## The pdfcol package

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#### Abstract

Since version 1.40 pdfTEX supports color stacks. The driver file pdf-tex.def for package color defines and uses a main color stack since version v0.04b. Package pdfcol is intended for package writers. It defines macros for setting and maintaining new color stacks.

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 $<sup>{\</sup>rm ^*Please\ report\ any\ issues\ at\ https://github.com/ho-tex/oberdiek/issues}$ 

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#### 1 Documentation

Version 1.40 of pdfTEX adds new primitives \pdfcolorstackinit and \pdfcolorstack. Now color stacks can be defined and used. A main color stack is maintained by the driver file pdftex.def similar to dvips or dvipdfm. However the number of color stacks is not limited to one in pdfTEX. Thus further color problems can now be solved, such as footnotes across pages or text that is set in parallel columns (e.g. packages parallel or parcolumn). Unlike the main color stack, the support by additional color stacks cannot be done in a transparent manner.

This package pdfcol provides an easier interface to additional color stacks without the need to use the low level primitives.

#### 1.1 Requirements

- pdfT<sub>F</sub>X 1.40 or greater.
- pdfTEXin PDF mode. (I don't know a DVI driver that support several color stacks.)
- pdftex.def 2007/01/02 v0.04b.

Package pdfcol checks the requirements and sets switch \ifpdfcolAvailable accordingly.

#### 1.2 Interface

#### \ifpdfcolAvailable

If the requirements of section 1.1 are met the switch \ifpdfcolAvailable behaves as \iftrue. Otherwise the other interface macros in this section will be disabled with a message. Also the first use of such a macro will print a message. The messages are print to the .log file only if pdfTEX is not used in PDF mode.

#### \pdfcolErrorNoStacks

The first call of \pdfcolErrorNoStacks prints an error message, if color stacks are not available.

#### $\pdfcolInitStack \{\langle name \rangle\}$

A new color stack is initialized by  $\pdfcolInitStack$ . The  $\langle name \rangle$  is used for indentifying the stack. It usually consists of letters and digits. (The name must survive a  $\c$ sname.)

The intension of the macro is the definition of an additional color stack. Thus the stack is not page bounded like the main color stack. Black (0 g 0 G) is used as initial color value. And colors are written with modifier direct that means without setting the current transfer matrix and changing the current point (see documentation of pdfTEX for \pdfliteral direct{...}).

#### 

Macro \pdfcolIfStackExists checks whether color stack  $\langle name \rangle$  exists. In case of success argument  $\langle then \rangle$  is executed and  $\langle else \rangle$  otherwise.

#### $\pdfcolSwitchStack \{\langle name \rangle\}\$

Macro \pdfcolSwitchStack switches the color stack. The color macros of package color (or xcolor) now uses the new color stack with name  $\langle name \rangle$ .

#### \pdfcolSetCurrentColor

Macro \pdfcolSetCurrentColor replaces the topmost entry of the stack by the current color (\current@color).

#### \pdfcolSetCurrent $\{\langle name \rangle\}$

Macro \pdfcolSetCurrent sets the color that is read in the top-most entry of color stack  $\langle name \rangle$ . If  $\langle name \rangle$  is empty, the default color stack is used.

## 2 Implementation

1 (\*package)

