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

1 Usage **2**
1.1 Option rulebetweencolor . . . 2
1.2 Future . . . 2

2 Implementation **2**
2.1 Identification . . . 2
2.2 Load packages . . . 2
2.2.1 Package parcolumns . . . 2
2.2.2 Package pdfcol . . . 3
2.2.3 Package infwarerr . . . 3
2.3 Color stack macros . . . 3
2.4 Patches . . . 3
2.4.1 Init stacks . . . 3
2.4.2 Switch stack . . . 3
2.4.3 Set current stack color . . . 4

3 Installation **6**
3.1 Download . . . 6
3.2 Bundle installation . . . 6
3.3 Package installation . . . 6
3.4 Refresh file name databases . . . 6
3.5 Some details for the interested . . . 7

4 References **7**

5 History **7**
[2007/07/26 v1.0] . . . 7
[2007/09/09 v1.1] . . . 7
[2008/08/11 v1.2] . . . 7
[2010/01/11 v1.3] . . . 8
[2016/05/16 v1.4] . . . 8
[2019/12/29 v1.5] . . . 8

6 Index **8**

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

1 Usage

```
\usepackage{pdfcolparcolumns}
```

The package pdfcolparcolumns loads package parcolums [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

```
⟨*package⟩
\NeedsTeXFormat{LaTeX2e}
\ProvidesPackage{pdfcolparcolumns}%
  [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.

```
\DeclareOption*{%
  \PassOptionsToPackage{\CurrentOption}{parcolumns}%
}
\ProcessOptions\relax
\RequirePackage{parcolumns}[2004/11/25]
```

2.2.2 Package pdfcol

```
\RequirePackage{pdfcol}[2007/09/09]
\ifpdfcolAvailable
\else
  \PackageInfo{pdfcolparcolumns}{%
    Loading aborted, because color stacks are not available%
  }%
  \expandafter\endinput
\fi
```

2.2.3 Package infwarerr

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

2.3 Color stack macros

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

```
\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.

```
\def\pcpc@InitStacks#1{%
  \ifnum#1>\pcpc@MaxStack
    \begingroup
      \count@\pcpc@MaxStack
      \loop
        \advance\count@\@ne
        \pdfcolInitStack{pcpc@\the\count@}%
      \ifnum#1>\count@
      \repeat
      \global\chardef\pcpc@MaxStack=\count@
    \endgroup
  \fi
}
```

\pcpc@SwitchStack

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

\pcpc@SetCurrent

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

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.

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

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.

```
\g@addto@macro\pc@setcolumnwidth{%
```

```
  \pcpc@SwitchStack\pc@columnctr
}
```

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`.

```
\begingroup
  \def\x{%
    \global\let\@tempa\relax
    \count@\z@
    \hb@xt@\linewidth{%
      \vfuzz30ex %
      \vbadness\@M
      \splittopskip\z@skip
      \loop
      \ifnum\count@<\pc@columncount
        \advance\count@\@ne
        \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
          \hskip\csname pc@column@width@\number\count@\endcsname
        \else
          \expandafter\setbox\expandafter\@tempboxa\expandafter
          \vsplit\csname pc@column@\number\count@\endcsname
              to \dp\strutbox
          \vbox{%
            \unvbox\@tempboxa
          }%
        \fi
        \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
        \else
          \global\let\@tempa\pc@placeboxes
        \fi
        \ifnum\count@<\pc@columncount
          \strut
          \hfill
          \ifpc@rulebetween
            \vrule
            \hfill
          \fi
        \fi
      \repeat
    }%
    \@tempa
  }%
  \ifx\x\pc@placeboxes
  \else
    \@PackageWarningNoLine{pdfcolparcolumns}{%
      Command \string\pc@placeboxes\space has changed.\MessageBreak
      Supported versions of package 'parcolumns':\MessageBreak
      \space\space 2004/08/05.\MessageBreak
      The redefinition of \string\pc@placeboxes\space may not%
      \MessageBreak
      behave correctly depending on the changes%
    }%
  \fi
\endgroup
```

`\pc@placeboxes`

```
\renewcommand*{\pc@placeboxes}{%
  \global\let\@tempa\relax
  \count@\z@
```

```
  \hb@xt@\linewidth{%
    \vfuzz30ex %
    \vbadness\@M
    \splittopskip\z@skip
    \loop
    \ifnum\count@<\pc@columncount
      \advance\count@\@ne
      \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
        \hskip\csname pc@column@width@\number\count@\endcsname
      \else
        \expandafter\setbox\expandafter\@tempboxa\expandafter
        \vsplit\csname pc@column@\number\count@\endcsname
            to \dp\strutbox
        \vbox{%
          \pcpc@SetCurrent\count@
          \unvbox\@tempboxa
        }%
      \fi
      \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
      \else
        \global\let\@tempa\pc@placeboxes
      \fi
      \ifnum\count@<\pc@columncount
        \strut
        \hfill
        \ifpc@rulebetween
          \begingroup
            \pcpc@RuleBetweenColor
            \vrule
          \endgroup
          \hfill
        \fi
      \fi
    \repeat
  }%
  \@tempa
}
```

