# The pdfcolparallel package

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**Abstract**

This packages fixes bugs in parallel and improves color support by using several color stacks that are provided by pdfTeX since version 1.40.

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

# 1 Usage

```
\usepackage{pdfcolparallel}
```

The package pdfcolparallel loads package parallel [1] and redefines some macros to fix bugs.

If color stacks are available then package parallel is further patched to support them.

## 1.1 Option rulebetweencolor

Package pdfcolparallel also fixes the color for the rule between columns. Default color is `\normalcolor`. But this can be changed by using option rulebetweencolor for `\setkeys{parallel}` (see package keyval). The option takes a color specification as value. If the value is empty, then the default (`\normalcolor`) is used. Examples:

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

## 1.2 Future

If there will be a new version of package parallel that adds support for color stacks, then this package may become obsolete.

# 2 Implementation

## 2.1 Identification

```
1 ⟨*package⟩
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdfcolparallel}%
4   [2019/12/29 v1.5 Color stacks support for parallel (HO)]%
```

## 2.2 Load and fix package parallel

Package parallel is loaded. Before options of package pdfcolparallel are passed to package parallel.

```
5 \DeclareOption*{%
6   \PassOptionsToPackage{\CurrentOption}{parallel}%
7 }
8 \ProcessOptions\relax
9 \RequirePackage{parallel}[2003/04/13]
10 \RequirePackage{infwarerr}[2007/09/09]
```

`\pcp@ColorPatch`

```
11 \begingroup\expandafter\expandafter\expandafter\endgroup
12 \expandafter\ifx\csname currentgrouplevel\endcsname\relax
13   \def\pcp@ColorPatch{}%
14 \else
15   \def\pcp@ColorPatch{%
16     \@ifundefined{set@color}{%
17       \gdef\pcp@ColorPatch{}%
```

```
    }{%
      \gdef\pcp@ColorPatch{%
        \gdef\pcp@ColorResets{}%
        \bgroup
        \aftergroup\pcp@ColorResets
        \aftergroup\egroup
        \let\pcp@OrgSetColor\set@color
        \let\set@color\pcp@SetColor
        \edef\pcp@GroupLevel{\the\currentgrouplevel}%
      }%
    }%
    \pcp@ColorPatch
  }%
```

\pcp@SetColor

```
  \def\pcp@SetColor{%
    \ifnum\pcp@GroupLevel=\currentgrouplevel
      \let\pcp@OrgAfterGroup\aftergroup
      \def\aftergroup{%
        \g@addto@macro\pcp@ColorResets
      }%
      \pcp@OrgSetColor
      \let\aftergroup\pcp@OrgAfterGroup
    \else
      \pcp@OrgSetColor
    \fi
  }%
\fi
```

\pcp@CmdCheckRedef

```
\def\pcp@CmdCheckRedef#1{%
  \begingroup
    \def\pcp@cmd{#1}%
    \afterassignment\pcp@CmdDo
    \long\def\reserved@a
}
\def\pcp@CmdDo{%
    \expandafter\ifx\pcp@cmd\reserved@a
    \else
      \edef\x*{\expandafter\string\pcp@cmd}%
      \@PackageWarningNoLine{pdfcolparallel}{%
        Command \x* has changed.\MessageBreak
        Supported versions of package `parallel':\MessageBreak
        \space\space 2003/04/13\MessageBreak
        The redefinition of \x* may\MessageBreak
        not behave correctly depending on the changes%
      }%
    \fi
  \expandafter\endgroup
  \expandafter\def\pcp@cmd
}

\def\pcp@SwitchStack#1#2{}

\def\pcp@SetCurrent#1{}
```

\ParallelLText

```
\pcp@CmdCheckRedef\ParallelLText{%
  \everypar{}%
```

```
  \@restorepar
  \begingroup
    \hbadness=3000 %
    \let\footnote=\ParallelLFootnote
    \ParallelWhichBox=0 %
    \global\setbox\ParallelLBox=\vbox\bgroup
      \hsize=\ParallelLWidth
      \aftergroup\ParallelAfterText
      \begingroup
        \afterassignment\ParallelCheckOpenBrace
        \let\x=%
}{%
  \everypar{}%
  \@restorepar
  \@nobreakfalse
  \begingroup
    \hbadness=3000 %
    \let\footnote=\ParallelLFootnote
    \ParallelWhichBox=0 %
    \global\setbox\ParallelLBox=\vbox\bgroup
      \hsize=\ParallelLWidth
      \linewidth=\ParallelLWidth
      \pcp@SwitchStack{Left}\ParallelLBox
      \aftergroup\ParallelAfterText
      \pcp@ColorPatch
      \begingroup
        \afterassignment\ParallelCheckOpenBrace
        \let\x=%
}
```

