

The pdfcolparcolumns package

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翻译

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摘要

Since version 1.40 pdfTeX supports several color stacks. This package uses them to fix color problems in package `parcolumns`.

自从版本 1.40 起，pdfTeX 支持多个颜色栈。此包使用它们来解决 `parcolumns` 包中的颜色问题。

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

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1 Usage

用法

```
\usepackage{pdfcolparcolumns}
```

The package pdfcolparcolumns loads package parcolumns [1]. If color stacks are available then the macros of parcolumns are patched to add support for color stacks.

包 pdfcolparcolumns 载入了 parcolumns [1] 包。如果有可用的颜色栈，则会对 parcolumns 的宏进行修补，以添加对颜色栈的支持。

1.1 Option `rulebetweencolor`

选项 `rulebetweencolor`

Package `pdfcolparcolumns` also fixes the color for the rule between columns (if `rulebetween` is set). Default color is `\normalcolor`. But this can be changed by using option `rulebetweencolor`. It takes a color specification as value. If the value is empty, then the default (`\normalcolor`) is used. Examples:

包 `pdfcolparcolumns` 还修复了列之间分隔线的颜色 (如果设置了 `rulebetween`)。默认颜色为 `\normalcolor`。但是, 可以使用选项 `rulebetweencolor` 来更改它。它接受一个颜色规范作为值。如果该值为空, 则使用默认值 (`\normalcolor`)。例如:

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

If used inside the optional argument of environment `parcolumns` and the value contains an optional argument, then whole value must be put in curly braces: 如果在 `parcolumns` 环境的可选参数中使用, 并且值包含可选参数, 则整个值必须用花括号括起来:

```
\begin{parcolumns}[  
  rulebetween,  
  rulebetweencolor={[rgb]{1,0,.5}},  
{2}  
  ...  
\end{parcolumns}
```

This option `rulebetweencolor` can also be set using `\setkeys`:

也可以使用 `\setkeys` 来设置选项 `rulebetweencolor`:

```
\setkeys{parcolumns}{rulebetweencolor=green}
```

1.2 Future

未来展望

Currently package `parcolumns` does not seem to be maintained. Nevertheless if there will be a new version that adds support for color stacks, then this package may become obsolete.

目前, `parcolumns` 包似乎没有维护了。尽管如此, 如果出现了新版本并支持颜色栈, 那么这个包可能会变得过时。

2 Implementation

实现

2.1 Identification

标识

```
1 <*package>
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{pdfcolparcolumns}%
4 [2019/12/29 v1.5 Color stacks for parcolumns (H0)]%
```

2.2 Load packages

加载宏包

2.2.1 Package parcolumns

宏包 parcolumns

Currently package parcolumns does not define options. Thus it is just a precaution that the options of package pdfcolparcolumns are passed to package parcolumns.

目前，宏包 parcolumns 没有定义选项。因此，它只是一个预防措施，以确保将宏包 pdfcolparcolumns 的选项传递给宏包 parcolumns。

```
5 \DeclareOption*{%
6   \PassOptionsToPackage{\CurrentOption}{parcolumns}%
7 }
8 \ProcessOptions\relax
9 \RequirePackage{parcolumns}[2004/11/25]
```

2.2.2 Package pdfcol

宏包 pdfcol

```
10 \RequirePackage{pdfcol}[2007/09/09]
11 \ifpdfcolAvailable
12 \else
13   \PackageInfo{pdfcolparcolumns}{%
14     Loading aborted, because color stacks are not available%
15   }%
16   \expandafter\endinput
17 \fi
```

2.2.3 Package infwarerr

宏包 infwarerr

```
18 \RequirePackage{infwarerr}[2007/09/09]
```

2.3 Color stack macros

颜色堆栈宏

`\pcpc@MaxStack` Macro `\pcpc@MaxStack` holds the highest number of allocated stacks.

宏 `\pcpc@MaxStack` 存储已分配的堆栈中最大的编号。

```
19 \global\chardef\pcpc@MaxStack=\z@
```

`\pcpc@InitStacks` Macro `\pcpc@InitStacks` takes the number of columns as argument and ensures that there are enough color stacks for all columns.