#### 2.1 Reload check and package identification

Reload check, especially if the package is not used with LATEX.

```
{\tt 2 \ begingroup\ catcode 61 \ catcode 48 \ catcode 32 = 10 \ relax\%}
 3 \catcode13=5 % ^^M
    \endlinechar=13 %
    \catcode35=6 % #
   \catcode39=12 % '
 7 \catcode44=12 \%,
 8 \catcode45=12 % -
 9 \catcode46=12 % .
10 \catcode58=12 %:
11 \catcode64=11 % @
12 \catcode123=1 % {
13 \catcode125=2 % }
14 \expandafter\let\expandafter\x\csname ver@pdfcol.sty\endcsname
    \ifx\x\relax % plain-TeX, first loading
15
16
    \else
     \def\empty{}%
17
     \ifx\x\empty % LaTeX, first loading,
18
       % variable is initialized, but \ProvidesPackage not yet seen
19
20
21
       \expandafter\ifx\csname PackageInfo\endcsname\relax
22
        \def\x#1#2{\%}
          \immediate\write-1{Package #1 Info: #2.}%
23
        7%
24
       \else
25
        26
27
28
       \x{pdfcol}{The package is already loaded}%
29
       \aftergroup\endinput
     \fi
30
    \fi
31
32 \endgroup%
Package identification:
33 \begingroup\catcode61\catcode48\catcode32=10\relax%
34 \cdot catcode13=5 \% ^M
35 \endlinechar=13 %
36 \catcode35=6 % #
37 \catcode39=12 % '
38 \catcode40=12 % (
```

```
\catcode41=12 % )
39
   \cdot = 12 \% ,
40
   \catcode45=12 % -
41
   \catcode46=12 % .
42
   \catcode47=12 % /
43
   \catcode58=12 % :
44
45
   \catcode64=11 % @
   \catcode91=12 % [
46
   \catcode93=12 % ]
47
   \catcode123=1 % {
48
   \catcode125=2 % }
49
   \expandafter\ifx\csname ProvidesPackage\endcsname\relax
50
     \def\x#1#2#3[#4]{\endgroup}
51
      \immediate\write-1{Package: #3 #4}%
52
      \xdef#1{#4}%
53
     }%
54
55
   \else
     \def\x#1#2[#3]{\endgroup}
56
      #2[{#3}]%
57
58
      \ifx#1\@undefined
        \xdef#1{#3}%
59
       \fi
60
      \inf #1 \operatorname{ln}
61
        \xdef#1{#3}%
62
       \fi
63
64
     }%
   \fi
65
66 \expandafter\x\csname ver@pdfcol.sty\endcsname
67 \ProvidesPackage{pdfcol}%
68 [2016/05/17 v1.4 Handle new color stacks for pdfTeX (HO)]%
```

#### 2.2 Catcodes

```
69 \begingroup\catcode61\catcode48\catcode32=10\relax%
70 \catcode13=5 \% ^^M
 71 \endlinechar=13 %
 72 \catcode123=1 % {
 73 \catcode125=2 % }
 74 \catcode64=11 % @
 75
                                     \def\x{\endgroup
                                                       \expandafter\edef\csname PDFCOL@AtEnd\endcsname{%
 76
 77
                                                                        \endlinechar=\the\endlinechar\relax
 78
                                                                        \color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=\color=
 79
                                                                        \color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\t