\ParallelRText

```
\pcp@CmdCheckRedef\ParallelRText{%
  \everypar{}%
  \@restorepar
  \begingroup
    \hbadness=3000 %
    \ifnum\ParallelFNMode=\@ne
      \let\footnote=\ParallelRFootnote
    \else
      \let\footnote=\ParallelLFootnote
    \fi
    \ParallelWhichBox=\@ne
    \global\setbox\ParallelRBox=\vbox\bgroup
      \hsize=\ParallelRWidth
      \aftergroup\ParallelAfterText
      \begingroup
        \afterassignment\ParallelCheckOpenBrace
        \let\x=%
}{%
  \everypar{}%
  \@restorepar
  \@nobreakfalse
  \begingroup
    \hbadness=3000 %
    \ifnum\ParallelFNMode=\@ne
      \let\footnote=\ParallelRFootnote
    \else
      \let\footnote=\ParallelLFootnote
```

```
    \fi
    \ParallelWhichBox=\@ne
    \global\setbox\ParallelRBox=\vbox\bgroup
      \hsize=\ParallelRWidth
      \linewidth=\ParallelRWidth
      \pcp@SwitchStack{Right}\ParallelRBox
      \aftergroup\ParallelAfterText
      \pcp@ColorPatch
      \begingroup
        \afterassignment\ParallelCheckOpenBrace
        \let\x=%
}
```

\ParallelParTwoPages

```
\pcp@CmdCheckRedef\ParallelParTwoPages{%
  \ifnum\ParallelBoolVar=\@ne
    \par
    \begingroup
      \global\ParallelWhichBox=\@ne
      \newpage
      \vbadness=10000 %
      \vfuzz=3ex %
      \splittopskip=\z@skip
      \loop%
        \ifnum\ParallelBoolVar=\@ne%
          \ifnum\ParallelWhichBox=\@ne
            \ifvoid\ParallelLBox
              \mbox{} %
              \newpage
            \else
              \global\ParallelWhichBox=\z@
            \fi
          \else
            \ifvoid\ParallelRBox
              \mbox{} %
              \newpage
            \else
              \global\ParallelWhichBox=\@ne
            \fi
          \fi
          \ifnum\ParallelWhichBox=\z@
            \ifodd\thepage
              \mbox{} %
              \newpage
            \fi
            \hbox to\textwidth{%
              \vbox{\vsplit\ParallelLBox to.98\textheight}%
            }%
          \else
            \ifodd\thepage\relax
            \else
              \mbox{} %
              \newpage
            \fi
            \hbox to\textwidth{%
              \vbox{\vsplit\ParallelRBox to.98\textheight}%
            }%
          \fi
```

```
          \vspace*{\fill}%
          \newpage
        \fi
        \ifvoid\ParallelLBox
          \ifvoid\ParallelRBox
            \global\ParallelBoolVar=\z@
          \fi
        \fi
      \ifnum\ParallelBoolVar=\@ne
      \repeat
      \par
    \endgroup
  \fi
}{%
```

Additional fixes:

