

The `cuted` package

Sigitas Tolušis
sigitas@vtex.lt

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1 Introduction

It is denoted to place some material in full-width at any place on double-column page (`\twocolumn` mode). The part of material can be placed on the next page. Existing text is placed under inserted material in two columns (it is reformatted).

2 Usage

`strip` Provides new environment:

```
\begin{strip}
  <wide onecolumn material>
\end{strip}
```

Puts `\vbox{<wide onecolumn material>}` in full-width on double-column page.

Adds `\stripsep` glue before and after (by default: `15pt plus2pt minus 2pt`).

It can be problems with floats and footnotes. In the case of problems with footnotes it is possible to correct the situation using commands `\footnotemark` and `\footnotetext`.

`\oldcolsbreak` `{<adds>}`
Adds `<adds>` in place of original column break if `strip` is placed on the right column.

2.1 Package options

`unskipbreak` It is used to change `\hbox{}` to `\unskip` after leftcolumn break on striped page.

`autobase` It is used to guess `\baselineskip` value on original columns break.

3 Implementation

```
unskipbreak
1 \def\on@stripcols@break{\hbox{}}
2 \DeclareOption{unskipbreak}{\gdef\on@stripcols@break{\unskip}}

autobase
3 \newif\if@flushend@auto@baselineskip
4 \DeclareOption{autobase}{\global\@flushend@auto@baselineskiptrue}
5 \ProcessOptions
6
7 \newtoks\At@ViperColsBreak \At@ViperColsBreak{}

\oldcolsbreak
8 \def\oldcolsbreak#1{\global\At@ViperColsBreak{#1}}
9 \def\viper@top@hook{\splittopskip0pt plus 2pt}
10
11 \newbox\v@aaa
12 \newbox\v@ccc
13 \@ifundefined{lastskip@a}{\newskip\lastskip@a}{}
14 \@ifundefined{lastskip@b}{\newskip\lastskip@b}{}
15 \@ifundefined{lastskip@d}{\newskip\lastskip@d}{}
16 \@ifundefined{lastbox@a}{\newbox\lastbox@a}{}
17 \@ifundefined{stripsep}{\newskip\stripsep \stripsep 15pt plus 2pt minus 2pt}{}
18
19 \@ifundefined{@viper}{\newbox\@viper}{}
20 \newif\if@lastviper \@lastviperfalse

\@outputdblcol
21 \def\@outputdblcol{%
22   \if@firstcolumn
23     \global \@firstcolumnfalse
24     \global \setbox\@leftcolumn \box\@outputbox
25   \else
26     \global \@firstcolumntrue
27     \setbox\@outputbox \vbox {%
28       \hb@xt@\textwidth {%
29         \hb@xt@\columnwidth {%
30           \box\@leftcolumn \hss}%
31         \hfil
32         \vrule \@width\columnseprule
33         \hfil
34         \hb@xt@\columnwidth {%
35           \box\@outputbox \hss}%
36         }%
37       }%
38   \ifvoid\hold@viper
39   \else
```

```

40     \setbox\@outputbox \vbox to\textheight{%
41         \box\hold@viper
42         \box\@outputbox
43         \vss
44     }%
45 \fi
46 \@combinedblfloats
47 \@outputpage
48 \begingroup
49     \@dblfloatplacement
50     \@startdblcolumn
51     \@whiles\if@fcolmade \fi
52     {\@outputpage
53         \@startdblcolumn}%
54 \ifvoid\@viper
55 \else
56     \global\setbox\@viper\vbox{%
57         \vskip-\stripsep
58         \unvbox\@viper
59     }%
60     \@viperoutput
61 \fi
62 \endgroup
63 \fi
64 }

65 \mathchardef\@Mv=10005
66 \newcount\@viper@penalty

\strip
67 \def\strip{%
68     \ifinner
69         \@parmoderr\@viper@penalty\z@
70     \else
71         \@viper@penalty=-\@Mv\relax
72     \fi
73     \global \setbox\@viper\vbox\bgroup%
74         \hsize\textwidth
75         \@parboxrestore
76         \col@number \@ne
77         \vrule height\topskip width\z@ depth\z@
78     }

\endstrip
79 \def\endstrip{%
80     \egroup
81     \ifnum\@viper@penalty <-\@Mii
82         \penalty -\@Miv
83     \ifvmode
84         \@tempdima\prevdepth    %% saving and restoring \prevdepth added

