

*Id : elsarticle.dtx1902020 - 11 - 2311 : 12 : 32Zrishi URL : https :  
//lenova.river - valley.com/svn/elsarticle/trunk/elsarticle.dtx*

# The elsarticle.cls – Implimentation

Elsevier Ltd

April 2, 2025

## 1 Implementation

```
1 <*class>
2 %%
3 %%
4 %%
5 \def\RCSfile{elsarticle}%
6 \def\RCSversion{3.3}%
7 \def\RCSdate{2020/11/20}%
8 \def\@shortjnl{\relax}
9 \def\@journal{Elsevier Ltd}
10 \def\@company{Elsevier Ltd}
11 \def\@issn{000-0000}
12 \def\@shortjid{elsarticle}
13 \NeedsTeXFormat{LaTeX2e}[1995/12/01]
14 \ProvidesClass{\@shortjid}[\RCSdate, \RCSversion: \@journal]
15 \def\ABD{\AtBeginDocument}
16 \newif\ifpreprint \preprintfalse
17 \newif\ifnonatbib \nonatbibfalse
18 \newif\iflongmkttitle \longmkttitlefalse
19 \newif\ifnopreprintline \nopreprintlinefalse
20 \newif\ifdoubleblind \doubleblindfalse
21
22 \newif\ifuseexplthreefunctions \useexplthreefunctionsfalse
23
24 \IfFileExists{expl3.sty}{%
25   \global\useexplthreefunctionstrue%
26   \RequirePackage{expl3}}{}
27 \ifuseexplthreefunctions\relax%
28   \IfFileExists{xparse.sty}{\RequirePackage{xparse}}{}
29   \IfFileExists{etoolbox.sty}{\RequirePackage{etoolbox}}{}
30 \fi
31
32 \def\@blstr{1}
33 \newdimen\@bls
34 \@bls=\baselineskip
35
36 \def\@finalWarning{%
37   *****\MessageBreak
38   This document is typeset in the CRC style which\MessageBreak
39   is not suitable for submission.\MessageBreak
40   \MessageBreak
```

```

41 Please typeset again using 'preprint' option\MessageBreak
42 for creating PDF suitable for submission.\MessageBreak
43 *****\MessageBreak
44 }
45
46 \DeclareOption{preprint}{\global\preprinttrue
47 \gdef\@blstr{1}\xdef\jtype{0}%
48 \AtBeginDocument{\@twosidefalse\@mparswitchfalse}}
49 \DeclareOption{nopreprintline}{\global\nopreprintlinetrue}
50 \DeclareOption{final}{\gdef\@blstr{1}\global\preprintfalse}
51 \DeclareOption{review}{\global\preprinttrue\gdef\@blstr{1.5}}
52 \DeclareOption{authoryear}{\xdef\@biboptions{round,authoryear}}
53 \DeclareOption{number}{\xdef\@biboptions{numbers}}
54 \DeclareOption{numbers}{\xdef\@biboptions{numbers}}
55 \DeclareOption{nonatbib}{\global\nonatbibtrue}
56 \DeclareOption{longtitle}{\global\longmkttitletrue}
57 \DeclareOption{5p}{\xdef\jtype{5}\global\preprintfalse}
58 \ExecuteOptions{twocolumn}}
59 \def\jtype{0}
60 \DeclareOption{3p}{\xdef\jtype{3}\global\preprintfalse}
61 \DeclareOption{1p}{\xdef\jtype{1}\global\preprintfalse}
62 \AtBeginDocument{\@twocolumnfalse}}
63 \DeclareOption{times}{\IfFileExists{txfonts.sty}%
64 {\AtEndOfClass{\RequirePackage{txfonts}}%
65 \gdef\ttdefault{cmtt}%
66 \let\iint\relax
67 \let\iiint\relax
68 \let\iiiint\relax
69 \let\idotsint\relax
70 \let\openbox\relax}}{\AtEndOfClass{\RequirePackage{times}}}}
71
72 \DeclareOption{endfloat}{\IfFileExists{endfloat.sty}
73 {\AtEndOfClass{\RequirePackage{markers}{endfloat}}}}{}
74 \DeclareOption{endfloats}{\IfFileExists{endfloat.sty}
75 {\AtEndOfClass{\RequirePackage{markers}{endfloat}}}}{}
76 \DeclareOption{numafflabel}
77 {\AtBeginDocument{\def\theaffn{\arabic{affn}}}} %*%
78 \DeclareOption{lefttitle}
79 {\AtBeginDocument{\def\elsarticletitlealign{flushleft}} %*%
80 \DeclareOption{centertitle}
81 {\AtBeginDocument{\def\elsarticletitlealign{center}} %*%
82 \DeclareOption{reversenotenum}
83 {\AtBeginDocument{\def\theaffn{\arabic{affn}}
84 \def\thefnote{\alph{fnote}}}}
85 \DeclareOption{doubleblind}{\doubleblindtrue}
86
87 \ExecuteOptions{a4paper,10pt,oneside,onecolumn,number,preprint,centertitle}
88 \DeclareOption*{\PassOptionsToClass{\CurrentOption}{article}}
89 \ProcessOptions
90 \LoadClass{article}
91 \RequirePackage{graphicx}

```

## 2 Preamble

```

92 \let\comma\@empty
93 \let\tnotesep\@empty
94 \let\@title\@empty
95
96 \def\useelstitle{}
97
98 \def\title#1{\g@addto@macro\@title{#1%
99     \global\let\tnoteref\@gobble}%
100     \g@addto@macro\useelstitle{#1}}
101
102 \def\elsLabel#1{\@bsphack\protected@write\@auxout{}%
103     {\string\Newlabel{#1}{\@currentlabel}}\@esphack}
104 \def\Newlabel#1#2{\expandafter\xdef\csname X@#1\endcsname{#2}}
105
106 \def\elsRef#1{\@ifundefined{X@#1}{0}{\csname X@#1\endcsname}}
107
108 \let\@tnotemark\@empty
109
110 \ifdoubleblind
111     \def\tnotemark[#1]{}
112 \else
113     \def\tnotemark[#1]{\@for\mytmark:=#1\do{%
114         \expandafter\ifcase\csname X@#1\endcsname\or$\star$\or
115         \expandafter\ifcase\elsRef{\mytmark}\or$\star$\or
116         $\{,\star\star$\fi
117     }}%
118 }
119 \fi
120
121 \def\tnoteref#1{\tnotemark[{#1}]}
122 \let\@tnotes\@empty
123 \newcounter{tnote}
124 \def\tnotetext[#1]#2{\g@addto@macro\@tnotes{%
125     \stepcounter{tnote}\elsLabel{#1}%
126     \def\thefootnote{\ifcase\c@tnote\or$\star$\or$\star\star$\fi}%
127     \footnotetext{#2}}}
128
129 \let\@nonumnotes\@empty
130 \def\nonumnote#1{\g@addto@macro\@nonumnotes{%
131     \let\thefootnote\relax\footnotetext{#1}}}
132
133 \newcounter{fnote}
134 \def\thefnote{\arabic{fnote}}
135 \def\fnmark[#1]{\let\comma\@empty
136     \def\@fnmark{\@for\@fnmark:=#1\do{%
137         \edef\fnotenum{\@ifundefined{X@#1\endcsname}{1}{\elsRef{\@fnmark}}}%
138         \unskip\comma\fnotenum\let\comma,}}%
139 }
140
141 \def\fnref#1{\fnmark[#1]}
142
143 \let\@fnotes\@empty\let\@fnmark\@empty
144 \def\fnfntext[#1]#2{\g@addto@macro\@fnotes{%
145     \refstepcounter{fnote}\elsLabel{#1}%

```

```

146 \def\thefootnote{\c@fnote}%
147 \global\setcounter{footnote}{\c@fnote}%
148 \footnotetext{#2}}
149
150 \def\cormark[#1]{\edef\cnotenum{\elsRef{#1}}%
151 \unskip\textsuperscript{\sep\ifcase\cnotenum\or
152 \ast$\or$\ast\ast$\fi\hspace{-1pt}}\let\sep=,}
153
154 \let\@cormark\@empty
155 \let\@cornotes\@empty
156 \newcounter{cnote}
157 \def\cortext[#1]#2{\g@addto@macro\@cornotes{
158 \refstepcounter{cnote}\elsLabel{#1}%
159 \def\thefootnote{\ifcase\thecnote\or$\ast$\or
160 $\ast\ast$\fi}%
161 \footnotetext{#2}}}
162
163 \let\@corref\@empty
164 \def\corref#1{\edef\cnotenum{\elsRef{#1}}%
165 \edef\@corref{\ifcase\cnotenum\or
166 \ast$\or$\ast\ast$\fi\hskip-1pt}}
167
168 \def\resetTitleCounters{\c@cnote=0
169 \c@fnote=0 \c@tnote=0 \c@footnote=0}
170
171 \let\eadsep\@empty
172 \def\@elseads{}
173 \let\@elsuads\@empty
174 \let\@cormark\@empty
175 \def\hashchar{\expandafter\@gobble\string\~}
176 \def\underscorechar{\expandafter\@gobble\string\_}
177 \def\lbracechar{\expandafter\@gobble\string\{ }
178 \def\rbracechar{\expandafter\@gobble\string\}}
179
180 \gdef\ead{\@ifnextchar[{\@quad}{\@ead}}
181 \gdef\@ead#1{\bgroup
182 \def\_ {\underscorechar}%
183 \def\{ {\lbracechar}%
184 \def~ {\hashchar}%
185 \def\} {\rbracechar}%
186 \edef\tmp{\the\@eadauthor}%
187 \immediate\write\@auxout{\string\emailauthor
188 {#1}\expandafter\strip@prefix\meaning\tmp}}%
189 \egroup
190 }
191 \newcounter{ead}
192 \gdef\emailauthor#1#2{\stepcounter{ead}%
193 \g@addto@macro\@elseads{\raggedright%
194 \let\corref\@gobble\def\@tmp{#1}%
195 \eadsep{\ttfamily\expandafter\strip@prefix\meaning\@tmp}
196 (#2)\def\eadsep{\unskip,\space}}%
197 }
198 \gdef\@quad[#1]#2{\bgroup
199 \def~ {\hashchar}%