宏 `\pcpc@InitStacks` 接受列数作为参数，并确保为所有列分配了足够的颜色堆栈。

```
20 \def\pcpc@InitStacks#1{%
21   \ifnum#1>\pcpc@MaxStack
22     \begingroup
23       \count@\pcpc@MaxStack
24       \loop
25         \advance\count@\@ne
26         \pdfcolInitStack{pcpc@\the\count@}%
27       \ifnum#1>\count@
28         \repeat
29       \global\chardef\pcpc@MaxStack=\count@
30     \endgroup
31   \fi
32 }
```

`\pcpc@SwitchStack`

```
33 \def\pcpc@SwitchStack#1{%
34   \pdfcolSwitchStack{pcpc@\number#1}%
35 }
```

`\pcpc@SetCurrent`

```
36 \def\pcpc@SetCurrent#1{%
37   \pdfcolSetCurrent{pcpc@\number#1}%
38 }
```

2.4 Patches

补丁

Now the color stack macros are patched into the macros of package `parcolumns`. 现在颜色堆栈宏已经被打补丁到了 `parcolumns` 宏包的宏中。

2.4.1 Init stacks

初始化堆栈

`\pcpc@InitStacks` should go into the definition of environment `parcolumns`. `\pc@alloccolumns` is executed there and nowhere else, thus we hook into it. `\pcpc@InitStacks` 应该被放在环境 `parcolumns` 的定义中。`\pc@alloccolumns` 仅在那里执行，因此我们将其连接起来。

```
39 \g@addto@macro\pc@alloccolumns{%
40   \pcpc@InitStacks\pc@columncount
41 }
```

2.4.2 Switch stack

切换堆栈

`\pcpc@SwitchStack` should be called by marco `\colchunk@`. However it is easier to patch `\pc@setcolumnwidth` that is executed in `\colchunk@` only.

`\pcpc@SwitchStack` 应该被宏 `\colchunk@` 调用。不过，我们更容易修补仅在 `\colchunk@` 中执行的 `\pc@setcolumnwidth`。

```
42 \g@addto@macro\pc@setcolumnwidth{%
43   \pcpc@SwitchStack\pc@columnctr
44 }
```

2.4.3 Set current stack color

设置当前堆栈颜色

`\pcpc@SetCurrent` is set at the begin of each line. It must be inserted into `\pc@placeboxes`. Unhappily there is no easy way. Therefore we check and redefine `\pc@placeboxes`.

`\pcpc@SetCurrent` 在每行开始时设置。它必须插入到 `\pc@placeboxes` 中。不幸的是，没有简单的方法。因此，我们检查并重新定义 `\pc@placeboxes`。

```
45 \begingroup
46   \def\x{%
47     \global\let\@tempa\relax
48     \count@\z@
49     \hb@xt@\linewidth{%
50       \vfuzz30ex %
51       \vbadness\@M
52       \splittopskip\z@skip
53       \loop
54         \ifnum\count@<\pc@columncount
55           \advance\count@\@ne
56           \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
57             \hskip\csname pc@column@width@\number\count@\endcsname
58           \else
59             \expandafter\setbox\expandafter\@tempboxa\expandafter
60               \vsplit\csname pc@column@\number\count@\endcsname
61               to \dp\strutbox
62             \vbox{%
63               \unvbox\@tempboxa
64             }%
65           \fi
66           \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
67           \else
68             \global\let\@tempa\pc@placeboxes
69           \fi
70         \ifnum\count@<\pc@columncount
71           \strut
72           \hfill
73         \ifpc@rulebetween
```

```

74         \vrule
75         \hfill
76     \fi
77 \fi
78 \repeat
79 }%
80 \@tempa
81 }%
82 \ifx\x\pc@placeboxes
83 \else
84     \@PackageWarningNoLine{pdfcolparcolumns}{%
85         Command \string\pc@placeboxes\space has changed.\MessageBreak
86         Supported versions of package `parcolumns':\MessageBreak
87         \space\space 2004/08/05.\MessageBreak
88         The redefinition of \string\pc@placeboxes\space may not%
89         \MessageBreak
90         behave correctly depending on the changes%
91     }%
92 \fi
93 \endgroup

