The `baposter` LaTeX poster class

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March 4, 2022

Abstract

This is a compact documentation of version 3.0 of the `baposter` class.

1 Introduction

`baposter` is a LaTeX template to efficently design pretty posters for scientific conferences. Posters are composited of blocks with headings, which can be positioned easily on the page, using absolute or relative positioning. A number of predefined styles can be composed to generate new color schemes and ornaments.

This document describes version 3.0 of the `baposter` class. This version has a few new features and several bug fixes. Some bug fixes are not backwards compatible. For example, the ⟨*Eye Catcher*⟩ and ⟨*Logo*⟩ parameters of the `poster` environment in previous versions were (erroneously) typeset with the '`nullfont`', which made them disappear if they consisted of just text. This also generated warnings about missing characters in the `nullfont` in the log file. The text would only appear if it was embedded in for example a `\parbox`, in a `tikzpicture` node, or similar. In this version, however, the text does also appear if it is given directly as the argument.

2 Usage

The overall structure of a poster document is

`\documentclass[`⟨*class options*⟩`]{baposter}`

⟨*preamble*⟩: additional packages, macros, definitions etc.

`\begin{document}`
`\begin{poster}{`⟨*poster options*⟩`}`
  `{ `⟨*Eye Catcher*⟩`, empty if option eyecatcher=false }`
  `{ `⟨*Poster Title*⟩` }`
  `{ `⟨*Poster Authors*⟩` }`
  `{ `⟨*Logo*⟩` }`
  ⟨*Definition of the posterboxes*⟩

`\end{poster}`
`\end{document}`

The `poster` environment should be immediately inside `\begin{document}` / `\end{document}`,

otherwise there might be blank pages.

However, you can have multiple posters in one document by including multiple `poster` environments.

2.1 Document class options

The following options can be given to the documentclass:

Paper size options

option	paper size	option	paper size
a0paper	841mm x 1189mm	archA	9in x 12in
a1paper	594mm x 841mm	archB	12in x 18in
a2paper	420mm x 594mm	archC	18in x 24in
a3paper	297mm x 420mm	archD	24in x 36in
a4paper	210mm x 297mm	archE	36in x 48in
a5paper	148mm x 210mm	archE1	30in x 42in
a6paper	105mm x 148mm	archE2	26in x 38in
b0paper	1000mm x 1414mm	archE3	27in x 39in
b1paper	707mm x 1000mm	ansiapaper	8.5in x 11in
b2paper	500mm x 707mm	ansibpaper	11in x 17in
b3paper	353mm x 500mm	ansicpaper	17in x 22in
b4paper	250mm x 353mm	ansidpaper	22in x 34in
b5paper	176mm x 250mm	ansiepaper	34in x 44in
b6paper	125mm x 176mm	letterpaper	8.5in x 11in
screen	225mm x 180mm	legalpaper	8.5in x 14in
		executivepaper	7.25in x 10.5in

Other `documentclass` options

option	default	meaning
portrait	portrait	page layout portrait
landscape	–	page layout landscape
paperwidth	841mm	paper width (*)
paperheight	1189mm	paper height (*)
fontscale	0.292	scale factor. The poster is typeset with standard font sizes on a 'fontscale × papersize' paper, and then scaled up by 1/fontscale to the chosen paper size. This ensures good looking font sizes. So if you need to fit more onto a poster, increase the fontscale option to get smaller fonts. Be sure not to choose too small fonts, or your poster will be awful.
margin	1.5cm	base margin around the text
movebody	0cm	amount to move the text to the right (left if negative)
debug	false	true|false; if true output debug info to log file
table	–	passsed to the xcolor package
showframe	–	passed to the geometry package, show a frame around the page for debugging.

(*) Do not use together with a page size option.

3 The `poster` environment

The environment for the whole poster is `poster`.

```
\begin{poster}{⟨poster options⟩}
    {⟨Eye Catcher⟩}
    {⟨Poster Title⟩}
    {⟨Poster Authors⟩}
    {⟨Logo⟩}

  ⟨Posterboxes⟩

\end{poster}
```

Please note that the ⟨*poster options*⟩ are given in curly braces { }, not in square brackets [ ].

⟨*Eye Catcher*⟩ and ⟨*Logo*⟩ are often images, but they can also be just text.

