

# The **cuted** package

Sigitas Tolušis  
sigitas@vtex.lt

v1.5 from 2012/10/04

## 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\@cclv
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 \dp\@holdpg
145 \ht\@holdpg
146 \unvbox \@holdpg
147 \@next\@currbox\@currlist{%
148     \ifnum \count\@currbox>\z@
149         \advance \dp\@holdpg \dp\@holdpg
150         \ifvoid\footins \else
151             \advance \ht\@holdpg \ht\footins
152             \advance \skip\@holdpg \skip\footins
153             \advance \dp\@holdpg \dp\footins
154         \fi
155         \ifvbox \@kludgeins
156             \ifdim \wd\@kludgeins=\z@
157                 \advance \ht\@holdpg \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                     netelpla 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

```