The **latexrelease** package*

The LaTeX3 Project

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Bug reports can be opened (category `latex`) at
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</div>

1 Introduction

Prior to the 2015 release of LaTeX, essentially no changes had been made to the LaTeX format code for some years, with all improvements being instead added to the package fixltx2e.

While this worked at a technical level it meant that you had to explicitly opt-in to bug fixes and improvements, and the vast majority of documents did not benefit.

As described in LaTeX News 22, a new policy is being implemented in which improvements will now be added to the format by default, and this latexrelease package may be used to ensure stability where needed, either by making a new format use an older definition of some commands, or conversely may be used to supply the new definitions for use with an old format.

The basic use is:

```
\RequirePackage[2015/01/01]{latexrelease}
\documentclass{article}
....
```

After such a declaration the document will use definitions current in the January 2015 LaTeX, whether the actual format being used is older, or newer than that date. In the former case a copy of `latexrelease.sty` would need to be made available for use with the older format. This may be used, for example, to share a document between co-workers using different LaTeX releases, or to protect a document from being affected by system updates. As well as the definitions within the format itself, individual packages may use the commands defined here to adjust their definitions to the specified date as described below.

Note that the latexrelease package is intended for use at the start of a *document.* Package and class code should not include this package as loading a package should not normally globally reset the effective version of LaTeX that is in force, so affecting all other packages used in the document.

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The bulk of this package, after some initial setup and option handling consists of a series of \IncludeInRelease commands which have been extracted from the main source files of the LaTeX format. These contain the old and new versions of any commands with modified definitions.

2 Package Options

- *yyyy/mm/dd* or *yyyy-nn-dd* The package accepts any possible LaTeX format date as argument, although dates in the future for which the current release of this package has no information will generate a warning. Dates earlier than 2015 will work but will roll back to some point in 2015 when the method was introduced. \IncludeInRelease command is defined. The \requestedLaTeXdate is set to the normalized date argument so that package rollback defaults to the specified date.

- current This is the default behaviour, it does not change the effective date of the format but does ensure that the \IncludeInRelease command is defined. the \requestedLaTeXdate is reset to 0 so that package rollback does not use the implicit date. \IncludeInRelease command is defined. The \requestedLaTeXdate macro is reset to 0 so that package rollback does not use the implicit date.

- latest sets the effective date of the format to the release date of this file, so in an older format applies all patches currently available. \IncludeInRelease command is defined. The \requestedLaTeXdate macro is reset to 0 so that package rollback does not use the implicit date.

3 Release Specific Code

The \IncludeInRelease mechanism allows the kernel developer to associate code with a specific date to choose different versions of definitions depending on the date specified as an option to the latexrelease package. Is also available for use by package authors (or even in a document if necessary).

\IncludeInRelease {⟨*code-date*⟩}[⟨*format-date*⟩]{⟨*label*⟩}{⟨*message*⟩}⟨*code*⟩\EndIncludeInRelease

{⟨**code-date**⟩} This date is associated with the {⟨*code*⟩} argument and will be compared to the requested date in the option to the latexrelease.

[⟨**format-date**⟩] This optional argument can be used to specify a format date with the code in addition to the mandatory {⟨*code-date*⟩} argument. This can be useful for package developers as described below.

{⟨**label**⟩} The {⟨*label*⟩} argument is an identifier (string) that within a given package must be a unique label for each related set of optional definitions. Per package at most one code block from all the \IncludeInRelease declarations with the same label will be executed.

{⟨**message**⟩} The {⟨*message*⟩} is an informative string that is used in messages. It has no other function.

⟨**code**⟩ Any TEX code after the \IncludeInRelease arguments up until the and the following \EndIncludeInRelease is to be conditionally included depending on the date of the format as described below.

The \IncludeInRelease declarations with a given label should be in reverse chronological order in the file. The one chosen will depend on this order, the effective format version and the date options, as described below.

