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.

Contents

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{}
```

\ParallelLText

```
67 \pcp@CmdCheckRedef\ParallelLText{%
68    \everypar{}%
69    \@restorepar
70    \begingroup
71      \hbadness=3000 %
72      \let\footnote=\ParallelLFootnote
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=\ParallelLFootnote
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\ParallelLBox 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\ParallelRBox 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\ParallelLBox
254        \ifvoid\ParallelRBox
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
```

7

```
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"[1]

```
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     }%
```

---

[1]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}{%
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  ⟨/test1⟩
```

4 Installation

4.1 Download

Package. This package is available on CTAN[2]:

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: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-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
test/pdfcolparallel-test1.tex → doc/latex/oberdiek/test/pdfcolparallel-test1.tex
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.

4.4 Refresh file name databases

If your TeX distribution (teTeX, mikTeX, . . .) relies on file name databases, you must refresh these. For example, teTeX users run texhash or mktexlsr.

---

[2]ftp://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 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
```

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.

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