

The pdfcolparcolumns package

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Abstract

Since version 1.40 pdfTeX supports several color stacks. This package uses them to fix color problems in package `parcolumns`.

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*Please report any issues at <https://github.com/ho-tex/oberdiek/issues>

1 Usage

```
\usepackage{pdfcolparcolumns}
```

The package `pdfcolparcolumns` loads package `parcolumns` [1]. If color stacks are available then the macros of `parcolumns` are patched to add support for color stacks.

1.1 Option `rulebetweencolor`

Package `pdfcolparcolumns` also fixes the color for the rule between columns (if `rulebetween` is set). Default color is `\normalcolor`. But this can be changed by using option `rulebetweencolor`. It takes a color specification as value. If the value is empty, then the default (`\normalcolor`) is used. Examples:

```
rulebetweencolor=blue,
rulebetweencolor={red},
rulebetweencolor={}, % \normalcolor is used
rulebetweencolor=[rgb]{1,0,.5} % see below
```

If used inside the optional argument of environment `parcolumns` and the value contains an optional argument, then whole value must be put in curly braces:

```
\begin{parcolumns}[
  rulebetween,
  rulebetweencolor={ [rgb]{1,0,.5} },
]{2}
...
\end{parcolumns}
```

This option `rulebetweencolor` can also be set using `\setkeys`:

```
\setkeys{parcolumns}{rulebetweencolor=green}
```

1.2 Future

Currently package `parcolumns` does not seem to be maintained. Nevertheless if there will be a new version that adds support for color stacks, then this package may become obsolete.

2 Implementation

2.1 Identification

```
1 \(*package)
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdfcolparcolumns}%
4   [2019/12/29 v1.5 Color stacks for parcolumns (H0)]%
```

2.2 Load packages

2.2.1 Package `parcolumns`

Currently package `parcolumns` does not define options. Thus it is just a precaution that the options of package `pdfcolparcolumns` are passed to package `parcolumns`.

```
5 \DeclareOption*{%
6   \PassOptionsToPackage{\CurrentOption}{parcolumns}%
7 }
8 \ProcessOptions\relax
9 \RequirePackage{parcolumns}[2004/11/25]
```

2.2.2 Package pdfcol

```
10 \RequirePackage{pdfcol}[2007/09/09]
11 \ifpdfcolAvailable
12 \else
13   \PackageInfo{pdfcolparcolumns}{%
14     Loading aborted, because color stacks are not available%
15   }%
16   \expandafter\endinput
17 \fi
```

2.2.3 Package infwarerr

```
18 \RequirePackage{infwarerr}[2007/09/09]
```

2.3 Color stack macros

`\pcpc@MaxStack` Macro `\pcpc@MaxStack` holds the highest number of allocated stacks.

```
19 \global\chardef\pcpc@MaxStack=\z@
```

`\pcpc@InitStacks` Macro `\pcpc@InitStacks` takes the number of columns as argument and ensures that there are enough color stacks for all columns.

```
20 \def\pcpc@InitStacks#1{%
21   \ifnum#1>\pcpc@MaxStack
22     \begingroup
23       \count@\pcpc@MaxStack
24       \loop
25         \advance\count@\@ne
26         \pdfcolInitStack{pcpc@\the\count@}%
27       \ifnum#1>\count@
28         \repeat
29       \global\chardef\pcpc@MaxStack=\count@
30     \endgroup
31   \fi
32 }
```

`\pcpc@SwitchStack`

```
33 \def\pcpc@SwitchStack#1{%
34   \pdfcolSwitchStack{pcpc@\number#1}%
35 }
```

`\pcpc@SetCurrent`

```
36 \def\pcpc@SetCurrent#1{%
37   \pdfcolSetCurrent{pcpc@\number#1}%
38 }
```

2.4 Patches

Now the color stack macros are patched into the macros of package `parcolumns`.

