

# 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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## 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 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 [2008/08/11 v1.2 Fixed parallel with color stacks support (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{}%
18   }{%
19     \gdef\pcp@ColorPatch{%
20       \gdef\pcp@ColorResets{}%
21       \bgroup
22       \aftergroup\pcp@ColorResets
23       \aftergroup\egroup
24       \let\pcp@OrgSetColor\set@color
25       \let\set@color\pcp@SetColor
26       \edef\pcp@GroupLevel{\the\currentgrouplevel}%
27     }%
28   }%
29   \pcp@ColorPatch
30 }%
```

\pcp@SetColor

```
31 \def\pcp@SetColor{%
32   \ifnum\pcp@GroupLevel=\currentgrouplevel
33     \let\pcp@OrgAfterGroup\aftergroup
34     \def\aftergroup{%
35       \g@addto@macro\pcp@ColorResets
36     }%
37     \pcp@OrgSetColor
38     \let\aftergroup\pcp@OrgAfterGroup
39   \else
40     \pcp@OrgSetColor
41   \fi
42 }%
43 \fi
```

\pcp@CmdCheckRedef

```
44 \def\pcp@CmdCheckRedef#1{%
45   \begingroup
46   \def\pcp@cmd{#1}%
47   \afterassignment\pcp@CmdDo
```

```

48     \long\def\reserved@a
49 }
50 \def\pcp@CmdDo{%
51     \expandafter\ifx\pcp@cmd\reserved@a
52     \else
53         \edef\x*{\expandafter\string\pcp@cmd}%
54         \PackageWarningNoLine{pdfcolparallel}{%
55             Command \x* has changed.\MessageBreak
56             Supported versions of package ‘parallel’: \MessageBreak
57             \space\space 2003/04/13\MessageBreak
58             The redefinition of \x* may\MessageBreak
59             not behave correctly depending on the changes%
60         }%
61     \fi
62 \expandafter\endgroup
63 \expandafter\def\pcp@cmd
64 }

65 \def\pcp@SwitchStack#1#2{%
66 \def\pcp@SetCurrent#1{}}

\ParallelText
67 \pcp@CmdCheckRedef\ParallelText{%
68     \everypar{}%
69     \restorepar
70     \begin{group}
71         \hbadness=3000 %
72         \let\footnote=\ParallelFootnote
73         \ParallelWhichBox=0 %
74         \global\setbox\ParallelBox=\vbox\bgroup
75             \hsize=\ParallelWidth
76             \aftergroup\ParallelAfterText
77             \begin{group}
78                 \afterassignment\ParallelCheckOpenBrace
79                 \let\x=%
80             }%
81     \everypar{}%
82     \restorepar
83     \nobreakfalse
84     \begin{group}
85         \hbadness=3000 %
86         \let\footnote=\ParallelFootnote
87         \ParallelWhichBox=0 %
88         \global\setbox\ParallelBox=\vbox\bgroup
89             \hsize=\ParallelWidth
90             \linewidth=\ParallelWidth
91             \pcp@SwitchStack{Left}\ParallelBox
92             \aftergroup\ParallelAfterText
93             \pcp@ColorPatch
94             \begin{group}
95                 \afterassignment\ParallelCheckOpenBrace
96                 \let\x=%
97             }

```

\ParallelRText

```

98 \pcp@CmdCheckRedef\ParallelRText{%
99     \everypar{}%
100    \restorepar
101    \begin{group}
102        \hbadness=3000 %
103        \ifnum\ParallelFNMode=\@one
104            \let\footnote=\ParallelRFootnote

```