The layout of the poster header depends on the `eyecatcher` option. If `eyecatcher=true`, the ⟨*Title*⟩ and ⟨*Authors*⟩ are typeset centered between the ⟨*Eye Catcher*⟩ and the ⟨*Logo*⟩ (figure 1), even when the ⟨*Eye Catcher*⟩ parameter is left empty (figure 2).

On the other hand, if `eyecatcher=false`, the ⟨*Eye Catcher*⟩ is omitted, even when given as a parameter. In this case the ⟨*Title*⟩ and ⟨*Authors*⟩ are typeset left aligned (figure 3).

3.1 Poster environment options

The available options are (see table 1):
Note: All colors from the `xcolor` package can be used for the ⟨*color*⟩ options.

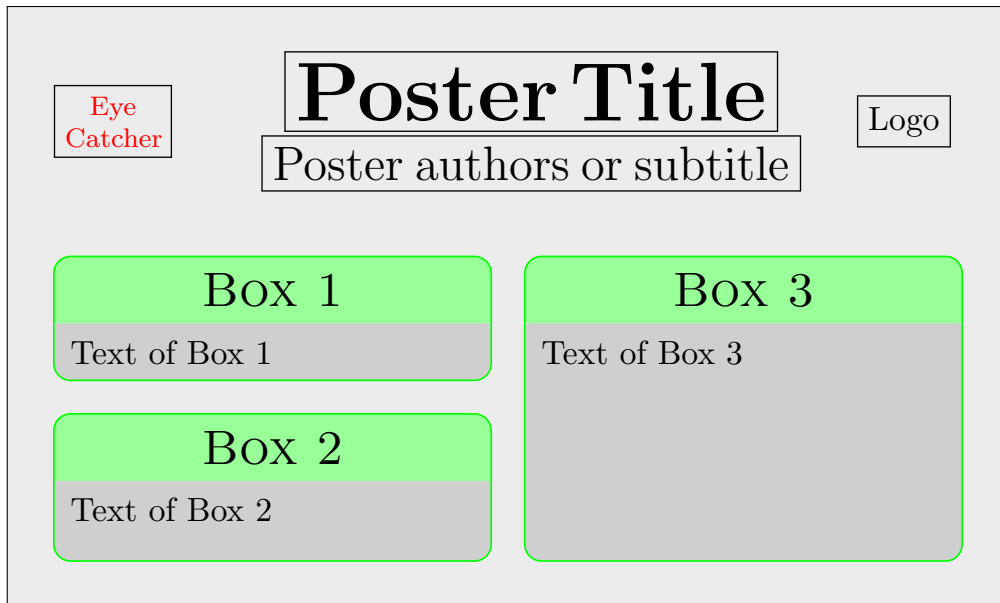Figure 1: Poster layout with `eyecatcher=true` and non-empty ⟨*Eye Catcher*⟩
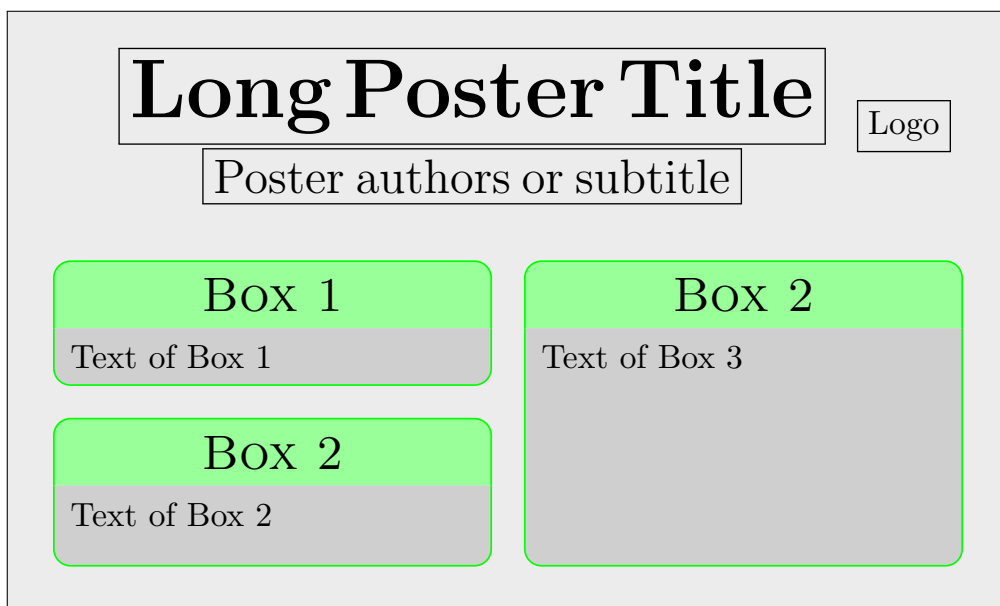