                                                                        \color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\the\color=\t
 80
                                                                        \colored{catcode61=\locatede61\relax}
 81
                                                                        \color=\the\color=4\
 82
                                                                        \catcode123=\the\catcode123\relax
 83
                                                                        \catcode125=\the\catcode125\relax
 84
                                                      }%
 85
 86 }%
 87 \x \cdot 10^{1} \catcode61 \catcode48 \catcode32=10 \relax%
 88 \catcode13=5 % ^^M
 89 \endlinechar=13 %
 90 \catcode35=6 % #
91 \catcode64=11 % @
92 \catcode123=1 % {
 93 \catcode125=2 % }
 94 \def\TMP@EnsureCode#1#2{%
                                     \edef\PDFCOL@AtEnd{%
 95
 96
                                                         \PDFCOL@AtEnd
                                                       \color= \time \color= \time \color= \color=
```

```
}%
98
    \color= 1=\#2\relax
99
100 }
101 \TMP@EnsureCode{39}{12}% '
102 \TMP@EnsureCode{40}{12}% (
103 \TMP@EnsureCode{41}{12}%)
104 \TMP@EnsureCode{43}{12}% +
105 \TMP@EnsureCode{44}{12}\% ,
106 \TMP@EnsureCode{46}{12}\% .
107 \TMP@EnsureCode{47}{12}% /
108 \TMP@EnsureCode{91}{12}% [
109 \TMP@EnsureCode{93}{12}% ]
110 \TMP@EnsureCode{96}{12}%
111 \edef\PDFCOL@AtEnd{\PDFCOL@AtEnd\noexpand\endinput}
2.3
      Check requirements
112 \begingroup\expandafter\expandafter\expandafter\endgroup
113 \expandafter\ifx\csname RequirePackage\endcsname\relax
114 \def\PDFCOL@RequirePackage#1[#2]{\input #1.sty\relax}%
115 \else
    \def\PDFCOL@RequirePackage#1[#2]{%
117
     \RequirePackage{#1}[{#2}]%
118 }%
119 \fi
   LuaTeX Compatability
120 \ifx\pdfextension\@undefined\else
121 \PDFCOL@RequirePackage{luatex85}[2016/01/01]
123 \PDFCOL@RequirePackage{ltxcmds}[2010/03/01]
124 \ltx@newif\ifpdfcolAvailable
125 \pdfcolAvailabletrue
2.3.1 Check package luacolor
126 \ltx@newif\ifPDFCOL@luacolor
127 \begingroup\expandafter\expandafter\expandafter\endgroup
128 \expandafter\ifx\csname ver@luacolor.sty\endcsname\relax
129 \PDFCOL@luacolorfalse
130 \else
131 \PDFCOL@luacolortrue
132 \fi
2.3.2 Check PDF mode
133 \PDFCOL@RequirePackage{infwarerr}[2007/09/09]
134 \PDFCOL@RequirePackage{ifpdf}[2007/09/09]
135 \ifcase\ifpdf\ifPDFCOL@luacolor 1\fi\else 1\fi0 %
136
    \def\PDFCOL@Message{%
     \@PackageWarningNoLine{pdfcol}%
137
138 }%
139 \else
    \pdfcolAvailablefalse
140
141 \def\PDFCOL@Message{%
     \@PackageInfoNoLine{pdfcol}%
142
143 }%
144 \PDFCOL@Message{%
    Interface disabled because of %
145
```

