

# 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 [2007/12/12 v1.1 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{}

```

#### \ParallelLText

```

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

```

#### \ParallelRText

```

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

```

```

105 \else
106 \let\footnote=\ParallelLFootnote
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\ParallellLBox to.98\textheight
228         \vbox to.98\textheight{%
229             \@texttop
230             \unvbox\z@
231             \@textbottom
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\ParallellRBox to.98\textheight
243         \vbox to.98\textheight{%
244             \@texttop
245             \unvbox\z@
246             \@textbottom
247         }%
248     }%
249 \fi
250 \vspace*{\fill}%
251 \newpage
252 \fi
253 \ifvoid\ParallellLBox
254 \ifvoid\ParallellRBox
255     \global\ParallelBoolVar=\z@
256 \fi
257 \fi
258 \ifnum\ParallelBoolVar=\@ne
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`.

```

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}[2007/12/12]
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 }%
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}{%
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}{%
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 \end{test1}

```

## 4 Installation

### 4.1 Download

**Package.** This package is available on CTAN<sup>1</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  $\text{\TeX}$  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 `TDS:scripts/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- $\text{\TeX}$ :

```
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):

<code>pdfcolparallel.sty</code>	$\rightarrow$ <code>tex/latex/oberdiek/pdfcolparallel.sty</code>
<code>pdfcolparallel.pdf</code>	$\rightarrow$ <code>doc/latex/oberdiek/pdfcolparallel.pdf</code>
<code>test/pdfcolparallel-test1.tex</code>	$\rightarrow$ <code>doc/latex/oberdiek/test/pdfcolparallel-test1.tex</code>
<code>pdfcolparallel.dtx</code>	$\rightarrow$ <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  $\text{\TeX}$  distribution (`te $\text{\TeX}$` , `mik $\text{\TeX}$` , ...) relies on file name databases, you must refresh these. For example, `te $\text{\TeX}$`  users run `texhash` or `mktextlsr`.

---

<sup>1</sup><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 pdfL<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/](http://CTAN:macros/latex/contrib/parallel/).
- [2] Heiko Oberdiek: *The pdfcol package*; 2007/09/09;  
[CTAN:macros/latex/contrib/oberdiek/pdfcol.pdf](http://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.

## 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.

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