```

```

200 \def\_ {\underscorechar}%
201 \def~ {\hashchar}%
202 \def\} {\rbracechar}%
203 \edef\tmp {\the\@eadauthor}
204 \immediate\write\@auxout {\string\urlauthor
205   {#2} {\expandafter\strip@prefix\meaning\tmp}}%
206 \egroup
207 }
208 \gdef\urlauthor#1#2 {\g@addto@macro\@elsuads {\let\corref\@gobble%
209   \def\@@tmp{#1} \raggedright\eadsep
210   {\ttfamily\expandafter\strip@prefix\meaning\@@tmp} \space(#2)%
211   \def\eadsep {\unskip, \space}}%
212 }
213
214 \def\elsauthors {}
215 \def\useauthors {}
216 \def\elsprelimauthors {}
217
218 \def\pprinttitle {}
219 \let\authorsep \@empty
220 \let\prelimauthorsep \@empty
221 \let\sep \@empty
222 \newcounter {author}
223 \def\author {\@ifnextchar [{\@@author} {\@author}}
224
225 \newtoks \@eadauthor
226 \def\@@author [#1] #2 {%
227   \g@addto@macro\elsprelimauthors {%
228     \prelimauthorsep#2%
229     \def\prelimauthorsep {\unskip, \space}}%
230   \g@addto@macro\elsauthors {%
231     \def\baselinestretch {1}%
232     \authorsep#2 \unskip \textsuperscript {%#1%
233       \@for \@affmark :=#1 \do {%
234         \edef\affnum {\@ifundefined {X@\@affmark} {1} {\elsRef {\@affmark}}}%
235         \unskip \sep \affnum \let \sep =,}%
236         \ifx \@fnmark \@empty \else \unskip \sep \@fnmark \let \sep =, \fi
237         \ifx \@corref \@empty \else \unskip \sep \@corref \let \sep =, \fi
238       }%
239     \def\authorsep {\unskip, \space}%
240     \global \let \sep \@empty \global \let \@corref \@empty
241     \global \let \@fnmark \@empty}%
242   \@eadauthor = {#2}%
243   \g@addto@macro\useauthors {#2; }%
244 }
245
246 \def\@author#1 {%
247   \g@addto@macro\elsprelimauthors {%
248     \prelimauthorsep#1%
249     \def\prelimauthorsep {\unskip, \space}}%
250   \g@addto@macro\elsauthors {\normalsize%
251     \def\baselinestretch {1}%
252     \upshape\authorsep#1 \unskip \textsuperscript {%
253       \ifx \@fnmark \@empty \else \unskip \sep \@fnmark \let \sep =, \fi

```

```

254     \ifx\@corref\@empty\else\unskip\sep\@corref\let\sep=,\fi
255     }%
256     \def\authorsep{\unskip,\space}%
257     \global\let\@fnmark\@empty
258     \global\let\@corref\@empty     \global\let\sep\@empty}%
259     \eadauthor={#1}%
260     \g@addto@macro\useauthors{#1; }%
261 }
262
263 \AtBeginDocument{%
264     \ifpackageloaded{hyperref}{%
265         \expandafter\gdef\csname Hy@title\endcsname{\useelstitle}%
266         \expandafter\gdef\csname Hy@author\endcsname{\useauthors}%
267     }{}
268 }
269
270 \def\elsaddress{}
271 \def\addsep{\par\vskip6pt}
272
273 \def\@alph#1{%
274     \ifcase#1\or a\or b\or c\or d\or e\or f\or g\or h\or i\or j\or k\or
275     l\or m\or n\or o\or p\or q\or r\or s\or t\or u\or v\or w\or x\or
276     y\or z%
277     \or aa\or ab\or ac\or ad\or ae\or af\or ag\or ah\or ai\or aj\or
278     ak\or al\or am\or an\or ao\or ap\or aq\or ar\or as\or at\or au\or
279     av\or aw\or ax\or ay\or az%
280     \or ba\or bb\or bc\or bd\or be\or bf\or bg\or bh\or bi\or bj\or
281     bk\or bl\or bm\or bn\or bo\or bp\or bq\or br\or bs\or bt\or bu\or
282     bv\or bw\or bx\or by\or bz%
283     \or ca\or cb\or cc\or cd\or ce\or cf\or cg\or ch\or ci\or cj\or
284     ck\or cl\or cm\or cn\or co\or cp\or cq\or cr\or cs\or ct\or cu\or
285     cv\or cw\or cx\or cy\or cz%
286     \or da\or db\or dc\or dd\or de\or df\or dg\or dh\or di\or dj\or
287     dk\or dl\or dm\or dn\or do\or dp\or dq\or dr\or ds\or dt\or du\or
288     dv\or dw\or dx\or dy\or dz%
289     \or ea\or eb\or ec\or ed\or ee\or ef\or eg\or eh\or ei\or ej\or
290     ek\or el\or em\or en\or eo\or ep\or eq\or er\or es\or et\or eu\or
291     ev\or ew\or ex\or ey\or ez%
292     \or fa\or fb\or fc\or fd\or fe\or ff\or fg\or fh\or fi\or fj\or
293     fk\or fl\or fm\or fn\or fo\or fp\or fq\or fr\or fs\or ft\or fu\or
294     fv\or fw\or fx\or fy\or fz%
295     \or ga\or gb\or gc\or gd\or ge\or gf\or gg\or gh\or gi\or gj\or
296     gk\or gl\or gm\or gn\or go\or gp\or gq\or gr\or gs\or gt\or gu\or
297     gv\or gw\or gx\or gy\or gz%
298     \else\@ctrerr\fi}
299
300 \newcounter{affn}
301 \renewcommand\theaffn{\alph{affn}}
302
303 \ifuseexplthreefunctions\relax%
304     \ExplSyntaxOn
305     \def\ca_affitem_postskip{\mbox{~}\unskip\ignorespaces}
306     %%Author Address
307     \DeclareDocumentCommand \ca_organization { O{,} m }

```

```

308 {
309 % #2 #1\mbox{~}\unskip\ignorespaces
310 \csgappto { ca_affiliation_values } { #2 #1\ca_affitem_postskip }
311 }
312 \DeclareDocumentCommand \ca_postal_code { 0{,} m }
313 {
314 % #2 #1\mbox{~}\unskip\ignorespaces
315 \csgappto { ca_affiliation_values } { #2 #1\ca_affitem_postskip }
316 }
317 \DeclareDocumentCommand \ca_aff_city { 0{,} m }
318 {
319 % #2 #1\mbox{~}\unskip\ignorespaces
320 \csgappto { ca_affiliation_values } { #2 #1\ca_affitem_postskip }
321 }
322 \DeclareDocumentCommand \ca_address_line { 0{,}m }
323 {
324 % #2 #1\mbox{~}\unskip\ignorespaces
325 \csgappto { ca_affiliation_values } { #2 #1\ca_affitem_postskip }
326 }
327 \DeclareDocumentCommand \ca_state { 0{,} m }
328 {
329 % #2 #1\mbox{~}\unskip\ignorespaces
330 \csgappto { ca_affiliation_values } { #2 #1\ca_affitem_postskip }
331 }
332 \DeclareDocumentCommand \ca_country { 0{ } m }
333 {
334 % #2 #1
335 \csgappto { ca_affiliation_values } { #2 #1 }
336 }
337
338 \DeclareDocumentCommand \ca_stm_organization { 0{,} m }
339 {
340 #2 #1\ca_affitem_postskip
341 }
342 \DeclareDocumentCommand \ca_stm_postal_code { 0{,} m }
343 {
344 #2 #1\ca_affitem_postskip
345 }
346 \DeclareDocumentCommand \ca_stm_aff_city { 0{,} m }
347 {
348 #2 #1\ca_affitem_postskip
349 }
350 \DeclareDocumentCommand \ca_stm_aff_address_line { 0{,}m }
351 {
352 #2 #1\ca_affitem_postskip
353 }
354 \DeclareDocumentCommand \ca_stm_state { 0{,} m }
355 {
356 #2 #1\ca_affitem_postskip
357 }
358 \DeclareDocumentCommand \ca_stm_country { 0{ } m }
359 {
360 #2 #1
361 }

```



```

362
363 \keys_define:nn { stm / affiliation }
364 {
365   op .tl_set_x:N = \l_organization_punc_tl,
366   ororganizationsep .tl_set_x:N = \l_organization_punc_tl,
367   ap .tl_set_x:N = \l_address_line_punc_tl,
368   addresslinesep .tl_set_x:N = \l_address_line_punc_tl,
369   cp .tl_set_x:N = \l_city_punc_tl,
370   citysep .tl_set_x:N = \l_city_punc_tl,
371   pp .tl_set_x:N = \l_postal_code_punc_tl,
372   postcodesep .tl_set_x:N = \l_postal_code_punc_tl,
373   sp .tl_set_x:N = \l_state_punc_tl,
374   statesep .tl_set_x:N = \l_state_punc_tl,
375   o .code:n = { \ca_organization[\l_organization_punc_tl]{#1} },
376   organization .code:n = { \ca_organization[\l_organization_punc_tl]{#1} },
377   a .code:n = { \ca_address_line[\l_address_line_punc_tl]{#1} },
378   addressline .code:n = { \ca_address_line[\l_address_line_punc_tl]{#1} },
379   c .code:n = { \ca_aff_city[\l_city_punc_tl]{#1} },
380   city .code:n = { \ca_aff_city[\l_city_punc_tl]{#1} },
381   p .code:n = { \ca_postal_code[\l_postal_code_punc_tl]{#1} },
382   postcode .code:n = { \ca_postal_code[\l_postal_code_punc_tl]{#1} },
383   s .code:n = { \ca_state[\l_state_punc_tl]{#1} },
384   state .code:n = { \ca_state[\l_state_punc_tl]{#1} },
385   orp .tl_set_x:N = \l_organization_punc_tl,
386   adp .tl_set_x:N = \l_address_line_punc_tl,
387   cip .tl_set_x:N = \l_city_punc_tl,
388   pcp .tl_set_x:N = \l_postal_code_punc_tl,
389   stp .tl_set_x:N = \l_state_punc_tl,
390   cyp .tl_set_x:N = \l_country_punc_tl,
391   or .code:n = { \ca_organization[\l_organization_punc_tl]{#1} },
392   ad .code:n = { \ca_address_line[\l_address_line_punc_tl]{#1} },
393   ci .code:n = { \ca_aff_city[\l_city_punc_tl]{#1} },
394   pc .code:n = { \ca_postal_code[\l_postal_code_punc_tl]{#1} },
395   st .code:n = { \ca_state[\l_state_punc_tl]{#1} },
396   cy .code:n = { \ca_country[\l_country_punc_tl]{#1} },
397   country .code:n = { \ca_country[\l_country_punc_tl]{#1} },
398   unknown .code:n = {
399     \ifstrepty { #1 } {
400       \csxappto { ca_affiliation_values }
401         { {\l_keys_key_tl}~ }
402     } {
403       \csxappto { ca_affiliation_values }
404         { {#1}~ }
405     }
406   }
407 }
408
409 \cs_set:Npn \__reset_affiliation:
410 {
411   \tl_gset:Nn \l_organization_punc_tl { , }
412   \tl_gset:Nn \l_address_line_punc_tl { , }
413   \tl_gset:Nn \l_city_punc_tl { , }
414   \tl_gset:Nn \l_postal_code_punc_tl { , }
415   \tl_gset:Nn \l_state_punc_tl { , }