If your package mypackage defines a \widget command but has one definition using the features available in the 2015 LATEX release, and a different definition is required for older formats then you can use:

```
\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

If a document using this package is used with a format with effective release date of 2015/01/01 or later the new code will be used, otherwise the old code will be used. Note the *effective release date* might be the original LATEX release date as shown at the start of every LATEX job, or it may be set by the latexrelease package, so for example a document author who wants to ensure the new version is used could use

```
\RequirePackage[2015/01/01]{latexrelease}
\documentclass{article}
\usepackage{mypackage}
```

If the document is used with a LATEX format from 2014 or before, then latexrelease will not have been part of the original distribution, but it may be obtained from a later LATEX release or from CTAN and distributed with the document, it will make an older LATEX release act essentially like the 2015 release.

3.1 Intermediate Package Releases

The above example works well for testing against the latex format but is not always ideal for controlling code by the release date of the *package*. Suppose LATEX is not updated but in March you update the mypackage package and modify the definition of \widget. You could code the package as:

```
\IncludeInRelease{2015/03/01}{\widget}{Widget Definition}
 \def\widget{even newer improved March version}%
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

This would work and allow a document author to choose a date such as

```
\RequirePackage[2015/03/01]{latexrelease}
\documentclass{article}
\usepackage{mypackage}
```

To use the latest version, however it would have disadvantage that until the next release of LaTeX, by default, if the document does not use latexrelease to specify a date, the new improved code will not be selected as the effective date will be 2015/01/01 and so the first code block will be skipped.

For this reason \IncludeInRelease has an optional argument that specifies an alternative date to use if a date option has not been specified to latexrelease.

```
\IncludeInRelease{2015/03/01}[2015/01/01]{\widget}{Widget Definition}
 \def\widget{even newer improved March version}%
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

Now, by default on a 2015/01/01 LaTeX format, the first code block will compare the format date to the optional argument 2015/01/01 and so will execute the *even newer improved* version. The remaining blocks using the \widget label argument will all then be skipped.

If on the other hand the document requests an explicit release date using latexrelease then this date will be used to decide what code block to include.

3.2 Using \IncludeInRelease in Packages

If \IncludeInRelease is used within a package then all such conditional code needs to be within such declarations, e.g., it is not possible in the above example to have the "current" definition of \widget somewhere in the main code and only the two older definitions inside \IncludeInRelease declarations. If you would do this then one of those \IncludeInRelease declarations would be included overwriting the even newer code in the main part of the package. As a result your package may get fragmented over time with various \IncludeInRelease declarations sprinkled throughout your code or you have to interrupt the reading flow by putting those declarations together but not necessarily in the place where they belong.

To avoid this issue you can use the following coding strategy: place the current \widget definition in the main code where it correctly belongs.

```
  ...
 \def\widget {even newer improved March version}
 \def\@widget{newly added helper command no defined in older releases}
  ...
```

Then, near the end of your package place the following:

```
\IncludeInRelease{2015/03/01}[2015/01/01]{\widget}{Widget Definition}
```

```
\EndIncludeInRelease

\IncludeInRelease{2015/01/01}{\widget}{Widget Definition}
 \def\widget{new version}%
 \let\@widget\@undefined % this doesn't exist in earlier releases
\EndIncludeInRelease

\IncludeInRelease{0000/00/00}{\widget}{Widget Definition}
 \def\widget{old version}%
\EndIncludeInRelease
```

This way the empty code block hides the other `\IncludeInRelease` declarations unless there is an explicit request with a date 2015/01/01 or earlier.

Now if you make a further change to `\widget` in the future you simply copy the current definition into the empty block and add a new empty declaration with todays date and the current format date. This way your main code stays readable and the old versions accumulate at the end of the package.[1]

The only other "extra effort" necessary when using this approach is that it may be advisable to undo new definitions in the code block for the previous release, e.g., in the above example we undefined `\@widget` as that isn't available in the 2015/01/01 release but was defined in the main code. If all your conditional code is within `\IncludeInRelease` declarations that wouldn't been necessary as the new code only gets defined if that release is chosen.

4 fixltx2e

As noted above, prior to the 2015 LATEX release updates to the LATEX kernel were not made in the format source files but were made available in the fixltx2e package. That package is no longer needed but we generate a small package from this source that just makes a warning message but otherwise does nothing.

5 Implementation

We require at least a somewhat sane version of LATEX 2_ε. Earlier ones where really quite different from one another.

