

Manual for `sectionbox.sty` version 1.01

Michael H.F. Wilkinson
Institute for Mathematics and Computing Science, University of Groningen

January 20, 2006

1 Introduction

The \LaTeX style file `sectionbox.sty` provides functionality to put sections, subsections, and sub-subsections within boxed minipages with ornaments (from `fancybox.sty`). It is mainly intended for use in conjunction with `sciposter.cls` or derived classes (e.g., `IWIposter.cls`), but it can be used in any context. It provides three new environments, `sectionbox`, `subsectionbox`, and `subsubsectionbox`, and various commands to change their appearance. Several lengths and colors can be set to further fine tune the section boxes at various levels. Due to the use of color boxes, dvi files do not always display properly. However `dvips` does yield satisfactory postscript files, so the package can be used for both $\pdf\LaTeX$ and regular \LaTeX .

2 Installation

Installation of the package only concerns unpacking the archive in a directory of your choice. It is most convenient to unpack the archive in a directory included in the `TEXINPUTS` environment variable (at our institute, in your `.TeX` directory in your home directory). Unpacking is done using the command:

```
tar -xzf sectionbox.tgz
```

This archive contains the style file itself, a `README` file with copyright and the latest release information, this manual, and an example in a subdirectory `example`. The example requires `sciposter.cls` (also available via `www.ctan.org`). The example can be compiled using commands:

```
pdflatex sectionboxexample  
bibtex sectionboxexample  
pdflatex sectionboxexample  
pdflatex sectionboxexample
```

To test the example using regular \LaTeX , convert the `.jpg` and `.png` images to `.eps` first.

3 Environments Provided

The package provides three environments:

<code>sectionbox</code>	Box containing section or part of section. May not be nested within each other.
<code>subsectionbox</code>	Box containing subsection or part of subsection, may be nested within <code>sectionbox</code> , but not within another <code>subsectionbox</code>
<code>subsubsectionbox</code>	Box containing subsubsection or part of subsubsection, may be nested within a <code>sectionbox</code> or <code>subsectionbox</code> , but not within another <code>subsubsectionbox</code>

```
\begin{sectionbox}{Boxed section}
Some content.
\end{sectionbox}
```

1 Boxed section

Some content.

```
\begin{sectionbox}[0.5\columnwidth]{}
Some more content.
\end{sectionbox}
```

Some more content.

Figure 1: Example of `sectionbox` syntax: The top example includes the section header, but does not alter the default width of the box in this two-column example, the bottom reduces the box width, and omits the section header.

```
\begin{sectionbox}{Boxed section}
  Some content.

  \begin{subsectionbox}{%
    Boxed subsection}
    More stuff

    \begin{subsubsectionbox}{%
      Boxed subsubsection}
      Bla bla

    \end{subsubsectionbox}
  \end{subsectionbox}
\end{sectionbox}
```

2 Boxed section

Some content.

2.1 Boxed subsection

More stuff

2.1.1 Boxed subsubsection

Bla bla

Figure 2: Nested `sectionbox`, `subsectionbox`, and `subsubsectionbox` environments

The syntax for `sectionbox` is:

```
\begin{sectionbox}[<width>]{<section title>}
  <content>
\end{sectionbox}
```

The optional parameter sets the width of the `sectionbox` (default `\columnwidth`). If the mandatory section title parameter is empty no section header is generated. An example is shown in Figure 1. Because the environments put their contents in a `minipage`, it is *not* possible to insert floating environments such as `figure`, `table`, or `algorithm` into a `sectionbox`. If the document class is `sciposter` or its derivatives, it *is* possible, because these environments are redefined to non-floating counterparts. A `sectionbox` *can* itself be inserted into a `figure`, `table`, or other float.

It is not possible to nest `sectionbox` environments. If nested boxes are desired, `subsectionbox` and `subsubsectionbox` environments can be used.

