The HEP-GRAPHIC package*

TikZ, pgfplots and tikz-feynman setup with externalisation and figure inclusion helpers

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Abstract

The HEP-GRAPHIC package collects graphics helpers for HEP documents. It loads TikZ, optional TikZ externalisation, and TIKZSCALE, provides path-aware inclusion commands for PGF plots and Feynman diagrams, and can load companion HEP-PLOT and HEP-FEYNMAN modules for PGFPLOTS defaults, colour cycles, line styles, legends, and TIKZ-FEYNMAN settings.

1 Graphic

After loading the `hep-graphic` package the TikZ [1] package is loaded.

`extern` The `extern=`⟨*folder*⟩ option activates the TikZ `external` library and stores externalised graphics in ⟨*folder*⟩.

`plot` The `plot` and `feynman` options load the HEP-PLOT and HEP-FEYNMAN companion modules.

`feynman`
`\graphicpath`
`\includepgf`
`\includefeynman`

The `\graphicpath{`⟨*folder*⟩`}` macro stores the folder from which generated graphics are included. The `\includepgf`⟨***⟩`[`⟨*options*⟩`]{`⟨*name*⟩`}` macro includes a PGF or PGFPlots graphic from that folder and passes ⟨*options*⟩ to both `\pgfplotsset` and `\includegraphics`; the starred form includes the graphic without applying plotting options. The `\includefeynman{`⟨*name*⟩`}` macro includes a generated Feynman diagram centred for use in math displays.

1.1 Plot

The HEP-PLOT package loads the PGFPLOTS package [2], sets global plot dimensions and fonts, adjusts numeric formatting, and provides a `three panels` style for compact multi-panel figures. It defines `rainbow` and `rainbow reversed` colormaps, spaced colour and line-style cycle-list generators, matching cycle lists for up to many curves, and the `\addlegendtitle{`⟨*text*⟩`}` helper for legend headers.

1.2 Feynman

The HEP-FEYNMAN package loads the TIKZ-FEYNMAN package [3] and adjusts default line, momentum-arrow, and diagram styles.

*This document corresponds to HEP-GRAPHIC ?.

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References

[1] T. Tantau and H. Menke. 'The `pgf` package: Create PostScript and PDF graphics in TEX' (2005). CTAN: `pgf`.

[2] C. Feuersänger. 'The `pgfplots` package: Create normal/logarithmic plots in two and three dimensions' (2007). CTAN: `pgfplots`.

[3] J. Ellis. 'The `pgf` package: Feynman diagrams with TikZ' (2016). CTAN: `tikz-feynman`.