```
1 ⟨*latexrelease⟩
2 \NeedsTeXFormat{LaTeX2e}[1996/06/01]
```

6 Setup

`\IncludeInRelease`
`\EndIncludeInRelease`

```
3 \DeclareOption*{%
4   \def\@IncludeInRelease#1[#2]{\@IncludeInRele@se{#1}}%
5   \let\requestedpatchdate\CurrentOption}
```

---

[1]Of course there may be some cases in which the old code has to be in a specific place within the package as other code depends on it (e.g., if you `\let` something to it). In that case you have to place the code variations in the right place in your package rather than accumulating them at the very end.

```
 6 \DeclareOption{latest}{%
 7   \let\requestedpatchdate\latexreleaseversion
 8   \AtEndOfPackage{\def\requestedLaTeXdate{0}}}
 9 \DeclareOption{current}{%
10   \let\requestedpatchdate\fmtversion
11   \AtEndOfPackage{\def\requestedLaTeXdate{0}}}

12 \let\requestedpatchdate\fmtversion
13 \ProcessOptions\relax
```

Sanity check options, it allows some non-legal dates but always ensures `requestedLaTeXdate` gets set to a number. Generate an error if there are any non digit tokens remaining after removing the `//`.

```
14 \def\reserved@a{%
15 \edef\requestedLaTeXdate{\the\count@}%
16 \reserved@b}
17 \def\reserved@b#1\\{%
18 \def\reserved@b{#1}%
19 \ifx\reserved@b\@empty\else
20 \PackageError{latexrelease}%
21              {Unexpected option \requestedpatchdate}%
22              {The option must be of the form yyyy/mm/dd or yyyy-mm-dd}%
23 \fi}
24 \afterassignment\reserved@a
25 \count@\expandafter
26   \@parse@version\expandafter0\requestedpatchdate//00\@nil\\
```

less precautions needed for `\fmtversion`

```
27 \edef\currentLaTeXdate{%
28     \expandafter\@parse@version\fmtversion//00\@nil}

29 \ifnum\requestedLaTeXdate=\currentLaTeXdate
30 \PackageWarningNoLine{latexrelease}{%
31   Current format date selected, no patches applied}
32 \expandafter\endinput
33 \fi
```

A newer version of latexrelease should have been distributed with the later format.

```
34 \ifnum\currentLaTeXdate
35   >\expandafter\@parse@version\latexreleaseversion//00\@nil
36 \PackageWarningNoLine{latexrelease}{%
37 The current package is for an older LaTeX format:\MessageBreak
38 LaTeX \latexreleaseversion\space\MessageBreak
39 Obtain a newer version of this package!}
40 \expandafter\endinput
41 \fi
```

can't patch into the future, could make this an error but it has some uses to control package updates so allow for now.

```
42 \ifnum\requestedLaTeXdate
43   >\expandafter\@parse@version\latexreleaseversion//00\@nil
44 \PackageWarningNoLine{latexrelease}{%
45 The current package is for LaTeX \latexreleaseversion:\MessageBreak
46 It has no patches beyond that date\MessageBreak
47 There may be an updated version\MessageBreak
```

```
48 of this package available from CTAN}
49 \expandafter\endinput
50 \fi
```

Update the format version to the requested date.