```

```

416 \tl_gset:Nn \l_country_punc_tl { }
417 }
418
419 \DeclareDocumentCommand\affiliation{ o m }{
420 \__reset_affiliation:
421 \csgdef { ca_affiliation_values } { }
422 \IfNoValueTF { #2 }
423 { }
424 {
425 \keys_set:nn { stm / affiliation } { #2 }
426 }
427 \csgappto{elsaddress}{
428 \def\baselinestretch{1}%
429 \refstepcounter{affn}
430 \xdef\@currentlabel{\theaffn}
431 \IfNoValueTF { #1 }
432 { }
433 { \elsLabel{#1} }
434 \textsuperscript{\theaffn}}
435 \csxappto{elsaddress}{
436 \csuse { ca_affiliation_values }
437 \par
438 }
439 }
440 \ExplSyntaxOff
441 \else%
442 \def\caaffitempostskip{\space}
443
444 \DeclareRobustCommand\caorganization[2][,]{%
445 \g@addto@macro\caaffiliationvalues{#2#1\caaffitempostskip}%
446 }
447 \DeclareRobustCommand\capostalcode[2][,]{%
448 \g@addto@macro\caaffiliationvalues{#2#1\caaffitempostskip}%
449 }
450 \DeclareRobustCommand\caaffcity[2][,]{%
451 \g@addto@macro\caaffiliationvalues{#2#1\caaffitempostskip}%
452 }
453 \DeclareRobustCommand\caaddressline[2][,]{%
454 \g@addto@macro\caaffiliationvalues{#2#1\caaffitempostskip}%
455 }
456 \DeclareRobustCommand\castate[2][,]{%
457 \g@addto@macro\caaffiliationvalues{#2#1\caaffitempostskip}%
458 }
459 \DeclareRobustCommand\cacountry[2][,]{%
460 \g@addto@macro\caaffiliationvalues{#2#1\caaffitempostskip}%
461 }
462 \DeclareRobustCommand\castmorganization[2][,]{%
463 #2#1\caaffitempostskip%
464 }
465 \DeclareRobustCommand\castmpostalcode[2][,]{%
466 #2#1\caaffitempostskip%
467 }
468 \DeclareRobustCommand\castmaffcity[2][,]{%
469 #2#1\caaffitempostskip%

```

```

470 }
471 \DeclareRobustCommand\castmaddressline[2][,]{%
472     #2#1\caaffitempostskip%
473 }
474 \DeclareRobustCommand\castmstate[2][,]{%
475     #2#1\caaffitempostskip%
476 }
477 \DeclareRobustCommand\castmcountry[2][,]{%
478     #2#1\caaffitempostskip%
479 }
480
481 \define@key{affiliation}{op}{\xdef\@organizationpunc{#1}}
482 \define@key{affiliation}{orp}{\xdef\@organizationpunc{#1}}
483 \define@key{affiliation}{organizationsep}{\xdef\@organizationpunc{#1}}
484 \define@key{affiliation}{ap}{\xdef\@addresslinepunc{#1}}
485 \define@key{affiliation}{adp}{\xdef\@addresslinepunc{#1}}
486 \define@key{affiliation}{addresslinesep}{\xdef\@addresslinepunc{#1}}
487 \define@key{affiliation}{cp}{\xdef\@citypunc{#1}}
488 \define@key{affiliation}{cip}{\xdef\@citypunc{#1}}
489 \define@key{affiliation}{cyp}{\xdef\@countrypunc{#1}}
490 \define@key{affiliation}{citysep}{\xdef\@citypunc{#1}}
491 \define@key{affiliation}{pp}{\xdef\@postcodepunc{#1}}
492 \define@key{affiliation}{pop}{\xdef\@postcodepunc{#1}}
493 \define@key{affiliation}{postcodesep}{\xdef\@postcodepunc{#1}}
494 \define@key{affiliation}{sp}{\xdef\@statepunc{#1}}
495 \define@key{affiliation}{stp}{\xdef\@statepunc{#1}}
496 \define@key{affiliation}{statesep}{\xdef\@statepunc{#1}}
497 \define@key{affiliation}{countrysep}{\xdef\@countrypunc{#1}}
498
499 \define@key{affiliation}{organization}{%
500     \caorganization[\@organizationpunc]{#1}}
501 \define@key{affiliation}{addressline}{%
502     \caaddressline[\@addresslinepunc]{#1}}
503 \define@key{affiliation}{city}{%
504     \caaffcity[\@citypunc]{#1}}
505 \define@key{affiliation}{postcode}{%
506     \capostalcode[\@postcodepunc]{#1}}
507 \define@key{affiliation}{state}{%
508     \castate[\@statepunc]{#1}}
509 \define@key{affiliation}{or}{%
510     \caorganization[\@organizationpunc]{#1}}
511 \define@key{affiliation}{ad}{%
512     \caaddressline[\@addresslinepunc]{#1}}
513 \define@key{affiliation}{ci}{%
514     \caaffcity[\@citypunc]{#1}}
515 \define@key{affiliation}{po}{%
516     \capostalcode[\@postcodepunc]{#1}}
517 \define@key{affiliation}{st}{%
518     \castate[\@statepunc]{#1}}
519 \define@key{affiliation}{o}{%
520     \caorganization[\@organizationpunc]{#1}}
521 \define@key{affiliation}{a}{%
522     \caaddressline[\@addresslinepunc]{#1}}
523 \define@key{affiliation}{c}{%

```

```

524 \cacity[\@citypunc]{#1}}
525 \define@key{affiliation}{p}{%
526 \capostcode[\@postcodepunc]{#1}}
527 \define@key{affiliation}{s}{%
528 \castate[\@statepunc]{#1}}
529 \define@key{affiliation}{cy}{%
530 \cacountry[\@countrypunc]{#1}}
531 \define@key{affiliation}{country}{%
532 \cacountry[\@countrypunc]{#1}}
533
534
535 \gdef\@resetaffiliation{%
536 \gdef\@organizationpunc{,}%
537 \gdef\@addresslinepunc{,}%
538 \gdef\@citypunc{,}%
539 \gdef\@statepunc{,}%
540 \gdef\@postcodepunc{,}%
541 \gdef\@countrypunc{,}%
542 }
543
544 \def\affiliation{\@ifnextchar[\@@@affiliation]{\@affiliation}}
545
546 \newcommand*{\newstmrobustcmd}{%
547 \protected\def\newstmrobustcmd{\@star@or@long\stmetb@new@command}
548
549 \def\stmetb@new@command#1{\@testopt{\stmetb@newcommand#1}0}
550
551 \def\stmetb@newcommand#1[#2]{%
552 \@ifnextchar[%]
553 {\stmetb@xargdef#1[#2]}
554 {\ifx\l@ngrel@x\relax
555 \let\l@ngrel@x\protected
556 \else
557 \protected\def\l@ngrel@x{\protected\long}%
558 \fi
559 \@argdef#1[#2]}}
560
561 \long\def\stmetb@xargdef#1[#2][#3]#4{%
562 \@ifdefinable#1{%
563 \expandafter\protected
564 \expandafter\def
565 \expandafter#1%
566 \expandafter{%
567 \expandafter\@testopt
568 \csname\string#1\endcsname{#3}}%
569 \expandafter\@yargdef\csname\string#1\endcsname\tw@{#2}{#4}}
570 %
571 \newcommand{\ifstmundef}[1]{%
572 \ifdefined#1%
573 \ifx#1\relax
574 \expandafter\expandafter
575 \expandafter\@firstoftwo
576 \else
577 \expandafter\expandafter

```

```

578     \expandafter\@secondoftwo
579     \fi
580     \else
581     \expandafter\@firstoftwo
582     \fi}
583 \newcommand{\stmexpandonce}[1]{%
584     \unexpanded\expandafter{#1}}
585 \newstmrobustcmd{\gstmapto}[2]{%
586     \ifundef{#1}
587     {\xdef#1{\unexpanded{#2}}}
588     {\xdef#1{\stmexpandonce#1\unexpanded{#2}}}}
589 \newstmrobustcmd{\xstmapto}[2]{%
590     \ifstmundef{#1}
591     {\xdef#1{#2}}
592     {\xdef#1{\stmexpandonce#1#2}}}
593
594
595 \long\def\@@affiliation[#1]#2{%
596     \@resetaffiliation%
597     \gdef\caaffiliationvalues{%
598     \elsLabel{#1}%
599     \setkeys{affiliation}{#2}%
600     \g@addto@macro\elsaddress{%
601     \def\baselinestretch{1}%
602     \refstepcounter{affn}%
603     \xdef\@currentlabel{\theaffn}%
604     \elsLabel{#1}%
605     \textsuperscript{\theaffn}}
606     \xstmapto\elsaddress{\caaffiliationvalues\par}}
607
608 \long\def\@affiliation#1{%
609     \@resetaffiliation%
610     \gdef\caaffiliationvalues{%
611     \setkeys{affiliation}{#1}%
612     \g@addto@macro\elsauthors{%
613     \def\baselinestretch{1}%
614     \xstmapto\elsaddress{\caaffiliationvalues\par}}
615 \fi
616
617 \def\address{\@ifnextchar[{\@@address}{\@address}}
618
619 \long\def\@@address[#1]#2{\g@addto@macro\elsaddress{%
620     \def\baselinestretch{1}%
621     \refstepcounter{affn}
622     \xdef\@currentlabel{\theaffn}
623     \elsLabel{#1}%
624     \textsuperscript{\theaffn}#2\par}}
625
626 \long\def\@address#1{\g@addto@macro\elsauthors{%
627     \def\baselinestretch{1}%
628     \addsep\footnotesize\itshape#1\def\addsep{\par\vskip6pt}%
629     \def\authorsep{\par\vskip8pt}}}
630
631 \newbox\absbox