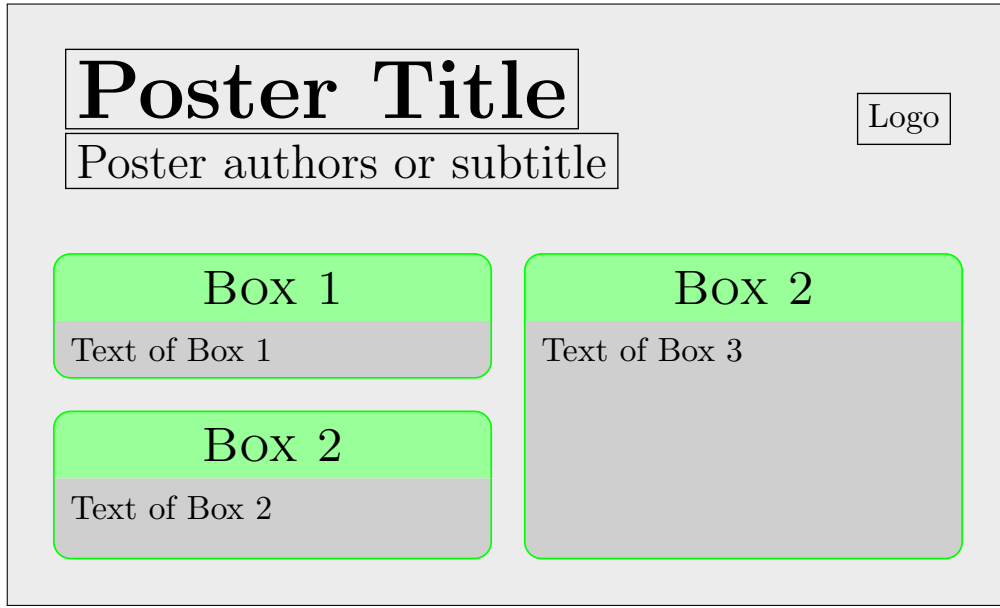Figure 2: Poster layout with `eyecatcher=true` and empty ⟨*Eye Catcher*⟩

Figure 3: Poster layout with `eyecatcher=false` (no ⟨*Eye Catcher*⟩)

Table 1: Options for `poster` environment

option	value	default	meaning
`eyecatcher`	`true`|`false`	`true`	Should an eye catcher be shown on the left of the title page. The eyecatcher itself is defined in the second argument of the poster environment
`grid`	`true`|`false`	`false`	Display a grid, which can be useful during the layout phase
`columns`	⟨*int*⟩	`3`|`4`	Number of columns, default 3 in portrait and 4 in landscape format; maximum number is 6
`colspacing`	⟨*length*⟩	`1em`	Horizontal distance between the columns of the poster
`headerheight`	⟨*length*⟩	`0.1\textheight`	Height of the main poster header as a length (not of the headers of the text boxes)
`titlefont`	⟨*font*⟩	`\bfseries\Huge\baselineskip=2.2ex`	Font commands applied to the poster title
`authorfont`	⟨*font*⟩	`\Large\baselineskip=2.2ex`	Font commands applied to the Authors in the title
`background`	See Table 2	`plain`	Type of poster background.

option	value	default	meaning
bgColorOne	$\langle color \rangle$	'silver'[1]	First background color. For a plain, this color will be used. For a shaded background, this is the first color for the gradient
bgColorTwo	$\langle color \rangle$	green	Second background color. This color will only be used for shaded backgrounds as the end color of the gradient

[1] Actually, `baposter@silver`, defined as `{cmyk}{0,0,0,0.7}`.