\PDFCOL@RequirePackage

ifpdfcolAvailable

146

\ifPDFCOL@luacolor

```
package `luacolor'%
147
148
                 missing PDF mode of pdfTeX%
149
150
          }%
151
152 \fi
2.3.3 Check version of pdfTeX
153 \ifpdfcolAvailable
           \begingroup\expandafter\expandafter\expandafter\endgroup
           \expandafter\ifx\csname pdfcolorstack\endcsname\relax
156
              \pdfcolAvailablefalse
              \PDFCOL@Message{%
157
                Interface disabled because of too old pdfTeX.\MessageBreak
158
                 Required is version 1.40+ for \sqrt{\frac{1}{40}}
159
160
          \fi
161
162 \fi
163 \ifpdfcolAvailable
           \begingroup\expandafter\expandafter\expandafter\endgroup
           \expandafter\ifx\csname pdfcolorstack\endcsname\relax
165
166
              \pdfcolAvailablefalse
167
              \PDFCOL@Message{%
168
                 Interface disabled because of too old pdfTeX.\MessageBreak
169
                 Required is version 1.40+ for \sqrt{\frac{pdf}{colorstackinit}}
170
          \fi
171
172 \fi
2.3.4
                Check pdftex.def
173 \ifpdfcolAvailable
          \verb|\begingroup| expandafter | expandafter |
174
          \verb|\expandafter| if x \csname @pdfcolorstack| endcsname| relax| \\
Try to load package color if it is not yet loaded (LATEX case).
              \begingroup\expandafter\expandafter\expandafter\endgroup
176
177
              \expandafter\ifx\csname ver@color.sty\endcsname\relax
178
                  \begingroup\expandafter\expandafter\expandafter\endgroup
                  \expandafter\ifx\csname documentclass\endcsname\relax
180
181
                     \RequirePackage[pdftex]{color}\relax
                 ١fi
182
              \fi
183
              \begingroup\expandafter\expandafter\expandafter\endgroup
184
              \expandafter\ifx\csname @pdfcolorstack\endcsname\relax
185
                  \pdfcolAvailablefalse
186
                 \PDFCOL@Message{%
187
                    Interface disabled because `pdftex.def'\MessageBreak
188
                    is not loaded or it is too old.\MessageBreak
189
190
                    Required is version 0.04b or greater%
191
                 }%
192
              \fi
193
           \fi
194 \fi
195 \let\pdfcolAvailabletrue\relax
```