2.4.1 Init stacks

`\pcpc@InitStacks` should go into the definition of environment `parcolumns`. `\pc@alloccolumns` is executed there and nowhere else, thus we hook into it.

```
39 \g@addto@macro\pc@alloccolumns{%
40   \pcpc@InitStacks\pc@columncount
41 }
```

2.4.2 Switch stack

`\pcpc@SwitchStack` should be called by marco `\colchunk@`. However it is easier to patch `\pc@setcolumnwidth` that is executed in `\colchunk@` only.

```
42 \g@addto@macro\pc@setcolumnwidth{%  
43   \pcpc@SwitchStack\pc@columnctr  
44 }
```

2.4.3 Set current stack color

`\pcpc@SetCurrent` is set at the begin of each line. It must be inserted into `\pc@placeboxes`. Unhappily there is no easy way. Therefore we check and redefine `\pc@placeboxes`.

```
45 \begingroup  
46   \def\x{%  
47     \global\let\@tempa\relax  
48     \count@z@  
49     \hb@xt@\linewidth{%  
50       \vfuzz30ex %  
51       \vbadness\@M  
52       \splittopskip\z@skip  
53       \loop  
54       \ifnum\count@<\pc@columncount  
55         \advance\count@\@ne  
56         \expandafter\ifvoid\csname pc@column@\number\count@\endcsname  
57           \hskip\csname pc@column@width@\number\count@\endcsname  
58         \else  
59           \expandafter\setbox\expandafter\@tempboxa\expandafter  
60             \vsplit\csname pc@column@\number\count@\endcsname  
61             to \dp\strutbox  
62             \vbox{%  
63               \unvbox\@tempboxa  
64             }%  
65         \fi  
66         \expandafter\ifvoid\csname pc@column@\number\count@\endcsname  
67         \else  
68           \global\let\@tempa\pc@placeboxes  
69         \fi  
70       \ifnum\count@<\pc@columncount  
71         \strut  
72         \hfill  
73         \ifpc@rulebetween  
74           \vrule  
75           \hfill  
76         \fi  
77       \fi  
78     \repeat  
79   }%  
80   \@tempa  
81 }%  
82 \ifx\x\pc@placeboxes  
83 \else  
84   \@PackageWarningNoLine{pdfcolparcolumns}{%  
85     Command \string\pc@placeboxes\space has changed.\MessageBreak  
86     Supported versions of package 'parcolumns':\MessageBreak  
87     \space\space 2004/08/05.\MessageBreak  
88     The redefinition of \string\pc@placeboxes\space may not%  
89     \MessageBreak
```

```

90     behave correctly depending on the changes%
91 }%
92 \fi
93 \endgroup

\pc@placeboxes
94 \renewcommand*{\pc@placeboxes}{%
95   \global\let\@tempa\relax
96   \count@\z@
97   \hb@xt@\linewidth{%
98     \vfuZZ30ex %
99     \vbadness\@M
100    \splittopskip\z@skip
101    \loop
102    \ifnum\count@<\pc@columncount
103      \advance\count@\@ne
104      \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
105        \hskip\csname pc@column@width@\number\count@\endcsname
106      \else
107        \expandafter\setbox\expandafter\@tempboxa\expandafter
108        \vsplit\csname pc@column@\number\count@\endcsname
109          to \dp\strutbox
110        \vbox{%
111          \pcpc@SetCurrent\count@
112          \unvbox\@tempboxa
113        }%
114      \fi
115      \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
116      \else
117        \global\let\@tempa\pc@placeboxes
118      \fi
119      \ifnum\count@<\pc@columncount
120        \strut
121        \hfill
122        \ifpc@rulebetween
123          \begingroup
124            \pcpc@RuleBetweenColor
125            \vrule
126          \endgroup
127          \hfill
128        \fi
129      \fi
130    \repeat
131  }%
132  \@tempa
133 }
```

\pcpc@RuleBetweenColorDefault

```

134 \def\pcpc@RuleBetweenColorDefault{%
135   \normalcolor
136 }
```