```

```

85     \vbox{}%           %% 26 May 87 to prevent extra vertical
86     \prevdepth\@tempdima %% space when used in vertical mode
87     \penalty-\@Mv\relax
88     \else
89     \par
90     \penalty-\@Mv\relax
91     \noindent
92     \fi
93     \fi
94     }

```

\@viperoutput

```

95 \gdef\@viperoutput{%
96     \global \setbox\@holdpg \vbox{%
97         \unvbox\@holdpg
98         \unvbox\@ccclv
99         \setbox\@tempboxa \lastbox
100        \unskip
101        }%
102    \@pagedp \dp\@holdpg
103    \@pageht \ht\@holdpg
104    \ifvoid\@viper\else
105        \advance \@pageht \@pagedp
106        \ifvoid\footins \else
107            \advance \@pageht \ht\footins
108            \advance \@pageht \skip\footins
109            \advance \@pageht \dp\footins
110        \fi
111        \ifvbox \@kludgeins
112            \ifdim \wd\@kludgeins=\z@
113                \advance \@pageht \ht\@kludgeins
114            \fi
115        \fi
116        \@reinserts
117        \@advviper
118    \fi
119 }

```

\@specialoutput

```

120 \gdef\@specialoutput{%
121     \ifnum \outputpenalty>-\@Mii
122         \@doclearpage
123     \else
124         \ifnum \outputpenalty<-\@Miii
125             \ifnum \outputpenalty<-\@MM \deadcycles \z@ \fi
126             \ifnum \outputpenalty=-\@Mv
127                 \@viperoutput
128             \ifnum \outputpenalty<\z@
129                 \if@nobreak
130             \else

```

```

131             \addpenalty \interlinepenalty
132             \fi
133         \fi
134     \else
135         \global \setbox\@holdpg \vbox {\unvbox\@cclv}%
136     \fi
137 \else
138     \global \setbox\@holdpg \vbox{%
139         \unvbox\@holdpg
140         \unvbox\@cclv
141         \setbox\@tempboxa \lastbox
142         \unskip
143         }%
144     \@pagedp \dp\@holdpg
145     \@pageht \ht\@holdpg
146     \unvbox \@holdpg
147     \@next\@currbox\@currlist{%
148         \ifnum \count\@currbox>\z@
149             \advance \@pageht \@pagedp
150             \ifvoid\footins \else
151                 \advance \@pageht \ht\footins
152                 \advance \@pageht \skip\footins
153                 \advance \@pageht \dp\footins
154             \fi
155             \ifvbox \@kludgeins
156                 \ifdim \wd\@kludgeins=\z@
157                     \advance \@pageht \ht\@kludgeins
158                 \fi
159             \fi
160             \@reinserts
161             \@addtocurcol
162         \else
163             \@reinserts
164             \@addmarginpar
165         \fi
166     }\@latexbug
167     \ifnum \outputpenalty<\z@
168         \if@nobreak
169             \else
170                 \addpenalty \interlinepenalty
171             \fi
172         \fi
173     \fi
174 \fi
175 }

176 \@ifundefined{hold@viper}{\newbox\hold@viper}{}
177 \newdimen\ht@viper