```

105    \else
106        \let\footnote=\ParallelFootnote
107    \fi
108    \ParallelWhichBox=\@ne
109    \global\setbox\ParallelRBox=\vbox\bgroup
110        \hsize=\ParallelRWidth
111        \aftergroup\ParallelAfterText
112        \begingroup
113            \afterassignment\ParallelCheckOpenBrace
114            \let\x=%
115    }{%
116        \everypar{}%
117        \restorepar
118        \nobreakfalse
119        \begingroup
120            \hbadness=3000 %
121            \ifnum\ParallelFNMode=\@ne
122                \let\footnote=\ParallelRFootnote
123            \else
124                \let\footnote=\ParallelLFootnote
125            \fi
126            \ParallelWhichBox=\@ne
127            \global\setbox\ParallelRBox=\vbox\bgroup
128                \hsize=\ParallelRWidth
129                \linewidth=\ParallelRWidth
130                \pcp@SwitchStack{Right}\ParallelRBox
131                \aftergroup\ParallelAfterText
132                \pcp@ColorPatch
133                \begingroup
134                    \afterassignment\ParallelCheckOpenBrace
135                    \let\x=%
136    }

\ParallelParTwoPages

137 \pcp@CmdCheckRedef\ParallelParTwoPages{%
138     \ifnum\ParallelBoolVar=\@ne
139         \par
140         \begingroup
141             \global\ParallelWhichBox=\@ne
142             \newpage
143             \vbadness=10000 %
144             \vfuzz=3ex %
145             \splittopskip=\z@skip
146             \loop%
147                 \ifnum\ParallelBoolVar=\@ne%
148                     \ifnum\ParallelWhichBox=\@ne
149                         \ifvoid\ParallelLBox
150                             \mbox{} %
151                             \newpage
152                         \else
153                             \global\ParallelWhichBox=\z@
154                         \fi
155                         \else
156                             \ifvoid\ParallelRBox
157                                 \mbox{} %
158                                 \newpage
159                             \else
160                                 \global\ParallelWhichBox=\@ne
161                             \fi
162                         \fi
163                         \ifnum\ParallelWhichBox=\z@
164                             \ifodd\thepage
165                                 \mbox{} %

```

```

166          \newpage
167      \fi
168      \hbox to\textwidth{%
169          \vbox{\vsplit\ParallelLBox to.98\textheight}%
170      }%
171  \else
172      \ifodd\thepage\relax
173      \else
174          \mbox{} %
175          \newpage
176      \fi
177      \hbox to\textwidth{%
178          \vbox{\vsplit\ParallelRBox to.98\textheight}%
179      }%
180      \fi
181      \vspace*\{\fill}%
182      \newpage
183  \fi
184  \ifvoid\ParallelLBox
185      \ifvoid\ParallelRBox
186          \global\ParallelBoolVar=\z@
187      \fi
188  \fi
189  \ifnum\ParallelBoolVar=\@ne
190  \repeat
191  \par
192  \endgroup
193 \fi
194 }%

```

Additional fixes:

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

```

195  \ifnum\ParallelBoolVar=\@ne
196      \par
197      \begingroup
198          \global\ParallelWhichBox=\@ne
199          \newpage
200          \vbadness=10000 %
201          \vfuzz=3ex %
202          \splittopskip=\z@skip
203          \loop%
204              \ifnum\ParallelBoolVar=\@ne%
205                  \ifnum\ParallelWhichBox=\@ne
206                      \ifvoid\ParallelLBox
207                          \mbox{}%
208                          \newpage
209                      \else
210                          \global\ParallelWhichBox=\z@
211                      \fi
212                  \else
213                      \ifvoid\ParallelRBox
214                          \null
215                          \newpage
216                      \else
217                          \global\ParallelWhichBox=\@ne
218                      \fi
219                  \fi
220                  \ifnum\ParallelWhichBox=\z@
221                      \ifodd\value{page}%
222                          \null

```

```

223          \newpage
224          \fi
225          \hbox to\textwidth{%
226              \pcp@SetCurrent{Left}%
227              \setbox\z@\vsplit\ParallelLBox to.98\textheight
228              \vbox to.98\textheight{%
229                  \atexttop
230                  \unvbox\z@
231                  \atextbottom
232              }%
233          }%
234      \else
235          \ifodd\value{page}%
236          \else
237              \mbox{}%
238              \newpage
239          \fi
240          \hbox to\textwidth{%
241              \pcp@SetCurrent{Right}%
242              \setbox\z@\vsplit\ParallelRBox to.98\textheight
243              \vbox to.98\textheight{%
244                  \atexttop
245                  \unvbox\z@
246                  \atextbottom
247              }%
248          }%
249      \fi
250      \vspace*\fill%
251      \newpage
252  \fi
253  \ifvoid\ParallelLBox
254      \ifvoid\ParallelRBox
255          \global\ParallelBoolVar=\z@
256      \fi
257  \fi
258  \ifnum\ParallelBoolVar=0ne
259      \repeat
260      \par
261      \endgroup
262      \pcp@SetCurrent{}%
263  \fi
264 }

```

### 2.3 Color stack support