```
51 \let\fmtversion\requestedpatchdate
52 \let\currentLaTeXdate\requestedLaTeXdate
```

7 Individual Changes

The code for each change will be inserted at this point, extracted from the kernel source files.

```
53 ⟨/latexrelease⟩
```

8 fixltx2e

Generate a stub fixltx2e package:

```
54 ⟨*fixltx2e⟩
55 \IncludeInRelease{2015/01/01}{\fixltxe}{Old fixltx2e package}
56 \NeedsTeXFormat{LaTeX2e}
57 \PackageWarningNoLine{fixltx2e}{%
58 fixltx2e is not required with releases after 2015\MessageBreak
59 All fixes are now in the LaTeX kernel.\MessageBreak
60 See the latexrelease package for details}
61 \EndIncludeInRelease
62 \IncludeInRelease{0000/00/00}{\fixltxe}{Old fixltx2e package}
63 \def\@outputdblcol{%
64   \if@firstcolumn
65     \global\@firstcolumnfalse
66     \global\setbox\@leftcolumn\copy\@outputbox
67     \splitmaxdepth\maxdimen
68     \vbadness\maxdimen
69     \setbox\@outputbox\vbox{\unvbox\@outputbox\unskip}%
70     \setbox\@outputbox\vsplit\@outputbox to\maxdimen
71     \toks@\expandafter{\topmark}%
72     \xdef\@firstcoltopmark{\the\toks@}%
73     \toks@\expandafter{\splitfirstmark}%
74     \xdef\@firstcolfirstmark{\the\toks@}%
75     \ifx\@firstcolfirstmark\@empty
76       \global\let\@setmarks\relax
77     \else
78       \gdef\@setmarks{%
79         \let\firstmark\@firstcolfirstmark
80         \let\topmark\@firstcoltopmark}%
81     \fi
82   \else
83     \global\@firstcolumntrue
84     \setbox\@outputbox\vbox{%
85       \hb@xt@\textwidth{%
86         \hb@xt@\columnwidth{\box\@leftcolumn \hss}%
87         \hfil
88         {\normalcolor\vrule \@width\columnseprule}%
```

```latex
89        \hfil
90        \hb@xt@\columnwidth{\box\@outputbox \hss}}}%
91    \@combinedblfloats
92      \@setmarks
93      \@outputpage
94      \begingroup
95        \@dblfloatplacement
96        \@startdblcolumn
97        \@whilesw\if@fcolmade \fi{\@outputpage\@startdblcolumn}%
98      \endgroup
99    \fi}
100 \def\end@dblfloat{%
101   \if@twocolumn
102     \@endfloatbox
103     \ifnum\@floatpenalty <\z@
104       \@largefloatcheck
105       \global\dp\@currbox1sp %
106       \@cons\@currlist\@currbox
107       \ifnum\@floatpenalty <-\@Mii
108         \penalty -\@Miv
109         \@tempdima\prevdepth
110         \vbox{}%
111         \prevdepth\@tempdima
112         \penalty\@floatpenalty
113       \else
114         \vadjust{\penalty -\@Miv \vbox{}\penalty\@floatpenalty}\@Esphack
115       \fi
116     \fi
117   \else
118     \end@float
119   \fi
120 }
121 \def\@testwrongwidth #1{%
122   \ifdim\dp#1=\f@depth
123   \else
124     \global\@testtrue
125   \fi}
126 \let\f@depth\z@
127 \def\@dblfloatplacement{\global\@dbltopnum\c@dbltopnumber
128     \global\@dbltoproom \dbltopfraction\@colht
129     \@textmin \@colht
130     \advance \@textmin -\@dbltoproom
131     \@fpmin \dblfloatpagefraction\textheight
132     \@fptop \@dblfptop
133     \@fpsep \@dblfpsep
134     \@fpbot \@dblfpbot
135     \def\f@depth{1sp}}
136 \def \@doclearpage {%
137     \ifvoid\footins
138       \setbox\@tempboxa\vsplit\@cclv to\z@ \unvbox\@tempboxa
139       \setbox\@tempboxa\box\@cclv
140       \xdef\@deferlist{\@toplist\@botlist\@deferlist}%
141       \global \let \@toplist \@empty
142       \global \let \@botlist \@empty
```