```

```

632 \let\@elsarticleabstitle\@empty %*%
633 \def\abstracttitle#1{\gdef\@elsarticleabstitle{#1}} %*%
634 \abstracttitle{Abstract} %*%
635 \renewenvironment{abstract}{\global\setbox\absbox=\vbox\bgroup
636   \hsize=\textwidth\def\baselinestretch{1}%
637   \noindent\unskip\textbf{\@elsarticleabstitle} %*%
638   \par\medskip\noindent\unskip\ignorespaces}
639 {\egroup}
640
641 \newbox\elsarticlehighlightsbox
642 \newbox\elsarticlegrabsbox
643 \def\@elsarticlehighlightstitle{Highlights}
644 \def\@elsarticlegrabstitle{Graphical Abstract}
645 \newif\ifelsprelimpagegrabs\global\elsprelimpagegrabsfalse
646 \newif\ifelsprelimpagehl\global\elsprelimpagehlfalse
647 \def\elsarticleprelims{%
648   \ifelsprelimpagegrabs\relax%
649     \thispagestyle{empty}%
650     \unvbox\elsarticlegrabsbox%
651     \pagebreak\clearpage%
652   \fi%
653   \ifelsprelimpagehl\relax%
654     \thispagestyle{empty}
655     \unvbox\elsarticlehighlightsbox%
656     \pagebreak\clearpage%
657     \setcounter{page}{1}%
658   \fi%
659 }
660 \newenvironment{highlights}{%
661   \global\elsprelimpagehltrue%
662   \global\setbox\elsarticlehighlightsbox=\vbox\bgroup
663   \hsize=\textwidth\def\baselinestretch{1}%
664   \noindent\unskip{\Large\@elsarticlehighlightstitle}%*%
665   \par\vskip12pt\noindent\unskip\ignorespaces\textbf{\@title}%
666   \ifx\elsprelimauthors\@empty\relax\else%
667     \par\vskip6pt\noindent\unskip\ignorespaces\elsprelimauthors%
668   \fi%
669   \par\medskip\noindent\unskip\ignorespaces
670   \begin{itemize}
671   }
672 {\end{itemize}}
673 \egroup}
674 \newenvironment{graphicalabstract}{%
675   \global\elsprelimpagegrabstrue%
676   \global\setbox\elsarticlegrabsbox=\vbox\bgroup
677   \hsize=\textwidth\def\baselinestretch{1}%
678   \noindent\unskip{\Large\@elsarticlegrabstitle}%*%
679   \par\vskip12pt\noindent\unskip\ignorespaces\textbf{\@title}%
680   \ifx\elsprelimauthors\@empty\relax\else%
681     \par\vskip6pt\noindent\unskip\ignorespaces\elsprelimauthors%
682   \fi%
683   \par\medskip\noindent\unskip\ignorespaces}
684 {\egroup}
685

```

```

686 \newbox\keybox
687 \let\@elsarticlekwtitle\@empty %%
688 \def\keywordtitle#1{\gdef\@elsarticlekwtitle{#1}} %%
689 \def\keywordtitlesep#1{\gdef\@elsarticlekeywordtitlesep{#1}} %%
690 \keywordtitle{Keywords} %%
691 \keywordtitlesep{: \ }
692 \def\keyword{%
693   \def\sep{\unskip, }%
694   \def\MSC{\@ifnextchar[{\@MSC}{\@MSC[2000]}}
695   \def\@MSC[##1]{\par\leavevmode\hbox {\it ##1~MSC:\space}}%
696   \def\PACS{\par\leavevmode\hbox {\it PACS:\space}}%
697   \def\JEL{\par\leavevmode\hbox {\it JEL:\space}}%
698   \global\setbox\keybox=\vbox\bgroup\hsize=\textwidth
699   \normalsize\normalfont\def\baselinestretch{1}
700   \parskip\z@
701   \noindent\textit{\@elsarticlekwtitle\@elsarticlekeywordtitlesep}
702   \raggedright % Keywords are not justified.
703   \ignorespaces}
704 \def\endkeyword{\par \egroup}
705
706 \newdimen\Columnwidth
707 \Columnwidth=\columnwidth
708
709 \def\printFirstPageNotes{%
710   \iflongmktitle
711     \let\columnwidth=\textwidth
712     \fi
713   \ifdoubleblind
714   \else
715     \ifx\@tnotes\@empty\else\@tnotes\fi
716     \ifx\@nonumnotes\@empty\else\@nonumnotes\fi
717     \ifx\@cornotes\@empty\else\@cornotes\fi
718     \ifx\@elseads\@empty\relax\else
719       \let\thefootnote\relax
720       \footnotetext{\ifnum\thehead=1\relax
721         \textit{Email address:\space}\else
722         \textit{Email addresses:\space}\fi
723         \@elseads}\fi
724     \ifx\@elsuads\@empty\relax\else
725       \let\thefootnote\relax
726       \footnotetext{\textit{URL:\space}}%
727       \@elsuads}\fi
728   \fi
729   \ifx\@fnotes\@empty\else\@fnotes\fi
730   \iflongmktitle\if@twocolumn
731     \let\columnwidth=\Columnwidth\fi\fi
732 }
733
734 %% Pushing text to begin on newpage %%
735 \def\newpage@after@title{title}
736 \def\newpage@after@author{author}
737 \def\newpage@after@abstract{abstract}
738 \def\newpageafter#1%
739   {\gdef\@elsarticlenewpageafter{#1}}

```

```

740
741 \long\def\pprintMaketitle{\clearpage
742   \iflongmktitle\if@twocolumn\let\columnwidth=\textwidth\fi\fi
743   \resetTitleCounters
744   \def\baselinestretch{1}%
745   \printFirstPageNotes
746   \begin{\elsarticletitlealign}%
747   \thispagestyle{pprintTitle}%
748   \def\baselinestretch{1}%
749   \Large\@title\par\vskip18pt%
750   \ifx\@elsarticlenewpageafter\newpage@after@title% %%
751     \newpage
752   \fi%
753   \ifdoubleblind
754     \vspace*{2pc}
755   \else
756     \normalsize\elsauthors\par\vskip10pt
757     \footnotesize\itshape\elsaddress\par\vskip36pt
758   \fi
759   \ifx\@elsarticlenewpageafter\newpage@after@author% %%
760     \newpage
761   \fi%
762   \hrule\vskip12pt
763   \ifvoid\absbox\else\unvbox\absbox\par\vskip10pt\fi
764   \ifvoid\keybox\else\unvbox\keybox\par\vskip10pt\fi
765   \hrule\vskip12pt
766   \ifx\@elsarticlenewpageafter\newpage@after@abstract% %%
767     \newpage
768   \fi%
769   \end{\elsarticletitlealign}%
770   \gdef\thefootnote{\arabic{footnote}}%
771 }
772
773 \def\printWarning{%
774   \mbox{} \par \vfill \par \bgroup
775   \fboxsep12pt \fboxrule1pt
776   \hspace*{.18\textwidth}
777   \fcolorbox{gray50}{gray10}{\box\warnbox}
778   \egroup \par \vfill \thispagestyle{empty}
779   \setcounter{page}{0}
780   \clearpage}
781
782 \long\def\finalMaketitle{%
783   \resetTitleCounters
784   \def\baselinestretch{1}%
785   \MaketitleBox
786   \thispagestyle{pprintTitle}%
787   \gdef\thefootnote{\arabic{footnote}}%
788 }
789
790 \long\def\MaketitleBox{%
791   \resetTitleCounters
792   \def\baselinestretch{1}%
793   \begin{\elsarticletitlealign}%

```



```

794 \def\baselinestretch{1}%
795 \Large\@title\par\vskip18pt
796 \ifdoubleblind
797 \vspace*{2pc}
798 \else
799 \normalsize\elsauthors\par\vskip10pt
800 \footnotesize\itshape\elsaddress\par\vskip36pt
801 \fi
802 \hrule\vskip12pt
803 \ifvoid\absbox\else\unvbox\absbox\par\vskip10pt\fi
804 \ifvoid\keybox\else\unvbox\keybox\par\vskip10pt\fi
805 \hrule\vskip12pt
806 \end{\elsarticletitlealign}%
807 }
808
809 \def\FNtext#1{\par\bgroup\footnotesize#1\egroup}
810 \newdimen\space@left
811 \def\alarm#1{\typeout{*****}%
812 \typeout{#1}%
813 \typeout{*****}%
814 }
815
816 \def\titlespancalculator#1#2#3#4{%
817 % break count
818 \@tempcnta=#4\relax%
819 % pagebreakcount increment
820 \advance\@tempcnta by 1\relax%
821 % title page height
822 \@tempdima=#1\relax%
823 % Page height - title page notes height (only for first break)
824 % Page height - textheight (for remaining breaks)
825 % Page height - title page notes height
826 \@tempdimb=#2\relax%
827 % Remaining title page height
828 \advance\@tempdima -\the\@tempdimb%
829 % Checks if remaining title page
830 % height less than textheight
831 \ifdim\the\@tempdima>#3\relax%
832 \titlespancalculator%
833 {\the\@tempdima}{#3}{#3}{\the\@tempcnta}%Break again
834 \else%
835 % Save break count and exit.
836 \xdef\savetitlepagespan{\the\@tempcnta}%
837 \fi%
838 }%
839
840 \long\def\myfor#1#2#3{%
841 \@tempcnta=#1\relax%
842 \ifnum#1<#2\relax%
843 \advance\@tempcnta by 1\relax%
844 #3%
845 \myfor{\the\@tempcnta}{#2}{#3}%
846 \fi}
847

```

```

848 \long\def\getSpaceLeft{%\global\@twocolumnfalse%
849   \global\setbox0=\vbox{\hsize=\textwidth\MaketitleBox}%
850   \global\setbox1=\vbox{\hsize=\textwidth
851     \let\footnotetext\FNtext
852     \printFirstPageNotes}%
853   \xdef\noteheight{\the\ht1}%
854   \xdef\titleheight{\the\ht0}%
855   \@tempdima=\vsize
856   \advance\@tempdima-\noteheight
857   \advance\@tempdima-1\baselineskip
858   \xdef\savepageheight{\the\@tempdima}%
859   \setbox2=\vbox{\titlespancalculator{\titleheight}%
860     {\savepageheight}{\textheight}{0}}%
861 }
862
863 \skip\footins=24pt
864
865 \newbox\els@boxa
866 \newbox\els@boxb
867
868 \ifpreprint
869   \def\maketitle{\elsarticleprelims\pprintMaketitle}
870 \else
871   \ifnum\jtype=1
872     \def\maketitle{%
873       \elsarticleprelims%
874       \iflongmktitle\getSpaceLeft
875       \ifdim\noteheight>0pt%
876         \advance\@tempdima-1.35\baselineskip
877         \fi%
878         \global\setbox\els@boxa=\vsplit0 to \@tempdima
879         \box\els@boxa\par\resetTitleCounters
880         \thispagestyle{pprintTitle}%
881         \printFirstPageNotes
882         \ifnum\savetitlepagespan>1\relax%
883         \myfor{2}{\savetitlepagespan}{%
884           \global\setbox\els@boxb=\vsplit0 to \textheight%\@tempdima
885           \box\els@boxb}
886         \else%
887         \fi%
888         \box0%
889       \else
890         \finalMaketitle\printFirstPageNotes
891       \fi
892       \gdef\thefootnote{\arabic{footnote}}}%
893   \else
894     \ifnum\jtype=5
895       \def\maketitle{%
896         \elsarticleprelims%
897         \iflongmktitle\getSpaceLeft
898         \ifdim\noteheight>0pt%
899         \advance\@tempdima-1.35\baselineskip
900         \fi%
901         \global\setbox\els@boxa=\vsplit0 to \@tempdima