Leaving the section title empty can be handy if a section does not fit into a single column on a poster (see `sectionboxexample.tex`). It can also be used to create any fancy boxed `minipage` environment in which two others (`subsectionbox` and `subsubsectionbox`) can easily be nested. If it is desirable to put a `\section*` into a `sectionbox`, also leave the section title parameter empty, and insert the `\section*` command into the contents of the box. A bibliography environment can be inserted in the same way.

Environments `subsectionbox` and `subsubsectionbox` have exactly the same syntax, but produce subsection, and subsubsection headers respectively. The default width is also smaller by twice `\sectboxmargin`. An example is shown in Figure 2.

Command	Effect
<code>\framesectionbox</code>	Sets box around sectionbox to single frame
<code>\doublesectionbox</code>	Sets box around sectionbox to doublebox
<code>\shadowsectionbox</code>	Sets box around sectionbox to shadowbox
<code>\framesubsectionbox</code>	Sets box around subsectionbox to single frame
<code>\doublesubsectionbox</code>	Sets box around subsectionbox to doublebox
<code>\shadowsubsectionbox</code>	Sets box around subsectionbox to shadowbox
<code>\framesubsubsectionbox</code>	Sets box around subsubsectionbox to single frame
<code>\doublesubsubsectionbox</code>	Sets box around subsubsectionbox to doublebox
<code>\shadowsubsubsectionbox</code>	Sets box around subsubsectionbox to shadowbox

Table 1: Commands provided by `sectionbox.sty`

```

\doublesectionbox
\shadowsubsectionbox
\shadowsubsubsectionbox
\begin{sectionbox}{Boxed section}
  Some content in a double box.

  \begin{subsectionbox}{%
    Boxed subsection}
    More stuff

    \begin{subsubsectionbox}{%
      Boxed subsubsection}
      Also in a shadow box
    \end{subsubsectionbox}

    \framesubsubsectionbox
    \begin{subsubsectionbox}{%
      Another boxed subsubsection}
      Back to a single box
    \end{subsubsectionbox}
  \end{subsectionbox}
\end{sectionbox}

```

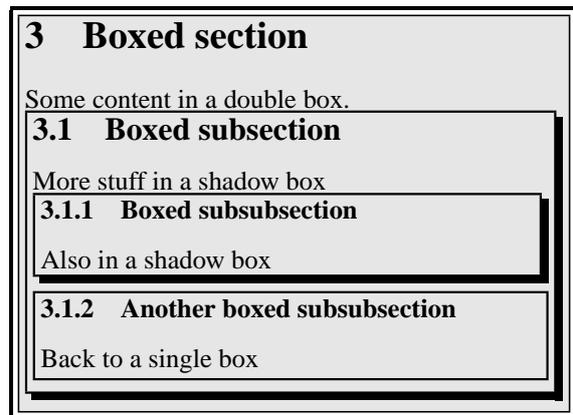


Figure 3: Setting different frame borders.

4 Commands Provided

The package provides nine commands to manipulate the appearance of each of the environments. These commands are shown in Table 1. None of these commands have any parameters. The default setting is single frames for all levels. The commands `\framesectionbox`, `\framesubsectionbox`, and `\framesubsubsectionbox` are chiefly needed if the user wants to switch back to single frame boxes after the style has been changed to double or shadow boxes. This is illustrated in Figure 3.

5 Color Selection

Three sets of three colors are defined for this package. One set of colors is defined for each of the three environments. These colors are given in Table 2. Altering the defaults can be done at any point by re-defining these colors. An example is shown in Figure 4. Whilst this combination is pretty horrific, it does demonstrate the effect.

color	Function	Default
sectboxrulecol	color of outline of sectionbox	black
subsectboxrulecol	likewise for subsectionbox	black
subsubsectboxrulecol	likewise for subsubsectionbox	black
sectboxfillcol	fill color of sectionbox	light grey
subsectboxfillcol	likewise for subsectionbox	light grey
subsubsectboxfillcol	likewise for subsubsectionbox	light grey
sectboxtextcol	color of text in sectionbox;	black
subsectboxtextcol	likewise for subsectionbox	black
subsubsectboxtextcol	likewise for subsubsectionbox	black