#### 2.4 Enabled interface macros

197 \ifpdfcolAvailable

\pdfcolErrorNoStacks

198 \let\pdfcolErrorNoStacks\relax

196 \let\pdfcolAvailablefalse\relax

```
\pdfcol@Value
                                                               199
                                                                           \expandafter\ifx\csname pdfcol@Value\endcsname\relax
                                                              200
                                                                               \def\pdfcol@Value{0 g 0 G}%
                                                              201
\pdfcol@LiteralModifier
                                                                           \verb|\expandafter| if x \land pdf col@LiteralModifier \land pdf col@LiteralModi
                                                              202
                                                              203
                                                                              \def\pdfcol@LiteralModifier{direct}%
                                                              204
                                                                           \fi
                  \pdfcolInitStack
                                                                           \def\pdfcolInitStack#1{%
                                                              205
                                                                               \expandafter\ifx\csname pdfcol@Stack@#1\endcsname\relax
                                                              206
                                                                                   \global\expandafter\chardef\csname pdfcol@Stack@#1\endcsname=%
                                                              207
                                                                                          \verb|\pdfcolorstackinit| pdfcol@LiteralModifier{\pdfcol@Value}| % \\
                                                              208
                                                              209
                                                              210
                                                                                   \@PackageInfo{pdfcol}{%
                                                              211
                                                                                      New color stack `#1' = \sum pdfcol@Stack@#1\endcsname
                                                              212
                                                              213
                                                              214
                                                                                  \@PackageError{pdfcol}{%
                                                              215
                                                                                      Stack `#1' is already defined%
                                                                                  }\@ehc
                                                              216
                                                                              \fi
                                                              217
                                                                          }%
                                                              218
        \pdfcolIfStackExists
                                                              219
                                                                           \def\pdfcolIfStackExists#1{%
                                                              220
                                                                               \expandafter\ifx\csname pdfcol@Stack@#1\endcsname\relax
                                                              221
                                                                                  \expandafter\@secondoftwo
                                                              222
                                                                                  \expandafter\@firstoftwo
                                                              223
                                                                               ۱fi
                                                              224
                                                                          }%
                                                              225
                            \@firstoftwo
                                                              ^{226}
                                                                           \expandafter\ifx\csname @firstoftwo\endcsname\relax
                                                              227
                                                                              228
                                                                           \fi
                     \@secondoftwo
                                                              229
                                                                           \expandafter\ifx\csname @secondoftwo\endcsname\relax
                                                              230
                                                                              \long\def\@secondoftwo#1#2{#2}%
                                                              231
                                                                           \fi
          \pdfcolSwitchStack
                                                                           \def\pdfcolSwitchStack#1{%
                                                              232
                                                                               \pdfcolIfStackExists{#1}{%
                                                              233
                                                              234
                                                                                   \expandafter\let\expandafter\@pdfcolorstack
                                                              235
                                                                                                                 \csname pdfcol@Stack@#1\endcsname
                                                              236
                                                                                  \pdfcol@ErrorNoStack{#1}%
                                                              237
                                                                              }%
                                                              238
                                                                          }%
                                                              239
\pdfcolSetCurrentColor
                                                                           \def\pdfcolSetCurrentColor{%
                                                              240
                                                                              \pdfcolorstack\@pdfcolorstack set{\current@color}%
                                                              242
                                                                          }%
```

```
\pdfcolSetCurrent
                       243
                            \def\pdfcolSetCurrent#1{%
                       244
                              \ifx\\#1\\%
                               \pdfcolorstack\@pdfcolorstack current\relax
                       ^{245}
                       246
                       247
                               \pdfcolIfStackExists{#1}{%
                                 \pdfcolorstack\csname pdfcol@Stack@#1\endcsname current\relax
                       248
                       ^{249}
                                \verb|\pdfcol@ErrorNoStack{#1}| %
                       250
                               }%
                       251
                              ١fi
                       252
                            }%
                       253
\pdfcol@ErrorNoStack
                            \def\pdfcol@ErrorNoStack#1{%
                       254
                             \@PackageError{pdfcol}{Stack `#1' does not exists}\@ehc
                       255
                            }%
                       256
                              Disabled interface macros
                       257 \else
\pdfcolErrorNoStacks
                            \def\pdfcolErrorNoStacks{%
                       258
                              \@PackageError{pdfcol}{%
                       259
                               Color stacks are not available%
                       260
                       261
                             14%
                               Update pdfTeX (1.40) and `pdftex.def' (0.04b) %
                       262
                       263
                                  if necessary.\MessageBreak
                               Ensure that `pdftex.def' is loaded \%
                       264
                       265
                                  (package `color' or `xcolor').\MessageBreak
                       266
                               Further messages can be found in TeX's %
                       267
                                  protocol file `\jobname.log'.\MessageBreak
                       268
                               \MessageBreak
                       269
                               \@ehc
                             }%
                       270
                              \global\let\pdfcolErrorNoStacks\relax
                       271
                            ٦%
                       272
 \PDFCOL@Disabled
                       273
                            \def\PDFCOL@Disabled{%
                       274
                             \PDFCOL@Message{%
                               {\tt pdfTeX's\ color\ stacks\ are\ not\ available\%}
                       275
                       276
                              \global\let\PDFCOL@Disabled\relax
                       277
                       278
                            }%
     \pdfcolInitStack
                       279
                            \def\pdfcolInitStack\#1{\%}
                             \PDFCOL@Disabled
                       280
                       281
                            }%
  \pdfcolIfStackExists
                            \label{longdef} $$  \log\left(\frac{\pi}{2}\right)^2 + 2\#3\{\#3\}\% $$
                       282
   \pdfcolSwitchStack
                            283
                             \PDFCOL@Disabled
                       284
                       285 }%
```