```

```

902     \box\els@boxa\par\resetTitleCounters
903     \thispagestyle{pprintTitle}%
904     \printFirstPageNotes
905     \ifnum\savetitlepagespan>1\relax%
906     \myfor{2}{\savetitlepagespan}{%
907     \global\setbox\els@boxb=\vsplit0 to \textheight%\@tempdima
908     \twocolumn[\box\els@boxb]}
909     \else%
910     \fi%
911     \twocolumn[\box0]\printFirstPageNotes
912     \else
913     \twocolumn[\finalMaketitle]\printFirstPageNotes
914     \fi
915     \gdef\thefootnote{\arabic{footnote}}}}
916 \else
917 \if@twocolumn
918   \def\maketitle{%
919     \elsarticleprelims%
920     \iflongmktitle\getSpaceLeft
921     \ifdim\noteheight>0pt%
922     \advance\@tempdima-1.35\baselineskip
923     \fi%
924     \global\setbox\els@boxa=\vsplit0 to \@tempdima
925     \box\els@boxa\par\resetTitleCounters
926     \thispagestyle{pprintTitle}%
927     \printFirstPageNotes
928     \ifnum\savetitlepagespan>1\relax%
929     \myfor{2}{\savetitlepagespan}{%
930     \global\setbox\els@boxb=\vsplit0 to \textheight%\@tempdima
931     \twocolumn[\box\els@boxb]}
932     \else%
933     \fi%
934     \twocolumn[\box0]%
935     \else
936     \twocolumn[\finalMaketitle]\printFirstPageNotes
937     \fi
938     \gdef\thefootnote{\arabic{footnote}}}}%
939 \else
940   \def\maketitle{%
941     \elsarticleprelims%
942     \iflongmktitle\getSpaceLeft
943     \ifdim\noteheight>0pt%
944     \advance\@tempdima-1.35\baselineskip
945     \fi%
946     \global\setbox\els@boxa=\vsplit0 to \@tempdima
947     \box\els@boxa\par\resetTitleCounters
948     \thispagestyle{pprintTitle}%
949     \printFirstPageNotes
950     \ifnum\savetitlepagespan>1\relax%
951     \myfor{2}{\savetitlepagespan}{%
952     \global\setbox\els@boxb=\vsplit0 to \textheight%\@tempdima
953     \box\els@boxb}
954     \else%
955     \fi%

```

```

956     \box0%
957   \else
958     \elsarticleprelims%
959     \finalMaketitle\printFirstPageNotes
960   \fi
961   \gdef\thefootnote{\arabic{footnote}}}%
962 \fi
963 \fi
964 \fi
965 \fi
966
967 \let\@elsarticlemyfooter\@empty
968 \let\@elsarticlemyfooteralign\@empty
969 \def\@elsarticlemyfooteralignleft{L}
970 \def\@elsarticlemyfooteralignright{R}
971 \def\@elsarticlemyfooteraligncenter{C}
972
973 \def\myfooter[#1]#2 %*%
974     {\gdef\@elsarticlemyfooteralign{#1}
975     \gdef\@elsarticlemyfooter{#2}}
976
977
978 \def\myfooterfont#1{\gdef\@myfooterfont{#1}}
979 \myfooterfont{\footnotesize\itshape}

```

### 3 Headers/footers

```

980 \def\ps@pprintTitle{%
981     \let\@oddhead\@empty
982     \let\@evenhead\@empty
983     \def\@oddfoot
984         {\hbox to \textwidth%
985         {\ifnopreprintline\relax\else
986         \@myfooterfont%
987         \ifx\@elsarticlemyfooteralign\@elsarticlemyfooteraligncenter%
988             \hfil\@elsarticlemyfooter\hfil%
989         \else%
990         \ifx\@elsarticlemyfooteralign\@elsarticlemyfooteralignleft%
991             \@elsarticlemyfooter\hfill{}}%
992         \else%
993         \ifx\@elsarticlemyfooteralign\@elsarticlemyfooteralignright%
994             {} \hfill\@elsarticlemyfooter%
995         \else%
996             Preprint submitted to \ifx\@journal\@empty%
997             Elsevier%
998             \else\@journal\fi\hfill\@date\fi%
999         \fi%
1000        \fi%
1001        \fi%
1002        }
1003     }%
1004     \let\@evenfoot\@oddfoot}

```

## 4 Section headings

```

1005 \def\@seccntDot{.}
1006 \def\@seccntformat#1{\csname the#1\endcsname\@seccntDot\hspace 0.5em}
1007
1008 \renewcommand\section{\@startsection {section}{1}{\z@}%
1009     {18\p@ \@plus 6\p@ \@minus 3\p@}%
1010     {9\p@ \@plus 6\p@ \@minus 3\p@}%
1011     {\normalsize\bfseries\boldmath}}
1012 \renewcommand\subsection{\@startsection{subsection}{2}{\z@}%
1013     {12\p@ \@plus 6\p@ \@minus 3\p@}%
1014     {3\p@ \@plus 6\p@ \@minus 3\p@}%
1015     {\normalfont\normalsize\itshape}}
1016 \renewcommand\subsubsection{\@startsection{subsubsection}{3}{\z@}%
1017     {12\p@ \@plus 6\p@ \@minus 3\p@}%
1018     {\p@}%
1019     {\normalfont\normalsize\itshape}}
1020
1021 \def\paragraph{\secdef{\els@apagraph}{\els@bparagraph}}
1022 \def\els@apagraph[#1]#2{\elsparagraph[#1]{#2.}}
1023 \def\els@bparagraph#1{\elsparagraph*{#1.}}
1024
1025 \newcommand\elsparagraph{\@startsection{paragraph}{4}{0\z@}%
1026     {10\p@ \@plus 6\p@ \@minus 3\p@}%
1027     {-6\p@}%
1028     {\normalfont\itshape}}

```

## 5 List environment

```

1029 \newdimen\leftMargin
1030 \leftMargin=2em
1031 \newtoks\@enLab %\newtoks\@enfont
1032 \def\@enQmark{?}
1033 \def\@enLabel#1#2{%
1034     \edef\@enThe{\noexpand#1{\@enumctr}}%
1035     \@enLab\expandafter{\the\@enLab\csname the\@enumctr\endcsname}%
1036     \@enloop}
1037 \def\@enSpace{\afterassignment\@enSp@ce\let\@tempa= }
1038 \def\@enSp@ce{\@enLab\expandafter{\the\@enLab\space}\@enloop}
1039 \def\@enGroup#1{\@enLab\expandafter{\the\@enLab{#1}}\@enloop}
1040 \def\@enOther#1{\@enLab\expandafter{\the\@enLab#1}\@enloop}
1041 \def\@enloop{\futurelet\@entemp\@enloop@}
1042 \def\@enloop@{%
1043     \ifx A\@entemp      \def\@tempa{\@enLabel\Alph } \else
1044     \ifx a\@entemp      \def\@tempa{\@enLabel\alph } \else
1045     \ifx i\@entemp      \def\@tempa{\@enLabel\roman } \else
1046     \ifx I\@entemp      \def\@tempa{\@enLabel\Roman } \else
1047     \ifx 1\@entemp      \def\@tempa{\@enLabel\arabic} \else
1048     \ifx \@sptoken\@entemp \let\@tempa\@enSpace      \else
1049     \ifx \bgroup\@entemp  \let\@tempa\@enGroup        \else
1050     \ifx \@enum@\@entemp  \let\@tempa\@gobble         \else
1051     \ifx \fi\@entemp      \let\@tempa\@enOther
1052     \fi\fi\fi\fi\fi\fi\fi
1053     \@tempa}

```

```

1054 \newlength{\@sep} \newlength{\@@sep}
1055 \setlength{\@sep}{.5\baselineskip plus.2\baselineskip
1056         minus.2\baselineskip}
1057 \setlength{\@@sep}{.1\baselineskip plus.01\baselineskip
1058         minus.05\baselineskip}
1059 \providecommand{\sfbc}{\rmfamily\upshape}
1060 \providecommand{\sfn}{\rmfamily\upshape}
1061 \def\@enfont{\ifnum \@enumdepth >1\let\@nxt\sfn \else\let\@nxt\sfbc \fi\@nxt}
1062 \def\enumerate{%
1063     \ifnum \@enumdepth >3 \@toodeep\else
1064         \advance\@enumdepth \@ne
1065         \edef\@enumctr{enum\romannumeral\the\@enumdepth}\fi
1066         \ifnextchar[{\@enum@}{\@enum@}}
1067 \def\@enum@[#1]{%
1068     \@enLab{}\let\@enThe\@enQmark
1069     \@enloop#1\@enum@
1070     \ifx\@enThe\@enQmark\@warning{The counter will not be printed.%
1071     ^^J\space\@spaces\@spaces\@spaces The label is: \the\@enLab}\fi
1072     \expandafter\edef\csname label\@enumctr\endcsname{\the\@enLab}%
1073     \expandafter\let\csname the\@enumctr\endcsname\@enThe
1074     \csname c@\@enumctr\endcsname7
1075     \expandafter\settowidth
1076         \csname leftmargin\romannumeral\@enumdepth\endcsname
1077         {\the\@enLab\hskip\labelsep}%
1078     \@enum@}
1079 \def\@enum@{\list{\@enfont\csname label\@enumctr\endcsname}}%
1080     {\usecounter{\@enumctr}\def\makelabel##1{\hss\llap{##1}}}%
1081     \ifnum \@enumdepth>1\setlength{\topsep}{\@sep}\else
1082         \setlength{\topsep}{\@sep}\fi
1083     \ifnum \@enumdepth>1\setlength{\itemsep}{0pt plus1pt minus1pt}%
1084         \else \setlength{\itemsep}{\@sep}\fi
1085     %\setlength\leftmargin{\leftMargin}%%{1.8em}
1086     \setlength{\parsep}{0pt plus1pt minus1pt}%
1087     \setlength{\parskip}{0pt plus1pt minus1pt}
1088     }}
1089
1090 \def\endenumerate{\par\ifnum \@enumdepth >1\addvspace{\@sep}\else
1091     \addvspace{\@sep}\fi \endlist}
1092
1093 \def\sitem{\@noitemargtrue\item[\@itemlabel *]}
1094
1095 \def\itemize{\ifnextchar[{\@Itemize}{\@Itemize[]}}
1096
1097 \def\@Itemize[#1]{\def\next{#1}%
1098     \ifnum \@itemdepth >\thr@@\@toodeep\else
1099         \advance\@itemdepth \@ne
1100         \ifx\next\empty\else\expandafter\def\csname
1101             labelitem\romannumeral\the\@itemdepth\endcsname{#1}\fi%
1102         \edef\@itemitem{labelitem\romannumeral\the\@itemdepth}%
1103         \expandafter\list\csname\@itemitem\endcsname
1104         {\def\makelabel##1{\hss\llap{##1}}}%
1105     \fi}

