	
a	b	c	d
	b	c	d

(b) The `booktabs` and `multirow` features.

Table 1: Example use of the `panels` environment in Panel (a) and the features from the `BOOKTABS` and `MULTIROW` packages in Panel (b).

<code>\panelhspace</code>	macro takes the width of the next sub-float as mandatory argument. The example code is presented in table 1a. The spacing between the panels can be adjusted by adjusting the <code>\panelvspace</code> in terms of a <code>\linewidth</code> fraction <code>\renewcommand*{\panelhspace}{fraction}</code> and the <code>\panelvspace</code> in terms of a length <code>\renewcommand*{\panelvspace}{\langle length \rangle}</code> .
<code>\panelvspace</code>	
<code>tabular (env.)</code>	The <code>BOOKTABS</code> [2] and <code>MULTIROW</code> [3] packages are loaded enabling publication quality tabulars such as in table 1b.
<code>\graphic</code>	The <code>GRAPHICX</code> package [4] is loaded and the <code>\graphic[\langle width \rangle]{\langle figure \rangle}</code> macro is defined, which is a wrapper for the <code>\includegraphics{\langle figure \rangle}</code> macro and takes the figure width as fraction of the <code>\linewidth</code> as optional argument (default 1). If the graphics are located in a sub-folder its path can be indicated by <code>\graphics{\langle subfolder \rangle}</code> .
<code>\graphics</code>	

References

- [1] A. Sommerfeldt. ‘The `subcaption` package: Support for sub-captions’ (2007). CTAN: `subcaption`. GitLab: `axelsommerfeldt/caption`.
- [2] D. Els and S. Fear. ‘The `booktabs` package: Publication quality tables in `LATEX`’ (1995). CTAN: `booktabs`.
- [3] P. van Oostrum and J. Leichter. ‘The `multirow`, `bigstrut` and `bigdelim` packages: Create tabular cells spanning multiple rows’ (1994). CTAN: `multirow`.
- [4] D. Carlisle and S. Rahtz. ‘Packages in the “graphics” bundle: Enhanced support for graphics’ (1994). CTAN: `graphicx`.