\pcpc@RuleBetweenColorDefault

```
\def\pcpc@RuleBetweenColorDefault{%
  \normalcolor
}
```

\pcpc@RuleBetweenColor

```
\let\pcpc@RuleBetweenColor\pcpc@RuleBetweenColorDefault

\define@key{parcolumns}{rulebetweencolor}{%
  \edef\pcpc@temp{#1}%
  \ifx\pcpc@temp\@empty
    \let\pcpc@RuleBetweenColor\pcpc@RuleBetweenColorDefault
  \else
    \edef\pcpc@temp{%
      \noexpand\@ifnextchar[{%
        \def\noexpand\pcpc@RuleBetweenColor{%
          \noexpand\color\pcpc@temp
        }%
        \noexpand\pcpc@GobbleNil
      }{%
        \def\noexpand\pcpc@RuleBetweenColor{%
          \noexpand\color{\pcpc@temp}%
        }%
        \noexpand\pcpc@GobbleNil
      }%
```

```
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[1]:

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 TEX 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 TEX:

```
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 TEX distribution (TEX Live, MiKTEX, ...) relies on file name databases, you must refresh these. For example, TEX Live users run `texhash` or `mktexlsr`.

[1] CTAN:pkg/pdfcolparcolumns

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 pdfLaTeX:

```
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.

[2] 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

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

\@M 51, 99
\@PackageWarningNoLine 84
\@empty 140
\@ifnextchar 144
\@ne 25, 55, 103
\@nil 155, 160
\@tempa 47, 68, 80, 95, 117, 132
\@tempboxa 59, 63, 107, 112

A

\advance 25, 55, 103

C

\chardef 19, 29
\color 146, 151
\count@ . . 23, 25, 26, 27, 29, 48, 54, 55, 56, 57, 60, 66, 70, 96, 102, 103, 104, 105, 108, 111, 115, 119
\csname 56, 57, 60, 66, 104, 105, 108, 115
\CurrentOption 6

D

\DeclareOption 5
\define@key 138
\dp 61, 109

E

\endcsname 56, 57, 60, 66, 104, 105, 108, 115
\endinput 16

G

\g@addto@macro 39, 42

H

\hb@xt@ 49, 97
\hfill 72, 75, 121, 127
\hskip 57, 105

I

\ifnum 21, 27, 54, 70, 102, 119
\ifpc@rulebetween 73, 122
\ifpdfcolAvailable 11
\ifvoid 56, 66, 104, 115
\ifx 82, 140

L

\linewidth 49, 97
\loop 24, 53, 101

M

\MessageBreak 85, 86, 87, 89

N

\NeedsTeXFormat 2
\normalcolor 135
\number 34, 37, 56, 57, 60, 66, 104, 105, 108, 115

P

\PackageInfo 13
\PassOptionsToPackage 6
\pc@alloccolumns 39
\pc@columncount . . 40, 54, 70, 102, 119
\pc@columnctr 43
\pc@placeboxes 68, 82, 85, 88, 94
\pc@setcolumnwidth 42
\pcpc@GobbleNil 148, 153, 160
\pcpc@InitStacks 20, 40
\pcpc@MaxStack 19, 21, 23, 29
\pcpc@RuleBetweenColor 124, 137, 141, 145, 150
\pcpc@RuleBetweenColorDefault 134, 137, 141
\pcpc@SetCurrent 36, 111
\pcpc@SwitchStack 33, 43
\pcpc@temp 139, 140, 143, 146, 151, 155, 157
\pdfcolInitStack 26
\pdfcolSetCurrent 37
\pdfcolSwitchStack 34
\ProcessOptions 8
\ProvidesPackage 3

R

\renewcommand 94
\repeat 28, 78, 130
\RequirePackage 9, 10, 18

S

\setbox 59, 107
\space 85, 87, 88
\splittopskip 52, 100
\strut 71, 120
\strutbox 61, 109

T

\the 26

U

\unvbox 63, 112

V

\vbadness 51, 99
\vbox 62, 110
\vfuzz 50, 98
\vrule 74, 125
\vsplit 60, 108

X

\x 46, 82

Z

\z@ 19, 48, 96
\z@skip 52, 100