```

\@addviper

```

178 \def \@addviper {%
179   \if@firstcolumn
180     \@insertfalse
181     \@reqcolroom .5\@pageht
182     \ht@viper\@reqcolroom
183     \advance \@reqcolroom \ht\@viper
184     \advance \@reqcolroom \stripsep
185     \ifvoid\hold@viper\@tempdima=\z@else\@tempdima\ht\hold@viper\fi
186 %%
187   \@tempdimb \ht@viper
188   \loop
189   \setbox\v@aaa\copy\@holdpg
190   \setbox\v@ccc\vbox to\@tempdimb{%
191     \vsplit\v@aaa to\@tempdimb\vss\vsplit\v@aaa to\@tempdimb}%
192   \wlog{Extra height:\the\ht\v@aaa\space when \the\@tempdimb}%
193   \ifvoid\v@aaa \else \advance\@tempdimb 1pt \repeat
194   \loop
195   \setbox\v@aaa\copy\@holdpg
196   \setbox\v@ccc\vbox to\@tempdimb{%
197     \vsplit\v@aaa to\@tempdimb\vss}%
198   \wlog{(2)Left:\the\ht\v@ccc\space Right:\the\ht\v@aaa\space Output:\the\@tempdimb}%
199   \ifdim \ht\v@ccc<\ht\v@aaa \@tempdimb \the\ht\v@aaa \repeat
200   \wlog{- LAST -^^JLeft:\the\ht\v@ccc^^JRight:\the\ht\v@aaa^^JOutput:\the\@tempdimb}%
201   \setbox\v@ccc\vbox to\@tempdimb{%
202     \vsplit\@holdpg to\@tempdimb\vss}%
203 %%
204   \setbox\@tempboxa \vbox {%
205     \hb@xt@\textwidth {%
206       \hb@xt@\columnwidth {%
207         \vbox to\ht@viper{\box\v@ccc\vss} \hss}%
208         \hfil
209         \vrule \@width\columnseprule
210         \hfil
211         \hb@xt@\columnwidth {%
212           \vbox to\ht@viper{\box\@holdpg\vss} \hss}%
213           }%
214       }%
215   \ifvoid\hold@viper
216     \global\setbox\hold@viper \vbox {%
217       \unvbox\@tempboxa
218       \penalty\interlinepenalty
219       \vskip\stripsep
220       \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
221       \outputpenalty \z@
222     }%
223   \else
224     \global\setbox\hold@viper \vbox {%
225       \unvbox\hold@viper
226       \unvbox\@tempboxa
227       \penalty\interlinepenalty

```

```

228         \vskip\stripsep
229         \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
230         \outputpenalty \z@
231         }%
232     \fi
233     \ifdim \@colroom>\@reqcolroom
234         \global\setbox\hold@viper \vbox {%
235             \unvbox\hold@viper
236             \box\@viper
237             \penalty\interlinepenalty
238             \vskip\stripsep
239             \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
240             \outputpenalty \z@
241             }%
242     \@inserttrue
243     \advance\@tempdima by-\ht\hold@viper
244     \global \advance \@colht \@tempdima
245     \ifdim \@colht<2.5\baselineskip
246         \latex@warning@no@line {Optional argument of \noexpand\twocolumn
247             too tall on page \thepage (1 stulpelis)}%
248         \@emptycol
249         \if@firstcolumn
250         \else
251             \@emptycol
252         \fi
253         \global\@lastvipertrue
254     \else
255         \global \vsize \@colht
256         \global \@colroom \@colht
257         \check@floats
258         \ifdim\@tempdima>\z@
259             \global\advance\@colroom by-\@tempdima
260         \fi
261         \ifdim\@colroom<\z@
262             \global\@colroom 1pt
263             \ifdim\@tempdima>\@colht
264                 \latex@warning@no@line {TOP ir/ar BOT FLOAT's
265                     netelpa lape \thepage (1 stulpelis)}%
266             \fi
267             \@emptycol
268             \if@firstcolumn
269             \else
270                 \@emptycol
271             \fi
272             \global\@lastvipertrue
273         \fi
274     \fi
275 \fi
276 \else
277 \@insertfalse

