

# 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 (HO)]%
```

## 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 macro `\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 \beginngroup
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 CTAN<sup>1</sup>:

[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<sub>E</sub>X 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<sub>E</sub>X:

```
tex pdfcolparcolumns.dtx
```

**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 T<sub>E</sub>X distribution (T<sub>E</sub>X Live, MiK<sub>T</sub>E<sub>X</sub>, ...) relies on file name databases, you must refresh these. For example, T<sub>E</sub>X Live users run `texhash` or `mktexlsr`.

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<sup>1</sup>[CTAN:pkg/pdfcolparcolumns](#)

### 3.5 Some details for the interested

**Unpacking with L<sup>A</sup>T<sub>E</sub>X.** The `.dtx` chooses its action depending on the format:

**plain T<sub>E</sub>X:** Run `docstrip` and extract the files.

**L<sup>A</sup>T<sub>E</sub>X:** Generate the documentation.

If you insist on using L<sup>A</sup>T<sub>E</sub>X for `docstrip` (really, `docstrip` does not need L<sup>A</sup>T<sub>E</sub>X), 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 pdfL<sup>A</sup>T<sub>E</sub>X:

```
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”<sup>2</sup>

### [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.

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

[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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