#### \pdfcolSetCurrentColor

```
286 \def\pdfcolSetCurrentColor{%
287 \PDFCOL@Disabled
288 }%

\pdfcolSetCurrent

289 \def\pdfcolSetCurrent#1{%
290 \PDFCOL@Disabled
291 }%

292 \fi
293 \PDFCOL@AtEnd%
```

#### 3 Test

294 (/package)

#### 3.1 Catcode checks for loading

```
295 \langle *test1 \rangle
296 \catcode^{=1 \%}
297 \catcode`\}=2 %
298 \catcode \#=6 \%
299 \catcode`\@=11 %
300 \expandafter\ifx\csname count@\endcsname\relax
301 \countdef\count@=255 \%
302 \fi
303 \expandafter\ifx\csname Qgobble\endcsname\relax
304 \long\def\@gobble#1{}\%
305 \fi
306 \exp and after ifx \csname 
307 \log \left( \frac{\#1}{\#1} \right)
308 \fi
309 \expandafter\ifx\csname loop\endcsname\relax
310 \expandafter\@firstofone
311 \else
312 \ensuremath{\mbox{\mbox{$\setminus$}}} expandafter\ensuremath{\mbox{\mbox{$\setminus$}}} gobble
313 \fi
314 {%
                \def \def = 1 \end{4}
315
316
                    \def\body{#1}%
317
                     \iterate
318
                }%
319
                \def\iterate{%
320
                    \body
321
                          \let\next\iterate
322
                     \else
323
                         \let\next\relax
                    \fi
324
                    \next
325
326 }%
                \left| \right| 
327
328 }%
329 \def\RestoreCatcodes{}
330 \count@=0 %
331 \loop
332
                \edef\RestoreCatcodes{%
333
                     \RestoreCatcodes
                    \catcode\the\count@=\the\catcode\count@\relax
334
335 }%
336 \ifnum\count@<255 %
337 \advance\count@ 1 %
```

```
338 \repeat
339
340 \ensuremath{ \mbox{def}\mbox{RangeCatcodeInvalid}\#1\#2\%}
            \count@=#1\relax
            \loop
342
343
                \catcode\count@=15 %
344
            \ifnum\count@<#2\relax
345
                \advance\count@ 1 %
346
            \repeat
347 }
348 \def\RangeCatcodeCheck#1#2#3{\%
            \count@=#1\relax
349
            \loop
350
                 \ifnum#3=\catcode\count@
351
                 \else
352
353
                    \errmessage{%
                        Character \the\count@\space
354
                        with wrong catcode \the\catcode\count@\space
355
                        instead of \number#3%
356
357
                    }%
358
                 \fi
             \ifnum\count@<#2\relax
359
                 \advance\count@ 1 %
360
361
            \repeat
362 }
363 \def\space{ }
364 \expandafter\ifx\csname LoadCommand\endcsname\relax
            \def\LoadCommand{\input pdfcol.sty\relax}%
366 \fi
367 \def\Test{\%}
            \RangeCatcodeInvalid{0}{47}%
368
            \RangeCatcodeInvalid{58}{64}\%
369
370
            \RangeCatcodeInvalid{91}{96}%
371 \RangeCatcodeInvalid{123}{255}%
372 \catcode`\@=12 %
373 \catcode`\\=0 %
374 \catcode`\%=14 %
375 \LoadCommand
376 \RangeCatcodeCheck{0}{36}{15}%
377 \RangeCatcodeCheck{37}{37}{14}%
378 \quad \texttt{\normalfoot} \  \  \, \texttt{\normalfoot} \  \ \  \  \, \texttt{\normalfoot} \  \  \  \, \texttt{\normalfoot} \  \  \, \  \ \
            \RangeCatcodeCheck{48}{57}{12}%
379
            \RangeCatcodeCheck{58}{63}{15}%
380
381
            \RangeCatcodeCheck{64}{64}{12}%
382
            \RangeCatcodeCheck{65}{90}{11}%
383
            \RangeCatcodeCheck{91}{91}{15}%
            \RangeCatcodeCheck{92}{92}{0}%
            \RangeCatcodeCheck{93}{96}{15}\%
386
            \RangeCatcodeCheck{97}{122}{11}\%
387
            \RangeCatcodeCheck{123}{255}{15}%
            \RestoreCatcodes
388
389 }
390 \Test
391 \csname @@end\endcsname
392 \end
393 (/test1)
3.2
             Very simple test
394 (*test2 j test3)
395 \NeedsTeXFormat{LaTeX2e}
396 \nofiles
397 \documentclass{article}
```

```
398 \usepackage{pdfcol}[2016/05/17]
399 \usepackage{qstest}
400 \IncludeTests{*}
401 \LogTests{log}{*}{*}
402 \begin{document}
403 \begin{qstest}{pdfcol}{}%
404
      \makeatletter
405 (*test2)
      406
407 (/test2)
408 (*test3)
      \Expect*{\ifpdfcolAvailable true\else false\fi}{true}%
409
      \Expect*{\number\Qpdfcolorstack}{0}\%
410
411 \langle / test3 \rangle
      \stbox0=\hbox{}
412
413
       \pdfcolInitStack{test}%
414 (*test3)
        \Expect*{\number\pdfcol@Stack@test}{1}%
415
        \Expect*{\number\Qpdfcolorstack}{0}\%
416
417 (/test3)
        \pdfcolSwitchStack{test}%
418
419 (*test3)
        \Expect*{\number\Qpdfcolorstack}{1}%
420
421 (/test3)
        \pdfcolSetCurrent{test}%
422
423
        \pdfcolSetCurrent{}%
424
      \text{Expect}*{\text{wd0}}{0.0pt}
425
426 (
    *test3>
      \Expect*{\number\Qpdfcolorstack}{0}\%
427
      \Expect*{\number\pdfcol@Stack@test}{1}%
428
      \Expect*{\pdfcolIfStackExists{test}{true}}{false}}{true}%
429
430 (/test3)
      \Expect*{\pdfcolIfStackExists{dummy}{true}{false}}{false}%
431
432 \end{qstest}%
433 \end{document}
434 (/test2 j test3)
      Detection of package luacolor
3.3
435 (*test4)
436 \NeedsTeXFormat{LaTeX2e}
437 \documentclass{article}
438 \usepackage{luacolor}
439 \space{pdfcol}
440 \makeatletter
441 \ifpdfcolAvailable
442 \@latex@error{Detection of package luacolor failed}%
444 \csname @@end\endcsname
```