```

## 6 Theorem environment

```

1106 \def\newdefinition#1{%
1107   \ifnextchar[{\@odfn{#1}}{\@ndfn{#1}}}%]
1108 \def\@ndfn#1#2{%
1109   \ifnextchar[{\@xndfn{#1}{#2}}{\@yndfn{#1}{#2}}}%
1110 \def\@xndfn#1#2[#3]{%
1111   \expandafter\@ifdefinable\csname #1\endcsname
1112     {\@definecounter{#1}\@newctr{#1}[#3]%
1113     \expandafter\xdef\csname the#1\endcsname{%
1114       \expandafter\noexpand\csname the#3\endcsname \@dfncountersep
1115       \@dfncounter{#1}}}%
1116   \global\@namedef{#1}{\@dfn{#1}{#2}}%
1117   \global\@namedef{end#1}{\@enddefinition}}%
1118 \def\@yndfn#1#2{%
1119   \expandafter\@ifdefinable\csname #1\endcsname
1120     {\@definecounter{#1}%
1121     \expandafter\xdef\csname the#1\endcsname{\@dfncounter{#1}}%
1122     \global\@namedef{#1}{\@dfn{#1}{#2}}%
1123     \global\@namedef{end#1}{\@enddefinition}}%
1124 \def\@odfn#1[#2]#3{%
1125   \@ifundefined{c@#2}{\@nocounterr{#2}}%
1126   {\expandafter\@ifdefinable\csname #1\endcsname
1127     {\global\@namedef{the#1}{\@nameuse{the#2}}
1128     \global\@namedef{#1}{\@dfn{#2}{#3}}%
1129     \global\@namedef{end#1}{\@enddefinition}}}%
1130 \def\@dfn#1#2{%
1131   \refstepcounter{#1}%
1132   \ifnextchar[{\@ydfn{#1}{#2}}{\@xdfn{#1}{#2}}}%
1133 \def\@xdfn#1#2{%
1134   \@begindefinition{#2}{\csname the#1\endcsname}\ignorespaces}
1135 \def\@ydfn#1#2[#3]{%
1136   \@opargbegindefinition{#2}{\csname the#1\endcsname}{#3}\ignorespaces}
1137 \def\@dfncounter#1{\noexpand\arabic{#1}}
1138 \def\@dfncountersep{.}
1139 \def\@begintheorem#1#2{\trivlist
1140   \item[\hskip\labelsep{\bfseries #1\ #2.}]\upshape}
1141 \def\@opargbegintheorem#1#2#3{\trivlist
1142   \item[\hskip\labelsep{\bfseries #1\ #2\ (#3).}]\upshape}
1143 \def\@enddefinition{\endtrivlist}
1144
1145 \def\@begintheorem#1#2{\trivlist
1146   \let\baselinestretch\@blstr
1147   \item[\hskip\labelsep{\bfseries #1\ #2.}]\itshape}
1148 \def\@opargbegintheorem#1#2#3{\trivlist
1149   \let\baselinestretch\@blstr
1150   \item[\hskip\labelsep{\bfseries #1\ #2\ (#3).}]\itshape}
1151
1152 \def\newproof#1{%
1153   \ifnextchar[{\@opr{#1}}{\@npr{#1}}}%
1154 \def\@npr#1#2{%
1155   \ifnextchar[{\@xnpr{#1}{#2}}{\@ynpr{#1}{#2}}}%
1156 \def\@xnpr#1#2[#3]{%
1157   \expandafter\@ifdefinable\csname #1\endcsname

```

```

1158   {\@definecounter{#1}\@newctr{#1}[#3]%
1159   \expandafter\xdef\csname the#1\endcsname{%
1160     \expandafter\noexpand\csname the#3\endcsname \@prfcountersep
1161     \@prfcounter{#1}}%
1162   \global\@namedef{#1}{\@prf{#1}{#2}}%
1163   \global\@namedef{end#1}{\@endproof}}
1164 \def\@ynprf#1#2{%
1165   \expandafter\@ifdefinable\csname #1\endcsname
1166   {\@definecounter{#1}%
1167     \expandafter\xdef\csname the#1\endcsname{\@prfcounter{#1}}%
1168     \global\@namedef{#1}{\@prf{#1}{#2}}%
1169     \global\@namedef{end#1}{\@endproof}}
1170 \def\@opr#1[#2]#3{%
1171   \@ifundefined{c@#2}{\@nocounterr{#2}}%
1172   {\expandafter\@ifdefinable\csname #1\endcsname
1173     {\global\@namedef{the#1}{\@nameuse{the#2}}%
1174     \global\@namedef{#1}{\@prf{#2}{#3}}%
1175     \global\@namedef{end#1}{\@endproof}}}
1176 \def\@prf#1#2{%
1177   \refstepcounter{#1}%
1178   \@ifnextchar[{\@yprf{#1}{#2}}{\@xprf{#1}{#2}}}
1179 \def\@xprf#1#2{%
1180   \@beginproof{#2}{\csname the#1\endcsname}\ignorespaces}
1181 \def\@yprf#1#2[#3]{%
1182   \@opargbeginproof{#2}{\csname the#1\endcsname}{#3}\ignorespaces}
1183 \def\@prfcounter#1{\noexpand\arabic{#1}}
1184 \def\@prfcountersep{.}
1185 \def\@beginproof#1#2{\trivlist\let\baselinestretch\@blstr
1186   \item[\hskip \labelsep{\scshape #1.}]\rmfamily}
1187 \def\@opargbeginproof#1#2#3{\trivlist\let\baselinestretch\@blstr
1188   \item[\hskip \labelsep{\scshape #1\ (#3).}]\rmfamily}
1189 \def\@endproof{\endtrivlist}
1190 \newcommand*\qed{\hbox{\hfill$\Box$}}
1191
1192 \@ifundefined{biboptions}{\xdef\biboptions{numbers}}{}
1193 \InputIfFileExists{jobname.spl}{}{}
1194 \ifnonatbib\relax\else
1195   \RequirePackage[\biboptions]{natbib}
1196 \fi
1197 \newwrite\splwrite
1198 \immediate\openout\splwrite=jobname.spl
1199 \def\biboptions#1{\def\next{#1}\immediate\write\splwrite{%
1200   \string\g@addto@macro\string\@biboptions{%
1201     ,\expandafter\strip@prefix\meaning\next}}}
1202
1203 \let\baselinestretch=\@blstr

```

## 7 Page dimensions and margins for final form

### 7.1 Option 1p

```

1204 \ifnum\jtype=1
1205   \RequirePackage{geometry}
1206   \geometry{twoside,

```



```

1207 paperwidth=210mm,
1208 paperheight=297mm,
1209 textheight=562pt,
1210 textwidth=384pt,
1211 centering,
1212 headheight=50pt,
1213 headsep=12pt,
1214 footskip=12pt,
1215 footnotesep=24pt plus 2pt minus 12pt,
1216 }
1217 \global\let\bibfont=\footnotesize
1218 \global\bibsep=0pt
1219 \if@twocolumn\global\@twocolumnfalse\fi
1220 %

```

## 7.2 Option '3p'

```

1221 \else\ifnum\jtype=3
1222 \RequirePackage{geometry}
1223 \geometry{twoside,
1224 paperwidth=210mm,
1225 paperheight=297mm,
1226 textheight=622pt,
1227 textwidth=468pt,
1228 centering,
1229 headheight=50pt,
1230 headsep=12pt,
1231 footskip=18pt,
1232 footnotesep=24pt plus 2pt minus 12pt,
1233 columnsep=2pc
1234 }
1235 \global\let\bibfont=\footnotesize
1236 \global\bibsep=0pt
1237 \if@twocolumn\input{fleqn.clo}\fi

```

## 7.3 Option '5p'

```

1238 \else\ifnum\jtype=5
1239 \RequirePackage{geometry}
1240 \geometry{twoside,
1241 paperwidth=210mm,
1242 paperheight=297mm,
1243 textheight=682pt,
1244 textwidth=522pt,
1245 centering,
1246 headheight=50pt,
1247 headsep=12pt,
1248 footskip=18pt,
1249 footnotesep=24pt plus 2pt minus 12pt,
1250 columnsep=18pt
1251 }%
1252 \global\let\bibfont=\footnotesize
1253 \global\bibsep=0pt
1254 \input{fleqn.clo}
1255 \global\@twocolumntrue
1256 %%

```

```

1257 %% End of option '5p'
1258 %%
1259 \fi\fi\fi

```

## 8 Other items

```

1260 \def\journal#1{\gdef\@journal{#1}}
1261 \let\@journal\@empty
1262 \newenvironment{frontmatter}{\maketitle}
1263
1264 \long\def\@makecaption#1#2{%
1265   \vskip\abovecaptionskip\footnotesize
1266   \sbox\@tempboxa{#1: #2}%
1267   \ifdim \wd\@tempboxa >\hsize
1268     #1: #2\par
1269   \else
1270     \global \@minipagefalse
1271     \hb@xt@\hsize{\hfil\box\@tempboxa\hfil}%
1272   \fi
1273   \vskip\belowcaptionskip}
1274
1275 \AtBeginDocument{\@ifpackageloaded{hyperref}
1276   {\def\@linkcolor{blue}
1277    \def\@anchorcolor{blue}
1278    \def\@citecolor{blue}
1279    \def\@filecolor{blue}
1280    \def\@urlcolor{blue}
1281    \def\@menucolor{blue}
1282    \def\@pagecolor{blue}
1283   \begingroup
1284     \@makeother\%
1285     \@makeother\=
1286     \edef\x{%
1287       \edef\noexpand\x{%
1288         \endgroup
1289         \noexpand\toks@{%
1290           \catcode 96=\noexpand\the\catcode'\noexpand'\relax
1291           \catcode 61=\noexpand\the\catcode'\noexpand\=\relax
1292         }%
1293       }%
1294       \noexpand\x
1295     }%
1296   \x
1297   \@makeother\%
1298   \@makeother\=
1299 }{}}
1300 %%
1301 \def\appendixname{Appendix }
1302 \renewcommand\appendix{\par
1303   \setcounter{section}{0}%
1304   \setcounter{subsection}{0}%
1305   \setcounter{equation}{0}
1306   \gdef\thefigure{\@Alph\c@section.\arabic{figure}}%
1307   \gdef\thetable{\@Alph\c@section.\arabic{table}}%