Table 2: Colors defined by sectionbox.sty

```

\definecolor{sectboxrulecol}{%
  rgb}{0,0,0.5}
\definecolor{sectboxfillcol}{%
  rgb}{0.9,0.9,1}
\definecolor{sectboxtextcol}{%
  %rgb}{0,0,1}
\definecolor{subsectboxrulecol}{%
  rgb}{0,0.5,0}
\definecolor{subsectboxfillcol}{%
  rgb}{0.9,1,0.9}
\definecolor{subsectboxtextcol}{%
  rgb}{0,1,0}
\definecolor{subsubsectboxrulecol}{%
  rgb}{0.5,0,0}
\definecolor{subsubsectboxfillcol}{%
  rgb}{1,0.9,0.9}
\definecolor{subsubsectboxtextcol}{%
  rgb}{1,0,0}

```

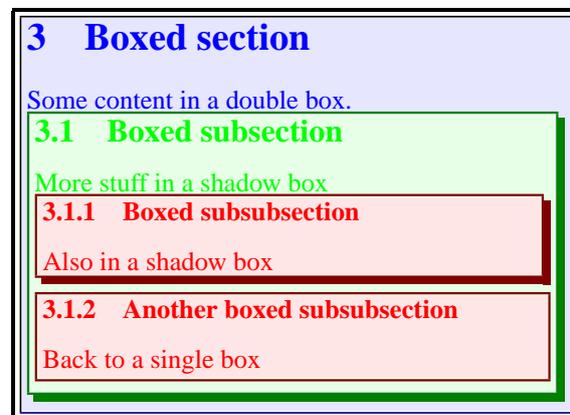


Figure 4: Setting different colors: inserting the code on the left into the example of Figure 3 produces the result on the right

6 Lengths

The package sets certain lengths from other packages, in particular `fancybox.sty`. Most importantly, `\fboxrule` is set to 0.0014\paperwidth in portrait mode, and $0.0014\text{\paperheight}$ in landscape, and `\shadowsize` is set to 0.0042\paperwidth in portrait, and $0.0042\text{\paperheight}$ in landscape mode. This ensures scaling of the line weights with the paper size. Both definitions are global, and will affect any other fancy box in the document. They can be redefined in the usual way.

Within each environment, `\fboxsep` is first set to 0.5\fboxrule , to ensure the color box lies flush with the border of the box. It is then set to `\colboxsep` for use within the colorbox, to ensure a decent spacing between the content of the color box and its edges. If a different value is needed within the content of a `((sub)sub)sectionbox`, it will have to be redefined.

7 Dependencies and Conflicts

Style file `sectionbox.sty` requires the following packages:

- `calc`
- `color`
- `fancybox`
- `ifthen`

Most of these packages are either part of the standard \LaTeX distribution or can be obtained from www.ctan.org.

7.1 Known problems

7.1.1 Colour problem in multicols environment

The colour of the lefthand and top borders (but not the other borders) of the first `sectionbox` in the second column (and perhaps further columns) is drawn in black, rather than the selected color *only in pdf \LaTeX* and *only if* a blank line precedes the `sectionbox`. The reason for this seems to be a color-stack problem in the pdf \TeX driver, rather than an error in the code in `sectionbox.sty`, because the \LaTeX version works properly combined with either `dvips` followed by `ps2pdf` or `dvipdf`. If you want to use pdf \LaTeX , remove any blank lines before the top `sectionbox` of a column and add a “hard” line break to the end of preceding line:

```
%content of last section box of first column
\end{sectionbox} \\
\begin{sectionbox}{First sectionbox of second column}
```

See also the (new) example provided. Thanks to Antonio Baptista (Universidade Nova de Lisboa) for this work-around.

7.1.2 Inclusion of float environments

Note: Because the environments put their contents in a `minipage`, it is *not* possible to use floating environments such as `figure`, `table`, or `algorithm` *inside* a `((sub)sub)sectionbox` environment. If the document class is `sciposter` or one of its derivatives, it *is* possible, because the `figure`, `table`, and `algorithm` environments are redefined to non-floating counterparts by `sciposter`.