Table 2: Options for `background/shade`

value[*]	meaning
plain	Plain background in one color (bgColorOne)
shadelr	Horizontal background gradient (from bgColorOne to bgColorTwo)
shadetb	Vertical background gradient (from bgColorOne to bgColorTwo)
shadetbinverse[1]	Variant of shadetb, which is slightly rotated
user[2]	Use the command \background to define your own background.
none	No background at all.

[*] These values are case insensitive, so instead of `shadelr` you can also say `shadeLR` or `ShadeLR` if you want
[1] Only for `posterbox headershade` option
[2] Only for `poster background` option

Figure 4: Poster backgrounds

4 The `posterbox` environment

The environment for a box in the poster is `posterbox`.

\begin{posterbox}[⟨*posterbox options*⟩]{⟨*Posterbox Title*⟩}

  ⟨*Posterbox contents*⟩

\end{posterbox}

Each box has a name and can be placed absolutely or relatively. The only inconvenience is that you can only specify a relative position towards an already declared box. So if you have a box attached to the bottom, one to the top and a third one which should be inbetween, you have to specify the top and bottom boxes before you specify the middle box.

4.1 `Posterbox` environment options

Note: The `posterbox` options can also be given in the options parameter of the `poster` environment. They will then be applied to all the `posterbox`es, unless specifically overridden there. This is especially useful for `posterbox` options that are the same for all boxes.

Table 3: Options for `posterbox` environment

option	value	default	meaning
Position:			
name	$\langle string \rangle$	noname	Name of the box, used to refer to position other boxes
column	$\langle int \rangle$	0	Column number where to position the box
row	$\langle number \rangle$	0	Row number where to position the box; this is the fraction of the poster height. With the default poster header height 0.1 will be the top row for boxes.
span	$\langle int \rangle$	1	How many columns the box should occupy
aligned	$\langle name \rangle$	notset	Name of box to align the top of this box with
bottomaligned	$\langle name \rangle$	notset	Name of box to align the bottom of this box with
below	$\langle name \rangle$	notset	Name of box where this box is positioned below
above	$\langle name \rangle$	notset	Name of box where this box is positioned above
height	auto |	auto	Box height: if `auto`, height is determined by contents of the box;
	bottom |		if `bottom`, it stretches out until the bottom of the poster;
	$\langle number \rangle$		if a number, it is the fraction of the column height of the poster
Box design: border:			
linewidth	$\langle length \rangle$	2pt	Width of the lines to draw the box
borderColor	$\langle color \rangle$	yellow	Color used for the borders of the poster boxes
cornerradius	$\langle length \rangle$	1em	Radius of corners for rounded corners

option	value	default	meaning
Box design: header:			
headerfont	⟨*font*⟩	\scshape\Large	
			Commands inserted before a text box header is typeset
headerFontColor	⟨*color*⟩	black	Color that the header is typeset in
headerColorOne	⟨*color*⟩	red	First `headershade` color. For a `plain` header, this color will be used. For a shaded header, this is the first color for the gradient
headerColorTwo	⟨*color*⟩	brown	Second header color. This color will only be used for shaded headers as the end color of the gradient
headershape	See figure 7	rectangle* (roundedright)	The type of ornament of the text box headers
headershade	See table 2	shadelr	Which shading should be applied to the text box headers. See also figure 5
headerborder	See figure 6	none* (open)	What border should we draw on the text box header
boxheaderheight	⟨*length*⟩	2em	Height of the header
Box design: text:			
textfont	⟨*font*⟩	*none*	Commands inserted before a text box is typeset
			Font commands applied to the Authors in the title
boxshade	See table 2	none	Which kind of shading is applied to the text boxes
boxColorOne	⟨*color*⟩	magenta	First `boxshade` color. For a `plain` box, this color will be used. For a shaded box, this is the first color for the gradient
boxColorTwo	⟨*color*⟩	cyan	Second box color. This color will only be used for shaded boxes as the end color of the gradient
textborder	See figure 8	faded* (rectangle)	Which kind of border should the lower part of the text boxes have
boxpadding	⟨*length*⟩	0.5em	Amount of padding around the box contents
boxopacity	⟨*number*⟩ (0.0-1.0)	1.0	Opacity of the box background (header and text)

[*] The first value is used if the option is not given; the second one (in parentheses) is used when the option is given without a value.
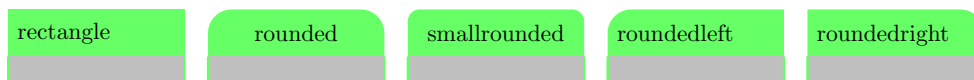
Figure 5: Header shade types

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Figure 6: Headerborder types

none	open	closed

Figure 7: Header shape types

rectangle	rounded	smallrounded	roundedleft	roundedright

4.2 `Posterbox` contents

The `baposter` documentclass is based on the standard LaTeX documentclass `article`. As such you can use most of the commands and environments that this class defines. You can also load other packages, as long as they don't take over the LaTeX page.