#### 4 Installation

#### 4.1 Download

445 (/test4)

Package. This package is available on CTAN<sup>1</sup>:

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

CTAN:macros/latex/contrib/oberdiek/pdfcol.pdf Documentation.

<sup>&</sup>lt;sup>1</sup>http://ctan.org/pkg/pdfcol

**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 TFX:

```
tex pdfcol.dtx
```

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

```
\begin{array}{lll} pdfcol.sty & \rightarrow \ tex/generic/oberdiek/pdfcol.sty \\ pdfcol.pdf & \rightarrow \ doc/latex/oberdiek/pdfcol.pdf \\ test/pdfcol-test1.tex & \rightarrow \ doc/latex/oberdiek/test/pdfcol-test1.tex \\ test/pdfcol-test2.tex & \rightarrow \ doc/latex/oberdiek/test/pdfcol-test2.tex \\ test/pdfcol-test3.tex & \rightarrow \ doc/latex/oberdiek/test/pdfcol-test3.tex \\ test/pdfcol-test4.tex & \rightarrow \ doc/latex/oberdiek/test/pdfcol-test4.tex \\ pdfcol.dtx & \rightarrow \ source/latex/oberdiek/pdfcol.dtx \\ \end{array}
```

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.

#### 4.5 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{pdfcol.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 pdfIATEX:

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

## 5 Catalogue

The following XML file can be used as source for the TEX Catalogue. The elements caption and description are imported from the original XML file from the Catalogue. The name of the XML file in the Catalogue is pdfcol.xml.

```
446 (*catalogue)
447 <?xml version='1.0' encoding='us-ascii'?>
448 <!DOCTYPE entry SYSTEM 'catalogue.dtd'>
449 <entry datestamp='$Date$' modifier='$Author$' id='pdfcol'>
450 <name>pdfcol</name>
451 <caption>Defines macros fpr maintaining color stacks under pdfTeX.</caption>
452
    <authorref id='auth:oberdiek'/>
    <copyright owner='Heiko Oberdiek' year='2007'/>
453
    <license type='lppl1.3'/>
454
    <version number='1.4'/>
455
456
    <description>
      Since version 1.40 pdfTeX supports color stacks.
457
      The driver file <tt>pdftex.def</tt> for package
458
      <xref refid='color'>color</xref> defines and uses a main color
459
      stack since version v0.04b.
460
461
      This package is intended for package writers.
462
      It defines macros for setting and maintaining new color stacks.
463
464
465
      The package is part of the xref refid='oberdiek'>oberdiek
466
     bundle.
467 </description>
468 <documentation details='Package documentation'
       href='ctan:/macros/latex/contrib/oberdiek/pdfcol.pdf'/>
469
470 <ctan file='true' path='/macros/latex/contrib/oberdiek/pdfcol.dtx'/>
471 <miktex location='oberdiek'/>
472 <texlive location='oberdiek'/>
473 <install path='/macros/latex/contrib/oberdiek/oberdiek.tds.zip'/>
474 </entry>
475 (/catalogue)
```

## 6 History

```
[2007/09/09 \text{ v}1.0]
```

• First version.

#### [2007/12/09 v1.1]

\pdfcolSetCurrentColor added.

## [2007/12/12 v1.2]

 $\bullet\,$  Detection for package luacolor added.

## [2016/05/16 v1.3]

 $\bullet \;\;$  Documentation updates.

## [2016/05/17 v1.4]

• Use luatex85 package for new luatex compatibility

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\pdfcolInitStack
$\mathbf R$
\RangeCatcodeCheck
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S \setbox
W \wd
\wd