```

\pc@placeboxes

```

94 \renewcommand*{\pc@placeboxes}{%
95     \global\let\@tempa\relax
96     \count@\z@
97     \hb@xt@\linewidth{%
98         \vfuzz30ex %
99         \vbadness\@M
100        \splittopskip\z@skip
101        \loop
102        \ifnum\count@<\pc@columncount
103            \advance\count@\@ne
104            \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
105                \hskip\csname pc@column@width@\number\count@\endcsname
106            \else
107                \expandafter\setbox\expandafter\@tempboxa\expandafter
108                \vsplit\csname pc@column@\number\count@\endcsname
109                to \dp\strutbox
110                \vbox{%
111                    \pcpc@SetCurrent\count@
112                    \unvbox\@tempboxa
113                }%
114            \fi
115            \expandafter\ifvoid\csname pc@column@\number\count@\endcsname
116            \else
117                \global\let\@tempa\pc@placeboxes
118            \fi
119            \ifnum\count@<\pc@columncount
120                \strut

```

```

121         \hfill
122         \ifpc@rulebetween
123         \begingroup
124         \pcpc@RuleBetweenColor
125         \vrule
126         \endgroup
127         \hfill
128     \fi
129 \fi
130 \repeat
131 }%
132 \@tempa
133 }

\pcpc@RuleBetweenColorDefault
134 \def\pcpc@RuleBetweenColorDefault{%
135     \normalcolor
136 }

\pcpc@RuleBetweenColor
137 \let\pcpc@RuleBetweenColor\pcpc@RuleBetweenColorDefault

138 \define@key{parcolumns}{rulebetweencolor}{%
139     \edef\pcpc@temp{#1}%
140     \ifx\pcpc@temp\@empty
141         \let\pcpc@RuleBetweenColor\pcpc@RuleBetweenColorDefault
142     \else
143         \edef\pcpc@temp{%
144             \noexpand\@ifnextchar [{%
145                 \def\noexpand\pcpc@RuleBetweenColor{%
146                     \noexpand\color\pcpc@temp
147                 }%
148                 \noexpand\pcpc@GobbleNil
149             }{%
150                 \def\noexpand\pcpc@RuleBetweenColor{%
151                     \noexpand\color{\pcpc@temp}%
152                 }%
153                 \noexpand\pcpc@GobbleNil
154             }%
155             \pcpc@temp\noexpand\@nil
156         }%
157         \pcpc@temp
158     \fi
159 }

\pcpc@GobbleNil
160 \long\def\pcpc@GobbleNil#1\@nil{}

161 \</package>

```


3 Installation

安装

3.1 Download

下载

Package. This package is available on CTAN¹:

该软件包可从 CTAN² 下载:

[CTAN:macros/latex/contrib/oberdiek/pdfcolparcolumns.dtx](#) The source file.

[CTAN:macros/latex/contrib/oberdiek/pdfcolparcolumns.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.

捆绑包“oberdiek”中的所有软件包也可在符合 TDS 标准的 ZIP 存档中获取。在该存档中，软件包已经被解包，文档文件已经生成，文件和目录符合 TDS 标准。

[CTAN:install/macros/latex/contrib/oberdiek.tds.zip](#)

TDS refers to the standard “A Directory Structure for T_EX Files” ([CTAN:pkg/tds](#)). Directories with `texmf` in their name are usually organized this way.