```

```

278 \@reqcolroom\@colht
279 \advance\@reqcolroom \@pageht
280 \ht@viper.5\@reqcolroom
281 \@reqcolroom\ht@viper
282 \advance \@reqcolroom \ht\@viper
283 \advance \@reqcolroom \stripsep
284 \if@flushend@auto@baselineskip
285 \setbox\@tempboxa\vbox{\unvcopy\@leftcolumn
286 \global\lastskip@d\lastskip
287 \global\lastskip@b\lastskip
288 \loop
289 \global\lastskip@a\lastskip@b
290 \unskip\unpenalty
291 \global\lastskip@b\lastskip
292 \global\advance\lastskip@d by\lastskip
293 \ifdim\lastskip@b=-\lastskip@a
294 \global\advance\lastskip@d by-\lastskip
295 \else
296 \repeat
297 \ifdim\lastskip@b=-\lastskip@a
298 \ifdim\lastskip@b=\z@
299 \setbox\lastbox@a\lastbox
300 \global\advance\lastskip@d by\ht\lastbox@a
301 \global\advance\lastskip@d by\lastskip
302 \unskip\unpenalty
303 \setbox\lastbox@a\lastbox
304 \global\advance\lastskip@d by\dp\lastbox@a
305 \else
306 \global\lastskip@d\lastskip
307 \global\advance\lastskip@d by\topskip
308 \fi
309 \fi
310 \global\advance\lastskip@d by-\topskip
311 }%
312 \ifdim\ht\@holdpg>\@colht
313 \global\setbox\@holdpg\vbox{\unvbox\@leftcolumn\unskip\unpenalty
314 \par\eject
315 \vbox to \@colht{\unvbox\@holdpg\unskip}}%
316 }%
317 \else
318 \global\setbox\@holdpg\vbox{%
319 \unvbox\@leftcolumn\unskip\unpenalty
320 \vskip\lastskip@d
321 \the\At@ViperColsBreak
322 \unvbox\@holdpg
323 \unskip
324 }%
325 \fi
326 \else
327 \global\setbox\@holdpg\vbox{%

```



```

328         \unvbox\@leftcolumn
329         \setbox\@tempboxa\lastbox
330         \on@stripcols@break
331         \the\At@ViperColsBreak
332         \unvbox\@holdpg
333     }%
334 \fi
335 \global\At@ViperColsBreak{}%
336 \ht@viper .5\ht\@holdpg
337 \ifdim \ht@viper>\@colht
338     \ht@viper \@colht
339 \fi
340 \ifvoid\hold@viper\@tempdima=\z@else\@tempdima\ht\hold@viper\fi
341 \@tempdimb \ht@viper
342 \loop
343     \setbox\v@aaa\copy\@holdpg
344     \setbox\v@ccc\vbox to\@tempdimb{%
345         \vsplit\v@aaa to\@tempdimb
346         \vss
347         \vsplit\v@aaa to\@tempdimb
348     }%
349     \wlog{Extra height:\the\ht\v@aaa\space when \the\@tempdimb}%
350 \ifvoid\v@aaa
351 \else
352     \advance\@tempdimb 1\p@
353 \repeat
354 \loop
355     \setbox\v@aaa\copy\@holdpg
356     \setbox\v@ccc\vbox to\@tempdimb{\vsplit\v@aaa to\@tempdimb\vss}%
357     \wlog{(2)Left:\the\ht\v@ccc\space
358         Right:\the\ht\v@aaa\space
359         Output:\the\@tempdimb
360     }%
361 \ifdim\ht\v@ccc<\ht\v@aaa
362     \@tempdimb \the\ht\v@aaa
363 \repeat
364 \wlog{- LAST -^^JLeft:\the\ht\v@ccc
365         ^^JRight:\the\ht\v@aaa
366         ^^JOutput:\the\@tempdimb
367     }%
368 \setbox\v@ccc\vbox to\@tempdimb{\vsplit\@holdpg to\@tempdimb\vss}%
369 \setbox\@tempboxa\vbox{%
370     \hb@xt@\textwidth {%
371         \hb@xt@\columnwidth{\vbox to\ht@viper{\box\v@ccc\vss} \hss}%
372         \hfil
373         \vrule \@width\columnseprule
374         \hfil
375         \hb@xt@\columnwidth {\vbox to\ht@viper{\box\@holdpg\vss} \hss}%
376     }%