```
143        \global \@colroom \@colht
144        \ifx \@currlist\@empty
145        \else
146           \@latexerr{Float(s) lost}\@ehb
147           \global \let \@currlist \@empty
148        \fi
149        \@makefcolumn\@deferlist
150        \@whilesw\if@fcolmade \fi{\@opcol\@makefcolumn\@deferlist}%
151        \if@twocolumn
152          \if@firstcolumn
153            \xdef\@deferlist{\@dbltoplist\@deferlist}%
154            \global \let \@dbltoplist \@empty
155            \global \@colht \textheight
156            \begingroup
157               \@dblfloatplacement
158               \@makefcolumn\@deferlist
159               \@whilesw\if@fcolmade \fi{\@outputpage
160                                          \@makefcolumn\@deferlist}%
161            \endgroup
162          \else
163            \vbox{}\clearpage
164          \fi
165        \fi
166        \ifx\@deferlist\@empty \else\clearpage \fi
167      \else
168        \setbox\@cclv\vbox{\box\@cclv\vfil}%
169        \@makecol\@opcol
170        \clearpage
171      \fi
172 }
173 \def \@startdblcolumn {%
174   \@tryfcolumn \@deferlist
175   \if@fcolmade
176   \else
177     \begingroup
178       \let \reserved@b \@deferlist
179       \global \let \@deferlist \@empty
180       \let \@elt \@sdblcolelt
181       \reserved@b
182     \endgroup
183   \fi
184 }
185 \def\@addtonextcol{%
186   \begingroup
187     \@insertfalse
188     \@setfloattypecounts
189     \ifnum \@fpstype=8
190     \else
191       \ifnum \@fpstype=24
192       \else
193         \@flsettextmin
194         \@reqcolroom \ht\@currbox
195         \advance \@reqcolroom \@textmin
196         \ifdim \@colroom>\@reqcolroom
```

```
197        \@flsetnum \@colnum
198        \ifnum\@colnum>\z@
199           \@bitor\@currtype\@deferlist
200           \@testwrongwidth\@currbox
201           \if@test
202           \else
203              \@addtotoporbot
204           \fi
205        \fi
206      \fi
207    \fi
208  \fi
209  \if@insert
210  \else
211    \@cons\@deferlist\@currbox
212  \fi
213  \endgroup
214 }
215 \def\@addtodblcol{%
216   \begingroup
217   \@insertfalse
218   \@setfloattypecounts
219   \@getfpsbit \tw@
220   \ifodd\@tempcnta
221     \@flsetnum \@dbltopnum
222     \ifnum \@dbltopnum>\z@
223        \@tempswafalse
224        \ifdim \@dbltoproom>\ht\@currbox
225          \@tempswatrue
226        \else
227          \ifnum \@fpstype<\sixt@@n
228            \advance \@dbltoproom \@textmin
229            \ifdim \@dbltoproom>\ht\@currbox
230              \@tempswatrue
231            \fi
232            \advance \@dbltoproom -\@textmin
233          \fi
234        \fi
235        \if@tempswa
236           \@bitor \@currtype \@deferlist
237          \@testwrongwidth\@currbox
238           \if@test
239           \else
240              \@tempdima -\ht\@currbox
241              \advance\@tempdima
242                -\ifx \@dbltoplist\@empty \dbltextfloatsep \else
243                                          \dblfloatsep \fi
244              \global \advance \@dbltoproom \@tempdima
245              \global \advance \@colht \@tempdima
246              \global \advance \@dbltopnum \m@ne
247              \@cons \@dbltoplist \@currbox
248              \@inserttrue
249           \fi
250        \fi
```