```

265 \RequirePackage{pdfcol}[2007/12/12]
266 \ifpdfcolAvailable
267 \else
268     \PackageInfo{pdfcolparallel}{%
269         Loading aborted, because color stacks are not available%
270     }%
271     \expandafter\endinput
272 \fi
273 \pdfcolInitStack{pcp@Left}
274 \pdfcolInitStack{pcp@Right}

```

```

\pcp@Box
275 \newbox\pcp@Box

```

```
\pcp@SwitchStack
```

```

276 \def\pcp@SwitchStack#1#2{%
277     \pdfcolSwitchStack{pcp@#1}%

```

```

278 \global\setbox\pcp@Box=\vbox to 0pt{%
279   \pdfcolSetcurrentColor
280 }
281 \aftergroup\pcp@FixBox
282 \aftergroup#2%
283 }

\pcp@FixBox
284 \def\pcp@FixBox#1{%
285   \global\setbox#1=\vbox{%
286     \unvbox\pcp@Box
287     \unvbox#1%
288   }%
289 }

\pcp@SetCurrent
290 \def\pcp@SetCurrent#1{%
291   \ifx\\#1\\%
292     \pdfcolSetCurrent{}%
293   \else
294     \pdfcolSetCurrent{\pcp@#1}%
295   \fi
296 }

```

## 2.4 Redefinitions

```

\ParallelParOnePage
297 \pcp@CmdCheckRedef\ParallelParOnePage{%
298   \ifnum\ParallelBoolVar=\@ne
299     \par
300     \begingroup
301       \leftmargin=\z@
302       \rightmargin=\z@
303       \parskip=\z@skip
304       \parindent=\z@
305       \vbadness=10000 %
306       \vfuzz=3ex %
307       \splittopskip=\z@skip
308       \loop
309         \ifnum\ParallelBoolVar=\@ne
310           \noindent
311           \hbox to\textwidth{%
312             \hskip\ParallelLeftMargin
313             \hbox to\ParallelTextWidth{%
314               \ifvoid\ParallelLBox
315                 \hskip\ParallelLWidth
316               \else
317                 \ParallelWhichBox=\z@
318                 \vbox{%
319                   \setbox\ParallelBoxVar
320                     =\vsplit\ParallelLBox to\dp\strutbox
321                   \unvbox\ParallelBoxVar
322                 }%
323               \fi
324               \strut
325               \ifnum\ParallelBoolMid=\@ne
326                 \hskip\ParallelMainMidSkip
327                 \vrule
328               \else
329                 \hss
330               \fi
331               \hss

```