TDS 指的是标准“用于 T_EX 文件的目录结构”([CTAN:pkg/tds](#))。名字中包含 `texmf` 的目录通常都是按这种方式组织的。

3.2 Bundle installation

捆绑包安装

Unpacking. Unpack the `oberdiek.tds.zip` in the TDS tree (also known as `texmf` tree) of your choice. Example (linux):

解包。在您选择的 TDS 树（也称为 `texmf` 树）中解压 `oberdiek.tds.zip`。例如（在 Linux 中）:

```
unzip oberdiek.tds.zip -d ~/texmf
```

¹[CTAN:pkg/pdfcolparcolumns](#)

²[CTAN:pkg/pdfcolparcolumns](#)

3.3 Package installation

软件包安装

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain `TEX`:

解包。`.dtx` 文件是一个自解压的 `docstrip` 存档。运行 `.dtx` 通过 plain `TEX` 来提取文件:

```
tex pdfcolparcolumns.dtx
```

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

TDS. 现在, 不同的文件必须移动到安装 TDS 树 (也称为 `texmf` 树) 中的不同目录中:

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

如果你有一个 `docstrip.cfg` 文件配置和启用了 `docstrip` 的 TDS 安装功能, 那么一些文件可能已经位于正确的位置, 具体请参见 `docstrip` 的文档。

3.4 Refresh file name databases

刷新文件名数据库

If your `TEX` distribution (`TEX Live`, `MiKTEX`, ...) relies on file name databases, you must refresh these. For example, `TEX Live` users run `texhash` or `mktextlsr`.

如果你的 `TEX` 发行版 (`TEX Live`、`MiKTEX`, 等等) 依赖于文件名数据库, 你必须刷新它们。例如, `TEX Live` 用户运行 `texhash` 或 `mktextlsr`。

3.5 Some details for the interested

一些细节供感兴趣的人使用

Unpacking with L^AT_EX. The `.dtx` chooses its action depending on the format:

用 **L^AT_EX** 进行解包。`.dtx` 文件根据格式选择操作:

plain T_EX: Run `docstrip` and extract the files.

L^AT_EX: Generate the documentation.

If you insist on using L^AT_EX for docstrip (really, docstrip does not need L^AT_EX), then inform the autotdetect routine about your intention:

如果你坚持要用 L^AT_EX 进行 docstrip (其实 docstrip 不需要 L^AT_EX), 那么请告知自动检测例程你的意图:

```
latex \let\install=y\input{pdfcolparcolumns.dtx}
```

Do not forget to quote the argument according to the demands of your shell. 不要忘记根据你的 shell 的要求引用参数。

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:

生成文档。 你可以使用 .dtx 或 .drv 生成文档。这个过程可以由配置文件 ltxdoc.cfg 配置。例如, 如果你想要 A4 作为纸张格式, 将此行放入文件中:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfL^AT_EX:

以下是使用 pdfL^AT_EX 生成文档的示例:

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

4 参考文献

- [1] Jonathan Sauer: *The parcolumns package*; 2004/11/25;
CTAN:pkg/parcolumns.
- [2] Heiko Oberdiek: *The pdfcol package*; 2007/09/09;
CTAN:pkg/pdfcol.

5 History

[2007/07/26 v1.0]

- First version, published in the newsgroup comp.text.tex with the name parcolumns-colorstacks: “Re: xcolor glitches”³
第一个版本, 以 comp.text.tex 新闻组发布, 名称为 parcolumns-colorstacks: “Re: xcolor glitches”⁴

³Url: <https://groups.google.com/group/comp.text.tex/msg/56bd897b11bca414>

⁴Url: <https://groups.google.com/group/comp.text.tex/msg/56bd897b11bca414>

[2007/09/09 v1.1]

- CTAN version, package name renamed to pdfcolparcolumns.
CTAN 版本，将包名改为 pdfcolparcolumns。
- Uses package pdfcol.
使用 pdfcol 包。
- Documentation added.
添加文档。
- Test file added.
添加测试文件。

[2008/08/11 v1.2]

- Code is not changed.
代码未改动。
- URLs updated.
更新 URL。

[2010/01/11 v1.3]

- Fix for rule color.
修复分隔线的颜色。
- New option rulebetweenecolor for environment parcolumns.
为环境 parcolumns 添加新选项 rulebetweenecolor。

[2016/05/16 v1.4]

- Documentation updates.
更新文档。

[2019/12/29 v1.5]

- \PassOptionsToPackage not \PassoptionsToPackage
\PassOptionsToPackage 改为不区分大小写的
\PassoptionsToPackage。