

# 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`.

## Contents

<b>1</b>	<b>Usage</b>	<b>2</b>
1.1	Option <code>rulebetweencolor</code>	2
1.2	Future	2
<b>2</b>	<b>Implementation</b>	<b>2</b>
2.1	Identification	2
2.2	Load packages	2
2.2.1	Package <code>parcolumns</code>	2
2.2.2	Package <code>pdfcol</code>	3
2.2.3	Package <code>infwarerr</code>	3
2.3	Color stack macros	3
2.4	Patches	3
2.4.1	Init stacks	3
2.4.2	Switch stack	4
2.4.3	Set current stack color	4
<b>3</b>	<b>Installation</b>	<b>6</b>
3.1	Download	6
3.2	Bundle installation	6
3.3	Package installation	6
3.4	Refresh file name databases	7
3.5	Some details for the interested	7
<b>4</b>	<b>References</b>	<b>7</b>
<b>5</b>	<b>History</b>	<b>8</b>
	[2007/07/26 v1.0]	8
	[2007/09/09 v1.1]	8
	[2008/08/11 v1.2]	8
	[2010/01/11 v1.3]	8
	[2016/05/16 v1.4]	8
	[2019/12/29 v1.5]	8
<b>6</b>	<b>Index</b>	<b>8</b>

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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@allococolumns` is executed there and nowhere else, thus we hook into it.

```
39 \g@addto@macro\pc@allococolumns{%
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 </package>

```

## 3 Installation

### 3.1 Download

**Package.** This package is available on CTAN<sup>1</sup>:

[CTAN:macros/latex/contrib/oberdiek/pdfcolparcolumns.dtx](https://ctan.org/ctan/packages/macros/latex/contrib/oberdiek/pdfcolparcolumns.dtx) The source file.

[CTAN:macros/latex/contrib/oberdiek/pdfcolparcolumns.pdf](https://ctan.org/ctan/packages/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](https://ctan.org/ctan/packages/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](https://ctan.org/ctan/packages/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
```

---

<sup>1</sup>[CTAN:pkg/pdfcolparcolumns](https://ctan.org/ctan/packages/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 (`TeXLive`, `MiKTeX`, ...) relies on file name databases, you must refresh these. For example, `TeXLive` users run `texhash` or `mktexlsr`.

### 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](#)”<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.

[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`

## 6 Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; plain numbers refer to the code lines where the entry is used.

Symbols		C	
<code>\@M</code> .....	<i>51, 99</i>	<code>\chardef</code> .....	<i>19, 29</i>
<code>\@PackageWarningNoLine</code> .....	<i>84</i>	<code>\color</code> .....	<i>146, 151</i>
<code>\@empty</code> .....	<i>140</i>	<code>\count@</code> ..	<i>23, 25, 26, 27, 29, 48, 54,</i>
<code>\@ifnextchar</code> .....	<i>144</i>		<i>55, 56, 57, 60, 66, 70, 96, 102,</i>
<code>\@ne</code> .....	<i>25, 55, 103</i>		<i>103, 104, 105, 108, 111, 115, 119</i>
<code>\@nil</code> .....	<i>155, 160</i>	<code>\csname</code>	<i>56, 57, 60, 66, 104, 105, 108, 115</i>
<code>\@tempa</code> .....	<i>47, 68, 80, 95, 117, 132</i>	<code>\CurrentOption</code> .....	<i>6</i>
<code>\@tempboxa</code> .....	<i>59, 63, 107, 112</i>	D	
A		<code>\DeclareOption</code> .....	<i>5</i>
<code>\advance</code> .....	<i>25, 55, 103</i>	<code>\define@key</code> .....	<i>138</i>
		<code>\dp</code> .....	<i>61, 109</i>

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



<b>E</b>	
<code>\endcsname</code> .....	124, 137, 141, 145, 150
. 56, 57, 60, 66, 104, 105, 108, 115	
<code>\endinput</code> .....	16
<b>G</b>	
<code>\g@addto@macro</code> .....	39, 42
<b>H</b>	
<code>\hb@xt@</code> .....	49, 97
<code>\hfill</code> .....	72, 75, 121, 127
<code>\hskip</code> .....	57, 105
<b>I</b>	
<code>\ifnum</code> .....	21, 27, 54, 70, 102, 119
<code>\ifpc@rulebetween</code> .....	73, 122
<code>\ifpdfcolAvailable</code> .....	11
<code>\ifvoid</code> .....	56, 66, 104, 115
<code>\ifx</code> .....	82, 140
<b>L</b>	
<code>\linewidth</code> .....	49, 97
<code>\loop</code> .....	24, 53, 101
<b>M</b>	
<code>\MessageBreak</code> .....	85, 86, 87, 89
<b>N</b>	
<code>\NeedsTeXFormat</code> .....	2
<code>\normalcolor</code> .....	135
<code>\number</code> .....	34,
37, 56, 57, 60, 66, 104, 105, 108, 115	
<b>P</b>	
<code>\PackageInfo</code> .....	13
<code>\PassOptionsToPackage</code> .....	6
<code>\pc@alloccolumns</code> .....	39
<code>\pc@columncount</code> ..	40, 54, 70, 102, 119
<code>\pc@columnctr</code> .....	43
<code>\pc@placeboxes</code> .....	68, 82, 85, 88, 94
<code>\pc@setcolumnwidth</code> .....	42
<code>\pcpc@GobbleNil</code> .....	148, 153, 160
<code>\pcpc@InitStacks</code> .....	20, 40
<code>\pcpc@MaxStack</code> .....	19, 21, 23, 29
<code>\pcpc@RuleBetweenColor</code> .....	124, 137, 141, 145, 150
<code>\pcpc@RuleBetweenColorDefault</code> ..	134, 137, 141
<code>\pcpc@SetCurrent</code> .....	36, 111
<code>\pcpc@SwitchStack</code> .....	33, 43
<code>\pcpc@temp</code> .....	139, 140, 143, 146, 151, 155, 157
<code>\pdfcolInitStack</code> .....	26
<code>\pdfcolSetCurrent</code> .....	37
<code>\pdfcolSwitchStack</code> .....	34
<code>\ProcessOptions</code> .....	8
<code>\ProvidesPackage</code> .....	3
<b>R</b>	
<code>\renewcommand</code> .....	94
<code>\repeat</code> .....	28, 78, 130
<code>\RequirePackage</code> .....	9, 10, 18
<b>S</b>	
<code>\setbox</code> .....	59, 107
<code>\space</code> .....	85, 87, 88
<code>\splittopskip</code> .....	52, 100
<code>\strut</code> .....	71, 120
<code>\strutbox</code> .....	61, 109
<b>T</b>	
<code>\the</code> .....	26
<b>U</b>	
<code>\unvbox</code> .....	63, 112
<b>V</b>	
<code>\vbadness</code> .....	51, 99
<code>\vbox</code> .....	62, 110
<code>\vfuzz</code> .....	50, 98
<code>\vrule</code> .....	74, 125
<code>\vsplit</code> .....	60, 108
<b>X</b>	
<code>\x</code> .....	46, 82
<b>Z</b>	
<code>\z@</code> .....	19, 48, 96
<code>\z@skip</code> .....	52, 100