```
251      \fi
252    \fi
253    \if@insert
254    \else
255      \@cons\@deferlist\@currbox
256    \fi
257  \endgroup
258 }
259 \def \@addtocurcol {%
260    \@insertfalse
261    \@setfloattypecounts
262    \ifnum \@fpstype=8
263    \else
264      \ifnum \@fpstype=24
265      \else
266        \@flsettextmin
267        \advance \@textmin \@textfloatsheight
268        \@reqcolroom \@pageht
269        \ifdim \@textmin>\@reqcolroom
270          \@reqcolroom \@textmin
271        \fi
272        \advance \@reqcolroom \ht\@currbox
273        \ifdim \@colroom>\@reqcolroom
274          \@flsetnum \@colnum
275          \ifnum \@colnum>\z@
276            \@bitor\@currtype\@deferlist
277          \@testwrongwidth\@currbox
278            \if@test
279            \else
280              \@bitor\@currtype\@botlist
281              \if@test
282                \@addtobot
283              \else
284                \ifodd \count\@currbox
285                  \advance \@reqcolroom \intextsep
286                  \ifdim \@colroom>\@reqcolroom
287                    \global \advance \@colnum \m@ne
288                    \global \advance \@textfloatsheight \ht\@currbox
289                    \global \advance \@textfloatsheight 2\intextsep
290                    \@cons \@midlist \@currbox
291                    \if@nobreak
292                      \nobreak
293                      \@nobreakfalse
294                      \everypar{}%
295                    \else
296                      \addpenalty \interlinepenalty
297                    \fi
298                    \vskip \intextsep
299                    \box\@currbox
300                    \penalty\interlinepenalty
301                    \vskip\intextsep
302                    \ifnum\outputpenalty <-\@Mii \vskip -\parskip\fi
303                    \outputpenalty \z@
304                    \@inserttrue
```

11

```
305            \fi
306          \fi
307          \if@insert
308          \else
309            \@addtotoporbot
310          \fi
311        \fi
312      \fi
313    \fi
314   \fi
315  \fi
316  \fi
317  \if@insert
318  \else
319    \@resethfps
320    \@cons\@deferlist\@currbox
321  \fi
322 }
323 \def\@xtryfc #1{%
324   \@next\reserved@a\@trylist{}{}%
325   \@currtype \count #1%
326   \divide\@currtype\@xxxii
327   \multiply\@currtype\@xxxii
328   \@bitor \@currtype \@failedlist
329   \@testfp #1%
330   \@testwrongwidth #1%
331   \ifdim \ht #1>\@colht
332     \@testtrue
333   \fi
334   \if@test
335     \@cons\@failedlist #1%
336   \else
337     \@ytryfc #1%
338   \fi}
339 \def\@ztryfc #1{%
340   \@tempcnta\count #1%
341   \divide\@tempcnta\@xxxii
342   \multiply\@tempcnta\@xxxii
343   \@bitor \@tempcnta {\@failedlist \@flfail}%
344   \@testfp #1%
345   \@testwrongwidth #1%
346   \@tempdimb\@tempdima
347   \advance\@tempdimb\ht #1%
348   \advance\@tempdimb\@fpsep
349   \ifdim \@tempdimb >\@colht
350     \@testtrue
351   \fi
352   \if@test
353     \@cons\@flfail #1%
354   \else
355     \@cons\@flsucceed #1%
356     \@tempdima\@tempdimb
357   \fi}
358 \def\@{\spacefactor\@m{}}
```