- Unnecessary white space removed.
- `\ifodd\thepage` changed to `\ifodd\value{page}`.

```
  \ifnum\ParallelBoolVar=\@ne
    \par
    \begingroup
      \global\ParallelWhichBox=\@ne
      \newpage
      \vbadness=10000 %
      \vfuzz=3ex %
      \splittopskip=\z@skip
      \loop%
        \ifnum\ParallelBoolVar=\@ne%
          \ifnum\ParallelWhichBox=\@ne
            \ifvoid\ParallelLBox
              \mbox{}%
              \newpage
            \else
              \global\ParallelWhichBox=\z@
            \fi
          \else
            \ifvoid\ParallelRBox
              \null
              \newpage
            \else
              \global\ParallelWhichBox=\@ne
            \fi
          \fi
          \ifnum\ParallelWhichBox=\z@
            \ifodd\value{page}%
              \null
              \newpage
            \fi
            \hbox to\textwidth{%
              \pcp@SetCurrent{Left}%
              \setbox\z@=\vsplit\ParallelLBox to.98\textheight
              \vbox to.98\textheight{%
                \@texttop
                \unvbox\z@
                \@textbottom
              }%
            }%
```

```
          \else
            \ifodd\value{page}%
            \else
              \mbox{}%
              \newpage
            \fi
            \hbox to\textwidth{%
              \pcp@SetCurrent{Right}%
              \setbox\z@=\vsplit\ParallelRBox to.98\textheight
              \vbox to.98\textheight{%
                \@texttop
                \unvbox\z@
                \@textbottom
              }%
            }%
          \fi
          \vspace*{\fill}%
          \newpage
        \fi
        \ifvoid\ParallelLBox
          \ifvoid\ParallelRBox
            \global\ParallelBoolVar=\z@
          \fi
        \fi
      \ifnum\ParallelBoolVar=\@ne
      \repeat
      \par
    \endgroup
    \pcp@SetCurrent{}%
  \fi
}
```

## 2.3 Color stack support

```
\RequirePackage{pdfcol}[2007/12/12]
\ifpdfcolAvailable
\else
  \PackageInfo{pdfcolparallel}{%
    Loading aborted, because color stacks are not available%
  }%
  \expandafter\endinput
\fi
\pdfcolInitStack{pcp@Left}
\pdfcolInitStack{pcp@Right}
```

`\pcp@Box`

```
\newbox\pcp@Box
```

`\pcp@SwitchStack`

```
\def\pcp@SwitchStack#1#2{%
  \pdfcolSwitchStack{pcp@#1}%
  \global\setbox\pcp@Box=\vbox to 0pt{%
    \pdfcolSetCurrentColor
  }%
  \aftergroup\pcp@FixBox
  \aftergroup#2%
}
```

\pcp@FixBox

```
\def\pcp@FixBox#1{%
  \global\setbox#1=\vbox{%
    \unvbox\pcp@Box
    \unvbox#1%
  }%
}
```

\pcp@SetCurrent

```
\def\pcp@SetCurrent#1{%
  \ifx\\#1\\%
    \pdfcolSetCurrent{}%
  \else
    \pdfcolSetCurrent{pcp@#1}%
  \fi
}
```

## 2.4 Redefinitions

\ParallelParOnePage

```
\pcp@CmdCheckRedef\ParallelParOnePage{%
  \ifnum\ParallelBoolVar=\@ne
    \par
    \begingroup
      \leftmargin=\z@
      \rightmargin=\z@
      \parskip=\z@skip
      \parindent=\z@
      \vbadness=10000 %
      \vfuzz=3ex %
      \splittopskip=\z@skip
      \loop
        \ifnum\ParallelBoolVar=\@ne
          \noindent
          \hbox to\textwidth{%
            \hskip\ParallelLeftMargin
            \hbox to\ParallelTextWidth{%
              \ifvoid\ParallelLBox
                \hskip\ParallelLWidth
              \else
                \ParallelWhichBox=\z@
                \vbox{%
                  \setbox\ParallelBoxVar
                      =\vsplit\ParallelLBox to\dp\strutbox
                  \unvbox\ParallelBoxVar
                }%
              \fi
              \strut
              \ifnum\ParallelBoolMid=\@ne
                \hskip\ParallelMainMidSkip
                \vrule
              \else
                \hss
              \fi
              \hss
              \ifvoid\ParallelRBox
                \hskip\ParallelRWidth
```

```
              \else
                \ParallelWhichBox=\@ne
                \vbox{%
                  \setbox\ParallelBoxVar
                      =\vsplit\ParallelRBox to\dp\strutbox
                  \unvbox\ParallelBoxVar
                }%
              \fi
            }%
          }%
          \ifvoid\ParallelLBox
            \ifvoid\ParallelRBox
              \global\ParallelBoolVar=\z@
            \fi
          \fi%
        \fi%
      \ifnum\ParallelBoolVar=\@ne
        \penalty\interlinepenalty
      \repeat
      \par
    \endgroup
  \fi
}{%
  \ifnum\ParallelBoolVar=\@ne
    \par
    \begingroup
      \leftmargin=\z@
      \rightmargin=\z@
      \parskip=\z@skip
      \parindent=\z@
      \vbadness=10000 %
      \vfuzz=3ex %
      \splittopskip=\z@skip
      \loop
        \ifnum\ParallelBoolVar=\@ne
          \noindent
          \hbox to\textwidth{%
            \hskip\ParallelLeftMargin
            \hbox to\ParallelTextWidth{%
              \ifvoid\ParallelLBox
                \hskip\ParallelLWidth
              \else
                \pcp@SetCurrent{Left}%
                \ParallelWhichBox=\z@
                \vbox{%
                  \setbox\ParallelBoxVar
                      =\vsplit\ParallelLBox to\dp\strutbox
                  \unvbox\ParallelBoxVar
                }%
              \fi
              \strut
              \ifnum\ParallelBoolMid=\@ne
                \hskip\ParallelMainMidSkip
                \begingroup
                  \pcp@RuleBetweenColor
                  \vrule
                \endgroup
              \else
```

```
                \hss
              \fi
              \hss
              \ifvoid\ParallelRBox
                \hskip\ParallelRWidth
              \else
                \pcp@SetCurrent{Right}%
                \ParallelWhichBox=\@ne
                \vbox{%
                  \setbox\ParallelBoxVar
                      =\vsplit\ParallelRBox to\dp\strutbox
                  \unvbox\ParallelBoxVar
                }%
              \fi
            }%
          }%
          \ifvoid\ParallelLBox
            \ifvoid\ParallelRBox
              \global\ParallelBoolVar=\z@
            \fi
          \fi%
        \fi%
      \ifnum\ParallelBoolVar=\@ne
        \penalty\interlinepenalty
      \repeat
      \par
    \endgroup
    \pcp@SetCurrent{}%
  \fi
}
```