```

```

1308 \gdef\thesection{\appendixname~\@Alph\c@section}%
1309 \@addtoreset{equation}{section}%
1310 \gdef\theequation{\@Alph\c@section.\arabic{equation}}%
1311 \addtocontents{toc}{\string\let\string\numberline\string\tmptocnumberline}{-}{-}
1312 }
1313
1314 %%% \numberline width calculation for appendix.
1315 \newdimen\appnamewidth
1316 \def\tmptocnumberline#1{%
1317   \setbox0=\hbox{\appendixname}
1318   \appnamewidth=\wd0
1319   \addtolength\appnamewidth{2.5pc}
1320   \hb@xt@\appnamewidth{#1\hfill}
1321 }
1322
1323 %% Added for work with amsrefs.sty
1324
1325 \ifpackageloaded{amsrefs}%
1326 {}
1327 {%\let\bibsection\relax%
1328 \AtBeginDocument{\def\cites@b#1#2,#3{%
1329   \begingroup%
1330     \toks@{\InnerCite{#2}#1}%
1331     \ifx\@empty#3\@xp\@gobble\fi
1332     \cites@c#3%
1333 }}}
1334 %%
1335 %% Added for avoiding clash with cleveref.sty
1336 \ifpackageloaded{cleveref}%
1337 {}
1338 {\def\tnotetext[#1]#2{\g@addto@macro\@tnotes{%
1339   \refstepcounter{tnote}%
1340   \immediate\write\@auxout{\string\Newlabel{#1}{\thetnote}}
1341   \def\thefootnote{\ifcase\c@tnote\or$\star$\or$\star\star$\fi}%
1342   \footnotetext{#2}}}%
1343 %%%
1344 \def\fnote[#1]#2{\g@addto@macro\@fnotes{%
1345   \refstepcounter{fnote}%
1346   \immediate\write\@auxout{\string\Newlabel{#1}{\thefnote}}
1347   \def\thefootnote{\thefnote}%
1348   \global\setcounter{footnote}{\c@fnote}%
1349   \footnotetext{#2}}}%
1350 %%%
1351 \def\cortext[#1]#2{\g@addto@macro\@cornotes{%
1352   \refstepcounter{cnote}%
1353   \immediate\write\@auxout{\string\Newlabel{#1}{\thecnote}}
1354   \def\thefootnote{\ifcase\c@cnote\or$\ast$\or
1355     $\ast\ast$\fi}%
1356   \footnotetext{#2}}}%
1357 }
1358
1359 \def\textmarker#1#2{\textcolor{#1}{#2}}%*%
1360 \end{class}
1361 %

```

## Index

Numbers written in *italic* refer to the page where the corresponding entry is described; numbers underlined refer to the code line of the definition; numbers in **roman** refer to the code lines where the entry is used.

[illegible]

columnwidth=	\subitem **\columnwidth+, \hdclindex{707}{code}{707},	101,		
731,	742	126, 130, 134, 1118, 1124,		
comma=	\subitem **\comma+, \hdclindex{921}{code}{921},	133, 130, 1133,		
138	144, 146, 150,	1135, 1137,		
cormark=	\subitem **\cormark+, \hdclindex{150}{code}{150},	138, 1139,		
corref=	\subitem **\corref+, \hdclindex{164}{code}{164},	104, 1143,		
208	176, 177, 178,	1145, 1148,		
cortext=	\subitem **\cortext+, \hdclindex{157}{code}{157},	153, 1154,		
cs=	\subitem **\cs+, \hdclindex{409}{code}{409}	1156, 1164,		
csgappto=	\subitem **\csgappto+, \hdclindex{310}{code}{310},	315, 1176,		
320,	325,	202, 209, 211, 1179, 1181,		
330,	335, 427	214, 215, 216, 1183, 1184,		
csgdef=	\subitem **\csgdef+, \hdclindex{421}{code}{421}	1185, 1187,		
csname=	\subitem **\csname+, \hdclindex{104}{code}{104},	1186, 1199,		
114,	265,	246, 249, 251, 1260, 1264,		
266, 568, 569,	256, 270, 271,	1276, 1277,		
1006,	1035,	273, 305, 428, 1278, 1279,		
1072,	1073,	442, 544, 547, 1280, 1281,		
1074,	1076,	549, 551, 557, 1282, 1301,		
1079,	1100,	561, 564, 595, 1316, 1328,		
1103,	1111,	601, 608, 613, 1338, 1341,		
1113,	1114,	617, 619, 620, 1344, 1347,		
1119,	1121,	626, 627, 628, 1351, 1354, 1359		
1126,	1134,	629, 633, 636,	key=	\subitem key+, \hdclindex{481}{code}
1136,	1157,	643, 644, 647,	483,	484,
1159,	1160,	663, 677, 688,	485, 486, 487,	
1165,	1167,	689, 692, 693,	488, 489, 490,	
1172, 1180, 1182	694, 695, 696,	491, 492, 493,		
csuse=	\subitem **\csuse+, \hdclindex{436}{code}{436}	494, 495, 496,		
csxappto=	\subitem **\csxappto+, \hdclindex{400}{code}{400},	497, 499, 501,		
435	737, 738, 741,	503, 505, 507,		
CurrentOption=	\subitem **\CurrentOption+, \hdclindex{88}{code}{88}	509, 511, 513,		
	782, 784, 790,	515, 517, 519,		
DeclareDocumentCommand=	\subitem **\DeclareDocumentCommand+, \hdclindex{307}{code}{307},	315, 521, 523, 525,		
317,	322,	811, 816, 840, 527, 529, 531		
327, 332, 338,	848, 869, 872,	do=	\subitem **\do+, \hdclindex{113}{code}	
342, 346, 350,	895, 918, 940,	233		
354, 358, 419	969, 970, 971,	doubleblindfalse=	\subitem **\doubleblindfa	
DeclareOption=	\subitem **\DeclareOption+, \hdclindex{46}{code}{46},	49,		
50, 51, 52,	973, 978, 980,	doubleblindtrue=	\subitem **\doubleblindtr	
53, 54, 55, 56,	983, 1005, 1006,	ead=	\subitem **\ead+, \hdclindex{180}{co	
57, 60, 61, 63,	1021, 1022,	eadsep=	\subitem **\eadsep+, \hdclindex{1	
72, 74, 76, 78,	1023, 1032,	196, 209, 211		
80, 82, 85, 88	1033, 1037,	edef=	\subitem **\edef+, \hdclindex{137}{f	
DeclareRobustCommand=	\subitem **\DeclareRobustCommand+, \hdclindex{444}{code}{444},	447,		
450, 453, 456,	1040, 1041,	164, 165, 186		
459, 462, 465,	1042, 1043,	203, 234, 1034,		
468, 471, 474, 477	1044, 1045,	1065, 1072,		
def=	\subitem **\def+, \hdclindex{15}{code}{15}, \hdclindex{6}{code}{6},	1102, 1286, 1287		
8, 9, 10, 11, 12,	1046, 1047,	1102, 1286, 1287		
15, 32, 36, 59,	1061, 1062,	639, 673, 684,		
77, 79, 81, 83,	1067, 1079,	704, 778, 809		
84, 96, 98, 102,	1080, 1090,	aparagraph=	\subitem aparagraph+, \hdclin	
104, 106, 111,	1093, 1095,	boxa=	\subitem boxa+, \hdclindex{865}{cod	
	1097, 1100,	879, 901, 902,		
	1104, 1106,			

```

924, 925, 946, 947 elsprelimpagehlfalse= \subitem **\elsprelimpagehlfalse+, \hdclindex{430}{code}{430},
boxb= \subitem boxb+, \hdclindex{666}{code}{666},
885, 907, 908, elsRef= \subitem **\elsRef+, \hdclindex{106}{code}{106},
930, 931, 952, 953 137, 150, 164, 234 237, 253, 254,
bparagraph= \subitem bparagraph+, \hdclindex{187}{code}{187},
elsaddress= \subitem **\elsaddress+, \hdclindex{672}{code}{672},
606, 614, 806 658, 668, 682,
619, 757, 800 endcsname= \subitem **\endcsname+, \hdclindex{104}{code}{104},
elsarticlegrabsbox= \subitem **\elsarticlegrabsbox+, \hdclindex{642}{code}{642},
676 266, 568, 569, 727, 728, 729,
elsarticlehighlightsbox= \subitem **\elsarticlehighlightsbox+, \hdclindex{641}{code}{641},
662 1072, 1073, 758, 761, 763,
elsarticleprelims= \subitem **\elsarticleprelims+, \hdclindex{647}{code}{647},
873, 896, 1079, 1101, 803, 804, 837,
919, 941, 958 1103, 1111, 846, 877, 887,
elsarticletitlealign= \subitem **\elsarticletitlealign+, \hdclindex{79}{code}{79},
746, 769, 793, 806 1119, 1121, 914, 923, 933,
elsauthors= \subitem **\elsauthors+, \hdclindex{214}{code}{214},
250, 612, 1136, 1157, 960, 962, 963,
626, 756, 799 1159, 1160, 964, 965, 998,
else= \subitem **\else+, \hdclindex{112}{code}{112},
237, 253, 254, 1172, 1180, 1182 1052, 1061,
298, 441, 556, endenumerate= \subitem **\endenumerate+, \hdclindex{1090}{code}{1090},
576, 580, 666, endgroup= \subitem **\endgroup+, \hdclindex{1288}{code}{1288},
680, 714, 715, endkeyword= \subitem **\endkeyword+, \hdclindex{704}{code}{704},
716, 717, 718, endlis= \subitem **\endlis+, \hdclindex{1091}{code}{1091},
721, 724, 729, endtrivlis= \subitem **\endtrivlis+, \hdclindex{1143}{code}{1143},
755, 763, 764, enumerate= \subitem **\enumerate+, \hdclindex{1062}{code}{1062},
798, 803, 804, ExecuteOptions= \subitem **\ExecuteOptions+, \hdclindex{58}{code}{58},
834, 870, 886, expandafter= \subitem **\expandafter+, \hdclindex{104}{code}{104},
889, 893, 909, 115, 175, 176, 913, 936, 959,
912, 916, 932, 177, 178, 188, fnmark= \subitem **\fnmark+, \hdclindex{104}{code}{104},
935, 939, 954, 195, 205, 210, fnotenum= \subitem **\fnotenum+, \hdclindex{104}{code}{104},
957, 985, 989, 265, 266, 563, fnref= \subitem **\fnref+, \hdclindex{141}{code}{141},
992, 995, 998, 564, 565, 566, FNtext= \subitem **\FNtext+, \hdclindex{8}{code}{8},
1043, 1044, 567, 569, 574, fntext= \subitem **\fntext+, \hdclindex{14}{code}{14},
1045, 1046, 575, 577, 578, footins= \subitem **\footins+, \hdclindex{104}{code}{104},
1047, 1048, 581, 584, 1035, footnotesize= \subitem **\footnotesize+, \hdclindex{104}{code}{104},
1049, 1050, 1038, 1039, 800, 809,
1061, 1063, 1040, 1072, 979, 1217,
1081, 1084, 1073, 1075, 1235, 1252, 1265,
1090, 1098, 1100, 1103, footnotetext= \subitem **\footnotetext+, \hdclindex{104}{code}{104},
1100, 1194, 1111, 1113, 148, 161,
1221, 1238, 1269 1114, 1119, 720, 726, 851,
elsLabel= \subitem **\elsLabel+, \hdclindex{102}{code}{102},
145, 158, 433, 1157, 1159, futurelet= \subitem **\futurelet+, \hdclindex{104}{code}{104},
598, 604, 623 1160, 1165,
elsparagraph= \subitem **\elsparagraph+, \hdclindex{1022}{code}{1022},
1025 ExplSyntaxOff= \subitem **\ExplSyntaxOff+, \hdclindex{440}{code}{440},
elsprelimauthors= \subitem **\elsprelimauthors+, \hdclindex{304}{code}{304},
247, 666, 208, 265, 266,
667, 680, 681 fboxrule= \subitem **\fboxrule+, \hdclindex{775}{code}{775},
elsprelimpagegrabsfalse= \subitem **\elsprelimpagegrabsfalse+, \hdclindex{645}{code}{645},
elsprelimpagegrabtrue= \subitem **\elsprelimpagegrabtrue+, \hdclindex{673}{code}{673}