Some examples of compatible packages are: `amsmath`, `mathtools`, `multicol`, `tikz` (`tikz` is heavily used in `baposter`, so you don't even have to include it yourself), `xcolor`, `graphics/graphicx`, `tabularray`, `tabularx`, but there are many more. Experience must show whether a package really is compatible.

If you want to use multi-column text inside a box, this can be done with the `multicol` package, and the `multicols` environment. However this usually makes only sense when you have wider boxes. The `examples` directory in the distribution has a couple of examples where this is used. See also figure 9.

What you cannot do in a posterbox is to use the `figure` and `table` environments or similar other floating environments. These cannot be used inside a box, and it wouldn't make sense to float them anyway.

What you can do is to include a `tabular` or similar environment directly in the text. In the same way you can include a figure with the `\includegraphics` command, or construct it with `tikz` or other similar packages. However, this doesn't give you captions.

To use captions you can use the package `caption` or `capt-of`, which offer a command `\captionof`. If this is the only command you need, then `capt-of` is the better choice as it only defines this command, and therefore is very small.

A good way to emulate a `table` environment is for example:

Figure 8: Textborder types

rectangle	rounded	roundedsmall	roundedleft	roundedright
none	bars	faded	triangles	coils
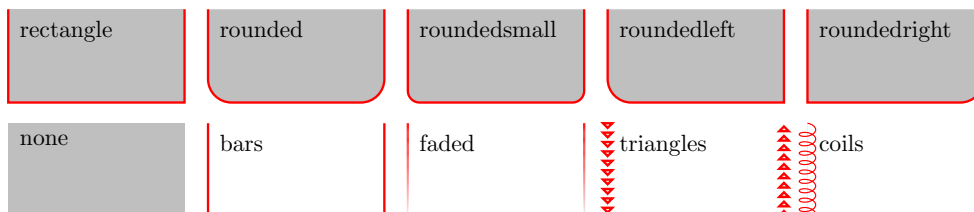
```
\begin{center}
  \begin{tabular}{llr}
    \hline
    Experiment & Year & Result \\
    \hline
    1          & 2020 & 2.35 \\
    2          & 2021 & 7.47 \\
    3          & 2022 & 1.98 \\
    \hline
  \end{tabular}
  \captionof{table}{Experimental results}
\end{center}
```

Box Example (2 columns)	Figure Box
Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.	

Box Example (2 columns)

Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam.

Experiment	Year	Result
1	2020	2.35
2	2021	7.47
3	2022	1.98

Table 1: Experimental results

`multicols{2}` **example**

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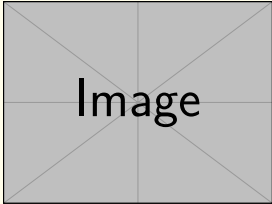
Figure Box

Figure 1: An image

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Figure 9: Example boxes with a table, a figure and `multicols{2}`

The `center` environment not only centers its contents horizontally (which is often what you want), but it also gives a little vertical space before and after the table to separate it from the surrounding text. Of course you can use other means to get your desired layout. And the same principle applies to figures:

```
\begin{center}
  \includegraphics[width=0.9\linewidth]{example-image}
  \captionof{figure}{An image}
\end{center}
```

5 Authors and Licence

The original author is Brian Amberg, and the class and documentation has been greatly improved by Reinhold Kainhofer. They have written the bulk of the class file.

Improvements to the code were made by Mathias Loesch, Alan Munn, and Pieter van Oostrum.

The current version of this documentation was made by Pieter van Oostrum. It was largely rewritten, but used elements from the original documentation. It can be found at:

`https://github.com/pietvo/baposter`

The class is distributed under the GPL.

The original version and documentation can be found at:

`http://www.brian-amberg.de/uni/poster/`