\pcp@RuleBetweenColorDefault

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

\pcp@RuleBetweenColor

```
\let\pcp@RuleBetweenColor\pcp@RuleBetweenColorDefault

\RequirePackage{keyval}
\define@key{parallel}{rulebetweencolor}{%
  \edef\pcp@temp{#1}%
  \ifx\pcp@temp\@empty
    \let\pcp@RuleBetweenColor\pcp@RuleBetweenColorDefault
  \else
    \edef\pcp@temp{%
      \noexpand\@ifnextchar[{%
        \def\noexpand\pcp@RuleBetweenColor{%
          \noexpand\color\pcp@temp
        }%
        \noexpand\pcp@GobbleNil
      }{%
        \def\noexpand\pcp@RuleBetweenColor{%
          \noexpand\color{\pcp@temp}%
        }%
        \noexpand\pcp@GobbleNil
      }%
      \pcp@temp\noexpand\@nil
```

```
445     }%
446     \pcp@temp
447   \fi
448 }
```

\pcp@GobbleNil

```
449 \long\def\pcp@GobbleNil#1\@nil{}
```

450 ⟨/package⟩

# 3 Installation

## 3.1 Download

**Package.** This package is available on CTAN[1]:

CTAN:macros/latex/contrib/oberdiek/pdfcolparallel.dtx The source file.

CTAN:macros/latex/contrib/oberdiek/pdfcolparallel.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 pdfcolparallel.dtx
```

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

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

[1] CTAN:pkg/pdfcolparallel

### 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`.

### 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{pdfcolparallel.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 pdfcolparallel.dtx
makeindex -s gind.ist pdfcolparallel.idx
pdflatex pdfcolparallel.dtx
makeindex -s gind.ist pdfcolparallel.idx
pdflatex pdfcolparallel.dtx
```

## 4 References


[1] Matthias Eckermann: *The parallel-package*; 2003/04/13; CTAN:pkg/parallel.

[2] Heiko Oberdiek: *The pdfcol package*; 2007/09/09; CTAN:pkg/pdfcol.


## 5 History

### [2007/09/09 v1.0]

- First version.

### [2007/12/12 v1.1]

- Adds patch for setting `\linewidth` to fix bug in package parallel.
- Package parallel is also fixed if color stacks are not available.
- Bug fix, switched stacks now initialized with current color.
- Fix for package parallel: `\raggedbottom` is respected.

### [2008/08/11 v1.2]

- Code is not changed.
- URLs updated.

### [2010/01/11 v1.3]

- Option 'rulebetweencolor' added.

### [2016/05/16 v1.4]

- Documentation updates.

### [2019/12/29 v1.5]

- `\PassOptionsToPackage` not `\PassoptionsToPackage`

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