```
359 \def\@tempa#1#2{#1#2\relax}
360 \ifx\setlength\@tempa
361   \def\setlength#1#2{#1 #2\relax}
362 \fi
363 \def\addpenalty#1{%
364   \ifvmode
365     \if@minipage
366     \else
367       \if@nobreak
368       \else
369         \ifdim\lastskip=\z@
370           \penalty#1\relax
371         \else
372           \@tempskipb\lastskip
373           \begingroup
374             \advance \@tempskipb
375               \ifdim\prevdepth>\maxdepth\maxdepth\else
376                 \ifdim \prevdepth = -\@m\p@ \z@ \else \prevdepth \fi
377               \fi
378             \vskip -\@tempskipb
379             \penalty#1%
380             \vskip\@tempskipb
381           \endgroup
382           \vskip -\@tempskipb
383           \vskip \@tempskipb
384         \fi
385       \fi
386     \fi
387   \else
388     \@noitemerr
389   \fi}
390 \def\@fnsymbol#1{%
391   \ifcase#1\or \TextOrMath\textasteriskcentered *\or
392   \TextOrMath \textdagger \dagger\or
393   \TextOrMath \textdaggerdbl \ddagger \or
394   \TextOrMath \textsection  \mathsection\or
395   \TextOrMath \textparagraph \mathparagraph\or
396   \TextOrMath \textbardbl \|\or
397   \TextOrMath {\textasteriskcentered\textasteriskcentered}{**}\or
398   \TextOrMath {\textdagger\textdagger}{\dagger\dagger}\or
399   \TextOrMath {\textdaggerdbl\textdaggerdbl}{\ddagger\ddagger}\else
400   \@ctrerr \fi
401 }
402 \begingroup\expandafter\expandafter\expandafter\endgroup
403 \expandafter\ifx\csname eTeXversion\endcsname\relax
404 \DeclareRobustCommand\TextOrMath{%
405   \ifmmode  \expandafter\@secondoftwo
406   \else     \expandafter\@firstoftwo  \fi}
407 \protected@edef\TextOrMath#1#2{\TextOrMath{#1}{#2}}
408 \else
409 \protected\expandafter\def\csname TextOrMath\space\endcsname{%
410   \ifmmode  \expandafter\@secondoftwo
411   \else     \expandafter\@firstoftwo  \fi}
412 \edef\TextOrMath#1#2{%
```

```
413    \expandafter\noexpand\csname TextOrMath\space\endcsname
414    {#1}{#2}}
415 \fi
416 \def\@esphack{%
417    \relax
418    \ifhmode
419       \spacefactor\@savsf
420       \ifdim\@savsk>\z@
421          \nobreak \hskip\z@skip  % <------
422          \ignorespaces
423       \fi
424    \fi}
425 \def\@Esphack{%
426    \relax
427    \ifhmode
428       \spacefactor\@savsf
429       \ifdim\@savsk>\z@
430          \nobreak \hskip\z@skip  % <------
431          \@ignoretrue
432          \ignorespaces
433       \fi
434    \fi}
435 \DeclareRobustCommand\em
436        {\@nomath\em \ifdim \fontdimen\@ne\font >\z@
437                    \eminnershape \else \itshape \fi}
438 \def\eminnershape{\upshape}
439 \DeclareRobustCommand*\textsubscript[1]{%
440    \@textsubscript{\selectfont#1}}
441 \def\@textsubscript#1{%
442    {\m@th\ensuremath{_{\mbox{\fontsize\sf@size\z@#1}}}}}
443 \def\@DeclareMathSizes #1#2#3#4#5{%
444    \@defaultunits\dimen@ #2pt\relax\@nnil
445    \if $#3$%
446       \expandafter\let\csname S@\strip@pt\dimen@\endcsname\math@fontsfalse
447    \else
448       \@defaultunits\dimen@ii #3pt\relax\@nnil
449       \@defaultunits\@tempdima #4pt\relax\@nnil
450       \@defaultunits\@tempdimb #5pt\relax\@nnil
451       \toks@{#1}%
452       \expandafter\xdef\csname S@\strip@pt\dimen@\endcsname{%
453          \gdef\noexpand\tf@size{\strip@pt\dimen@ii}%
454          \gdef\noexpand\sf@size{\strip@pt\@tempdima}%
455          \gdef\noexpand\ssf@size{\strip@pt\@tempdimb}%
456          \the\toks@
457       }%
458    \fi
459 }
460 \providecommand*\MakeRobust[1]{%
461    \@ifundefined{\expandafter\@gobble\string#1}{%
462       \@latex@error{The control sequence '\string#1' is undefined!%
463          \MessageBreak There is nothing here to make robust}%
464       \@eha
465    }%
466    {%
```