```

```

377     }%
378 \ifvoid\hold@viper
379     \global\setbox\hold@viper \vbox {%
380         \unvbox\@tempboxa
381         \penalty\interlinepenalty
382         \vskip\stripsep
383         \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
384         \outputpenalty \z@
385     }%
386 \else
387     \global\setbox\hold@viper \vbox {%
388         \unvbox\hold@viper
389         \unvbox\@tempboxa
390         \penalty\interlinepenalty
391         \vskip\stripsep
392         \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
393         \outputpenalty \z@
394     }%
395 \fi
396 \ifdim \@colht>\@reqcolroom
397     \global\setbox\hold@viper \vbox {%
398         \unvbox\hold@viper
399         \box\@viper
400         \penalty\interlinepenalty
401         \vskip\stripsep
402         \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
403         \outputpenalty \z@
404     }%
405 \inserttrue
406 \global\@firstcolumntrue
407 \advance\@tempdima by-\ht\hold@viper
408 \global \advance \@colht \@tempdima
409 \ifdim \@colht<2.5\baselineskip
410     \@latex@warning@no@line {Optional argument of \noexpand\twocolumn
411                             too tall on page \thepage (2 stulpelis)}%
412     \@emptycol
413     \if@firstcolumn
414     \else
415         \@emptycol
416     \fi
417     \global\@lastvipertrue
418 \else
419     \global \vsize \@colht
420     \global \@colroom \@colht
421     \check@floats
422     \ifdim\@tempdima>\z@
423         \global\advance\@colroom by-\@tempdima
424     \fi
425     \ifdim\@colroom<\z@
426         \global\@colroom 1pt

```

```

427         \ifdim\@tempdima>\@colht
428         \latex@warning@no@line {TOP ir/ar BOT FLOAT's
429             netelpe lape \thepage (2 stulpelis)}%
430         \fi
431         \@emptycol
432         \if@firstcolumn
433         \else
434             \@emptycol
435         \fi
436         \global\@lastvipertrue
437     \fi
438 \fi
439 \fi
440 \fi
441 \if@insert
442 \else
443     \advance\@tempdima by-\ht\hold@viper
444     \global \advance \@colht \@tempdima
445     \global\setbox\hold@viper \vbox {%
446                                     \unvbox\hold@viper
447                                     \csname viper@top@hook\endcsname
448                                     \vsplit\@viper to \@colht
449                                     \vss
450                                     }%
451     \vbox{}%
452     \global\@firstcolumnfalse
453     \newpage
454 \fi
455 }

\check@floats
456
457 \def\check@floats{%
458     \global\@tempdima\z@
459     \let\@elt\ht@comflelt
460     \ifx\@toplist\@empty \else \@toplist \fi
461     \ifx\@botlist\@empty \else \@botlist \fi
462 }

\ht@comflelt
463 \def\ht@comflelt#1{%
464     \setbox\@tempboxa\vbox{\copy #1\vskip\floatsep}%
465     \global\advance\@tempdima by\ht\@tempboxa
466 }

output
467 \output {%
468     \let \par \@@par
469     \ifnum \outputpenalty<-\@M

```

```

470   \@specialoutput
471 \else
472   \@makecol
473   \@opcol
474   \@startcolumn
475   \@whilesw \if@fcolmade \fi
476   {%
477     \@opcol\@startcolumn}%
478 \fi
479 \ifnum \outputpenalty>-\@Miv
480   \ifdim \@colroom<1.5\baselineskip
481     \ifdim \@colroom<\textheight
482       \@latex@warning@no@line {Text page \thepage\space
483         contains only floats}%
484       \if@lastviper\else\@emptycol\fi
485       \if@twocolumn
486         \if@firstcolumn
487         \else
488           \@emptycol
489         \fi
490       \fi
491       \global\@lastviperfalse
492     \else
493       \global \vsize \@colroom
494     \fi
495   \else
496     \global \vsize \@colroom
497   \fi
498 \else
499   \ifnum\outputpenalty<-100005
500     \global \vsize \maxdimen
501   \else
502     \global \vsize \@colroom
503   \fi
504 \fi
505 }
506 %\endinput

```