```

332         \ifvoid\ParallelRBox
333             \hskip\ParallelRWidth
334         \else
335             \ParallelWhichBox=\@ne
336             \vbox{%
337                 \setbox\ParallelBoxVar
338                     =\vsplit\ParallelRBox to\dp\strutbox
339                 \unvbox\ParallelBoxVar
340             }%
341         \fi
342     }%
343 }
344 \ifvoid\ParallelLBox
345     \ifvoid\ParallelRBox
346         \global\ParallelBoolVar=\z@
347     \fi
348     \fi%
349     \fi%
350     \ifnum\ParallelBoolVar=\@ne
351         \penalty\interlinepenalty
352         \repeat
353         \par
354     \endgroup
355     \fi
356 }%
357 \ifnum\ParallelBoolVar=\@ne
358     \par
359     \begingroup
360         \leftmargin=\z@
361         \rightmargin=\z@
362         \parskip=\z@skip
363         \parindent=\z@
364         \vbadness=10000 %
365         \vfuzz=3ex %
366         \splittopskip=\z@skip
367     \loop
368         \ifnum\ParallelBoolVar=\@ne
369             \noindent
370             \hbox to\textwidth{%
371                 \hskip\ParallelLeftMargin
372                 \hbox to\ParallelTextWidth{%
373                     \ifvoid\ParallelLBox
374                         \hskip\ParallelLWidth
375                     \else
376                         \pcp@SetCurrent{Left}%
377                         \ParallelWhichBox=\z@
378                     \vbox{%
379                         \setbox\ParallelBoxVar
380                             =\vsplit\ParallelLBox to\dp\strutbox
381                         \unvbox\ParallelBoxVar
382                     }%
383                 \fi
384                 \strut
385                 \ifnum\ParallelBoolMid=\@ne
386                     \hskip\ParallelMainMidSkip
387                     \vrule
388                 \else
389                     \hss
390                 \fi
391                 \hss
392                 \ifvoid\ParallelRBox
393                     \hskip\ParallelRWidth

```

```

394         \else
395             \pcp@SetCurrent{Right}%
396             \ParallelWhichBox=\@ne
397             \vbox{%
398                 \setbox\ParallelBoxVar
399                     =\vsplit\ParallelRBox to\dp\strutbox
400                 \unvbox\ParallelBoxVar
401             }%
402         \fi
403     }%
404   }%
405   \ifvoid\ParallelLBox
406       \ifvoid\ParallelRBox
407           \global\ParallelBoolVar=\z@
408       \fi
409   \fi%
410   \fi%
411   \ifnum\ParallelBoolVar=\@ne
412       \penalty\interlinepenalty
413   \repeat
414   \par
415   \endgroup
416   \pcp@SetCurrent{}%
417 \fi
418 }

419 </package>

```

### 3 Test

The test file is a modified version of the file that Alexander Hirsch has posted in `de.comp.text.tex`: “`parallel.sty` und farbiger Text”<sup>1</sup>

```

420 <*test1>
421 \AtEndDocument{%
422   \typeout{}%
423   \typeout{*****%}
424   \typeout{*** \space Check the PDF file manually! \space ***}%
425   \typeout{*****%}
426   \typeout{}%
427 }
428 \documentclass{article}
429 \usepackage{xcolor}
430 \usepackage{pdfcolparallel}[2008/08/11]
431
432 \begin{document}
433   \color{green}%
434   Green%
435   \begin{Parallel}{0.47\textwidth}{0.47\textwidth}%
436     \ParallelLText{%
437       \textcolor{red}{%
438         Ein Absatz, der sich ueber zwei Zeilen erstrecken soll. \%}
439         Ein Absatz, der sich ueber zwei Zeilen erstrecken soll.\%}
440     }%
441   }%
442   \ParallelRText{%
443     \textcolor{blue}{%
444       Ein Absatz, der sich ueber zwei Zeilen erstrecken soll. \%}
445       Ein Absatz, der sich ueber zwei Zeilen erstrecken soll.\%}
446   }%
447 }

```

---

<sup>1</sup>Url: <http://groups.google.com/group/de.comp.text.tex/msg/6a759cf33bb071a5>