\pcpc@RuleBetweenColor

```

137 \let\pcpc@RuleBetweenColor\pcpc@RuleBetweenColorDefault

138 \define@key{parcolumns}{rulebetweencolor}{%
139   \edef\pcpc@temp{#1}%
140   \ifx\pcpc@temp\@empty
```

```

141 \let\pcpc@RuleBetweenColor\pcpc@RuleBetweenColorDefault
142 \else
143 \edef\pcpc@temp{%
144 \noexpand\@ifnextchar[{%
145 \def\noexpand\pcpc@RuleBetweenColor{%
146 \noexpand\color\pcpc@temp
147 }%
148 \noexpand\pcpc@GobbleNil
149 }{%
150 \def\noexpand\pcpc@RuleBetweenColor{%
151 \noexpand\color{\pcpc@temp}%
152 }%
153 \noexpand\pcpc@GobbleNil
154 }%
155 \pcpc@temp\noexpand\@nil
156 }%
157 \pcpc@temp
158 \fi
159 }

\pcpc@GobbleNil

160 \long\def\pcpc@GobbleNil#1\@nil{}
161 \end{package}

```

3 Installation

3.1 Download

Package. This package is available on CTAN¹:

[CTAN:macros/latex/contrib/oberdiek/pdfcolparcolumns.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/pdfcolparcolumns.pdf](#) Documentation.

Bundle. All the packages of the bundle ‘oberdiek’ are also available in a TDS compliant ZIP archive. There the packages are already unpacked and the documentation files are generated. The files and directories obey the TDS standard.

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

TDS refers to the standard “A Directory Structure for T_EX Files” ([CTAN:pkg/tds](#)). Directories with `texmf` in their name are usually organized this way.

3.2 Bundle installation

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

```
unzip oberdiek.tds.zip -d ~/texmf
```

3.3 Package installation

Unpacking. The `.dtx` file is a self-extracting docstrip archive. The files are extracted by running the `.dtx` through plain T_EX:

```
tex pdfcolparcolumns.dtx
```

¹[CTAN:pkg/pdfcolparcolumns](#)

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
pdfcolparcolumns.sty → tex/latex/oberdiek/pdfcolparcolumns.sty
pdfcolparcolumns.pdf → doc/latex/oberdiek/pdfcolparcolumns.pdf
pdfcolparcolumns.dtx → source/latex/oberdiek/pdfcolparcolumns.dtx
```

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

3.4 Refresh file name databases

If your \TeX distribution (\TeX Live, \MiKTeX , ...) relies on file name databases, you must refresh these. For example, \TeX Live users run `texhash` or `mktextlsr`.

3.5 Some details for the interested

Unpacking with \LaTeX . The `.dtx` chooses its action depending on the format:

plain \TeX : Run `docstrip` and extract the files.

\LaTeX : Generate the documentation.

If you insist on using \LaTeX for `docstrip` (really, `docstrip` does not need \LaTeX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{pdfcolparcolumns.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by the configuration file `ltxdoc.cfg`. For instance, put this line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with `pdf \LaTeX` :

```
pdflatex pdfcolparcolumns.dtx
makeindex -s gind.ist pdfcolparcolumns.idx
pdflatex pdfcolparcolumns.dtx
makeindex -s gind.ist pdfcolparcolumns.idx
pdflatex pdfcolparcolumns.dtx
```

4 References

- [1] Jonathan Sauer: *The parcolumns package*; 2004/11/25;
[CTAN:pkg/parcolumns](#).
- [2] Heiko Oberdiek: *The pdfcol package*; 2007/09/09;
[CTAN:pkg/pdfcol](#).

5 History

[2007/07/26 v1.0]

- First version, published in the newsgroup `comp.text.tex` with the name `parcolumns-colorstacks`: “[Re: xcolor glitches](#)”²

[2007/09/09 v1.1]

- CTAN version, package name renamed to `pdfcolparcolumns`.
- Uses package `pdfcol`.
- Documentation added.
- Test file added.

[2008/08/11 v1.2]

- Code is not changed.
- URLs updated.

[2010/01/11 v1.3]

- Fix for rule `color`.
- New option `rulebetweencolor` for environment `parcolumns`.

[2016/05/16 v1.4]

- Documentation updates.

[2019/12/29 v1.5]

- `\PassOptionsToPackage` not `\PassoptionsToPackage`

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²Url: <https://groups.google.com/group/comp.text.tex/msg/56bd897b11bca414>

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