```latex
467    \@ifundefined{\expandafter\@gobble\string#1\space}%
468    {%
469      \expandafter\let\csname
470      \expandafter\@gobble\string#1\space\endcsname=#1%
471      \edef\reserved@a{\string#1}%
472      \def\reserved@b{#1}%
473      \edef\reserved@b{\expandafter\strip@prefix\meaning\reserved@b}%
474      \edef#1{%
475        \ifx\reserved@a\reserved@b
476          \noexpand\x@protect\noexpand#1%
477        \fi
478        \noexpand\protect\expandafter\noexpand
479        \csname\expandafter\@gobble\string#1\space\endcsname}%
480    }%
481    {\@latex@info{The control sequence `\string#1' is already robust}}%
482    }%
483 }
484 \MakeRobust\(
485 \MakeRobust\)
486 \MakeRobust\[
487 \MakeRobust\]
488 \MakeRobust\makebox
489 \MakeRobust\savebox
490 \MakeRobust\framebox
491 \MakeRobust\parbox
492 \MakeRobust\rule
493 \MakeRobust\raisebox
494 \def\@xfloat #1[#2]{%
495   \@nodocument
496   \def \@captype {#1}%
497   \def \@fps {#2}%
498   \@onelevel@sanitize \@fps
499   \def \reserved@b {!}%
500   \ifx \reserved@b \@fps
501     \@fpsadddefault
502   \else
503     \ifx \@fps \@empty
504       \@fpsadddefault
505     \fi
506   \fi
507   \ifhmode
508     \@bsphack
509     \@floatpenalty -\@Mii
510   \else
511     \@floatpenalty-\@Miii
512   \fi
513   \ifinner
514     \@parmoderr\@floatpenalty\z@
515   \else
516     \@next\@currbox\@freelist
517       {%
518        \@tempcnta \sixt@@n
519        \expandafter \@tfor \expandafter \reserved@a
520          \expandafter :\expandafter =\@fps
```

```
521          \do
522          {%
523           \if \reserved@a h%
524             \ifodd \@tempcnta
525             \else
526               \advance \@tempcnta \@ne
527             \fi
528           \else\if \reserved@a t%
529             \@setfpsbit \tw@
530           \else\if \reserved@a b%
531             \@setfpsbit 4%
532           \else\if \reserved@a p%
533             \@setfpsbit 8%
534           \else\if \reserved@a !%
535             \ifnum \@tempcnta>15
536               \advance\@tempcnta -\sixt@@n\relax
537             \fi
538           \else
539             \@latex@error{Unknown float option '\reserved@a'}%
540             {Option '\reserved@a' ignored and 'p' used.}%
541             \@setfpsbit 8%
542           \fi\fi\fi\fi\fi
543          }%
544       \@tempcntb \csname ftype@\@captype \endcsname
545       \multiply \@tempcntb \@xxxii
546       \advance \@tempcnta \@tempcntb
547       \global \count\@currbox \@tempcnta
548        }%
549     \@fltovf
550   \fi
551   \global \setbox\@currbox
552     \color@vbox
553       \normalcolor
554       \vbox \bgroup
555         \hsize\columnwidth
556         \@parboxrestore
557         \@floatboxreset
558 }
559 \def\@stpelt#1{\global\csname c@#1\endcsname \m@ne\stepcounter{#1}}
560 \EndIncludeInRelease
561 ⟨/fixltx2e⟩
```