```

448  \ParallelPar
449  \ParallelLText{%
450      Default %
451      \color{red}%
452      Ein Absatz, der sich ueber zwei Zeilen erstrecken soll. %
453      Ein Absatz, der sich ueber zwei Zeilen erstrecken soll.%}
454  }%
455  \ParallelRText{%
456      Default %
457      \color{blue}%
458      Ein Absatz, der sich ueber zwei Zeilen erstrecken soll. %
459      Ein Absatz, der sich ueber zwei Zeilen erstrecken soll.%}
460  }%
461  \ParallelPar
462  \ParallelLText{%
463      \begin{enumerate}%
464          \item left text, left text, left text, left text, %
465              left text, left text, left text, left text,%
466          \item left text, left text, left text, left text, %
467              left text, left text, left text, left text.%
468      \end{enumerate}%
469  }%
470  \ParallelRText{%
471      \begin{enumerate}%
472          \item right text, right text, right text, right text, %
473              right text, right text, right text, right text.%}
474          \item right text, right text, right text, right text, %
475              right text, right text, right text, right text.%}
476      \end{enumerate}%
477  }%
478  \end{Parallel}%
479  \begin{Parallel}[p]{\textwidth}{\textwidth}%
480      \ParallelLText{%
481          \textcolor{red}{f}%
482          Ein Absatz, der sich ueber zwei Zeilen erstrecken soll. %
483          Ein Absatz, der sich ueber zwei Zeilen erstrecken soll. %
484          Foo bar bla bla bla.%}
485      }%
486      \par
487      Und noch ein Absatz.%}
488  }%
489  \ParallelRText{%
490      \textcolor{blue}{f}%
491      Ein Absatz, der sich ueber zwei Zeilen erstrecken soll. %
492      Ein Absatz, der sich ueber zwei Zeilen erstrecken soll. %
493      Foo bar bla bla bla.%}
494  }%
495  }%
496  \end{Parallel}%
497  \begin{Parallel}[p]{\textwidth}{\textwidth}%
498      \ParallelLText{%
499          \rule{1pt}{.98\textheight}\Huge g%
500      }%
501      \ParallelRText{%
502          \rule{1pt}{.98\textheight}y%
503      }%
504  \end{Parallel}%
505  Green%
506 \end{document}
507 </test1>

```

## 4 Installation

### 4.1 Download

**Package.** This package is available on CTAN<sup>2</sup>:

`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 T<sub>E</sub>X Files” ([CTAN:tds.tds.pdf](#)). Directories with `texmf` in their name are usually organized this way.

### 4.2 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
```

**Script installation.** Check the directory `TDSScripts/oberdiek/` for scripts that need further installation steps. Package `attachfile2` comes with the Perl script `pdfatfi.pl` that should be installed in such a way that it can be called as `pdfatfi`. Example (linux):

```
chmod +x scripts/oberdiek/pdfatfi.pl
cp scripts/oberdiek/pdfatfi.pl /usr/local/bin/
```

### 4.3 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 pdfcolparallel.dtx
```

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

<code>pdfcolparallel.sty</code>	→ <code>tex/latex/oberdiek/pdfcolparallel.sty</code>
<code>pdfcolparallel.pdf</code>	→ <code>doc/latex/oberdiek/pdfcolparallel.pdf</code>
<code>test/pdfcolparallel-test1.tex</code>	→ <code>doc/latex/oberdiek/test/pdfcolparallel-test1.tex</code>
<code>pdfcolparallel.dtx</code>	→ <code>source/latex/oberdiek/pdfcolparallel.dtx</code>

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`.

### 4.4 Refresh file name databases

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

---

<sup>2</sup>[ftp://ftp.ctan.org/tex-archive/](http://ftp.ctan.org/tex-archive/)

## 4.5 Some details for the interested

**Attached source.** The PDF documentation on CTAN also includes the `.dtx` source file. It can be extracted by AcrobatReader 6 or higher. Another option is `pdftk`, e.g. unpack the file into the current directory:

```
pdftk pdfcolparallel.pdf unpack_files output .
```

**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{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 pdflat<sup>A</sup>T<sub>E</sub>X:

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

## 5 References

[1] Matthias Eckermann: *The parallel-package*; 2003/04/13;  
[CTAN:macros/latex/contrib/parallel/](#).

[2] Heiko Oberdiek: *The pdfcol package*; 2007/09/09;  
[CTAN:macros/latex/contrib/oberdiek/pdfcol.pdf](#).

## 6 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.

## 7 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; numbers in roman refer to the code lines where the entry is used.

Symbols	I
\@PackageWarningNoLine .....	54
\@ifundefined .....	16
\@ne 103, 108, 121, 126, 138, 141, 147, 148, 160, 189, 195, 198, 204, 205, 217, 258, 298, 309, 325, 335, 350, 357, 368, 385, 396, 411	32, 103, 121, 138, 147, 148, 163, 189, 195, 204, 205, 220, 258, 298, 309, 325, 350, 357, 368, 385, 411
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