```

633, 688, 689, idotsint= \subitem \*\*\idotsint+, \hdclindex{69}{code}{69}  
739, 770, 787, twocolumn= \subitem twocolumn+, \hdclindex{730}{code}{730}, 742,  
892, 915, 938, 917, 1219, 1237 iiiint= \subitem \*\*\iiiint+, \hdclindex{68}  
961, 974, 975, ifcase= \subitem \*\*\ifcase+, \hdclindex{114}{code}{114}, 115,  
978, 1260, 1306, 126, 151, 159, iint= \subitem \*\*\iint+, \hdclindex{66}{code}  
1307, 1308, 1310 165, 274, 1341, 1354 immediate= \subitem \*\*\immediate+, \hdcli  
geometry= \subitem \*\*\geometry+, \hdclindex{1206}{code}{1206}, 1223, 1239  
1240 ifdim= \subitem \*\*\ifdim+, \hdclindex{831}{code}{831}, 875,  
getSpaceLeft= \subitem \*\*\getSpaceLeft+, \hdclindex{848}{code}{848}, 849, \*\*\InnerCite+, \hdclindex  
897, 920, 942 ifdoubleblind= \subitem \*\*\ifdoubleblind+, \hdclindex{20}{code}{20},  
global= \subitem \*\*\global+, \hdclindex{25}{code}{25}, 115, 133, 196 fileExists= \subitem \*\*\InputIfFileE  
49, 50, 51, ifelsprelimpagegrabs= \subitem \*\*\ifelsprelimpagegrabs+, \hdclindex{6  
55, 56, 57, 60, ifelsprelimpagehl= \subitem \*\*\ifelsprelimpagehl+, \hdclindex{646}{code}  
61, 99, 147, 61, 99, 147, item= \subitem \*\*\item+, \hdclindex{1140}  
240, 241, 257, IfFileExists= \subitem \*\*\IfFileExists+, \hdclindex{24}{code}{24}, 28,  
258, 635, 645, 29, 63, 72, 74 1186, 1188  
646, 661, 662, iflongmktitle= \subitem \*\*\iflongmktitle+, \hdclindex{18}{code}{18}, 7  
675, 676, 698, 730, 742, 874, itemize= \subitem \*\*\itemize+, \hdclindex  
848, 849, 850, 897, 920, 942 itemsep= \subitem \*\*\itemsep+, \hdclindex  
878, 884, 901, ifnonatbib= \subitem \*\*\ifnonatbib+, \hdclindex{17}{code}{17}, 1194  
907, 924, 930, ifnopreprintline= \subitem \*\*\ifnopreprintline+, \hdclindex{19}{code}  
946, 952, 1116, IfNoValueTF= \subitem \*\*\IfNoValueTF+, \hdclindex{422}{code}{422},  
1117, 1122, ifnum= \subitem \*\*\ifnum+, \hdclindex{720}{code}{720}, 842,  
1123, 1127, 871, 882, 894, JEL= \subitem \*\*\JEL+, \hdclindex{697}{code}  
1128, 1129, 905, 928, 950, jobname= \subitem \*\*\jobname+, \hdclindex  
1162, 1163, 1061, 1063, journal= \subitem \*\*\journal+, \hdclindex  
1168, 1169, 1081, 1083, jtype= \subitem \*\*\jtype+, \hdclindex{47}  
1173, 1174, 1090, 1098, 59, 60, 61,  
1175, 1217, 1204, 1221, 1238 871, 894,  
1218, 1219, ifpreprint= \subitem \*\*\ifpreprint+, \hdclindex{16}{code}{16}, 868  
1235, 1236, ifstmundef= \subitem \*\*\ifstmundef+, \hdclindex{571}{code}{571}, 590  
1252, 1253, ifstrempty= \subitem \*\*\ifstrempty+, \hdclindex{399}{code}{399},  
1255, 1270, 1348 ifundef= \subitem \*\*\ifundef+, \hdclindex{586}{code}{586},  
gstmappto= \subitem \*\*\gstmappto+, \hdclindex{58}{code}{58}, 589, ifuseexplthreefunctions+, \hdclindex  
303 keyword= \subitem \*\*\keyword+, \hdclindex  
hashchar= \subitem \*\*\hashchar+, \hdclindex{175}{code}{175}, 184, keywordtitle= \subitem \*\*\keywordtitle+, \hdclindex  
199, 201, 803, 804 keywordtitlesep= \subitem \*\*\keywordtitlesep+, \hdclindex  
hbox= \subitem \*\*\hbox+, \hdclindex{695}{code}{695}, 696, 1220, 1227  
697, 984, 1190, 1317 253, 254, 554, 367, 368,  
hfil= \subitem \*\*\hfil+, \hdclindex{988}{code}{988}, 1271, 369, 370, 371,  
hfill= \subitem \*\*\hfill+, \hdclindex{991}{code}{991}, 994, 372, 373, 374,  
998, 1190, 1320 718, 724, 729, 375, 376, 377,  
hrule= \subitem \*\*\hrule+, \hdclindex{762}{code}{762}, 767, 378, 379, 380,  
802, 805 987, 990, 993, 381, 382, 383,  
hsize= \subitem \*\*\hsize+, \hdclindex{636}{code}{636}, 638, 384, 385, 386,  
677, 698, 849, 1045, 1046, 387, 388, 389,  
850, 1267, 1271 1047, 1048, 390, 391, 392,  
hskip= \subitem \*\*\hskip+, \hdclindex{166}{code}{166}, 169, 394, 395,  
1077, 1140, 1070, 1100, 1331 396, 397, 401,  
1142, 1147, ignorespaces= \subitem \*\*\ignorespaces+, \hdclindex{305}{code}{305},  
1150, 1186, 1188 314, 319, 414, 415, 416  
hspace= \subitem \*\*\hspace+, \hdclindex{152}{code}{152}, 776 \subitem \*\*\labelsep+, \hdclindex  
hss= \subitem \*\*\hss+, \hdclindex{1080}{code}{1080}, 1104, 1142, 1147,  
ht= \subitem \*\*\ht+, \hdclindex{853}{code}{853}, 854 1150, 1186, 1188







904, 911, 913, savetitlepagespan= \subitem \*+savetitlepagespan+ \hdclindex{636}{code}{636},  
 927, 936, 949, 959 883, 905, 906,  
 printWarning= \subitem \*+printWarning+ \hdclindex{673}{code}{673} \*\*\textbf+, \hdclindex{636}{code}{636},  
 ProcessOptions= \subitem \*+ProcessOptions+ \hdclindex{639}{code}{639},  
 write= \subitem write+ \hdclindex{186}{code}{186} \hdclindex{186}{code}{186},  
 protected= \subitem \*+protected+ \hdclindex{547}{code}{547} \hdclindex{102}{code}{102} \hdclindex{102}{code}{102} \hdclindex{102}{code}{102},  
 557, 563 section= \subitem \*+section+ \hdclindex{1008}{code}{1008},  
 providecommand= \subitem \*+providecommand+ \hdclindex{968}{code}{968} \hdclindex{1059}{code}{1059},  
 ProvidesClass= \subitem \*+ProvidesClass+ \hdclindex{142}{code}{142} \hdclindex{142}{code}{142},  
 pprintTitle= \subitem pprintTitle+ \hdclindex{980}{code}{980} \subitem \*+textmarker+, \hdclindex{980}{code}{980},  
 qed= \subitem \*+qed+, \hdclindex{1190}{code}{1190} \subitem \*+setbox+, \hdclindex{635}{code}{635},  
 raggedright= \subitem \*+raggedright+ \hdclindex{193}{code}{193} \subitem \*+textwidth+, \hdclindex{193}{code}{193},  
 rbracechar= \subitem \*+rbracechar+ \hdclindex{178}{code}{178} \hdclindex{178}{code}{178} \hdclindex{178}{code}{178} \hdclindex{178}{code}{178},  
 RCSdate= \subitem \*+RCSdate+ \hdclindex{7}{code}{7} \subitem \*+the+, \hdclindex{186}{code}{186},  
 RCSfile= \subitem \*+RCSfile+ \hdclindex{15}{code}{15} \subitem \*+setcounter+, \hdclindex{147}{code}{147},  
 RCSversion= \subitem \*+RCSversion+ \hdclindex{6}{code}{6} \hdclindex{6}{code}{6} \hdclindex{6}{code}{6} \hdclindex{6}{code}{6},  
 refstepcounter= \subitem \*+refstepcounter+ \hdclindex{145}{code}{145} \hdclindex{145}{code}{145} \hdclindex{145}{code}{145},  
 setkeys= \subitem \*+setkeys+ \hdclindex{599}{code}{599} \hdclindex{599}{code}{599},  
 setlength= \subitem \*+setlength+ \hdclindex{1055}{code}{1055} \hdclindex{1055}{code}{1055},  
 relax= \subitem \*+relax+ \hdclindex{8}{code}{8} \hdclindex{8}{code}{8} \hdclindex{8}{code}{8} \hdclindex{8}{code}{8},  
 settowidth= \subitem \*+settoheight+ \hdclindex{1075}{code}{1075} \hdclindex{1075}{code}{1075},  
 sfbc= \subitem \*+sfbc+ \hdclindex{1059}{code}{1059} \hdclindex{1059}{code}{1059},  
 sfnc= \subitem \*+sfnc+ \hdclindex{1060}{code}{1060} \hdclindex{1060}{code}{1060},  
 sitem= \subitem \*+sitem+ \hdclindex{1039}{code}{1039} \hdclindex{1039}{code}{1039},  
 skip= \subitem \*+skip+ \hdclindex{683}{code}{683} \hdclindex{683}{code}{683},  
 left= \subitem left+ \hdclindex{810}{code}{810} \hdclindex{810}{code}{810} \hdclindex{810}{code}{810},  
 space= \subitem \*+space+ \hdclindex{1061}{code}{1061} \hdclindex{1061}{code}{1061} \hdclindex{1061}{code}{1061},  
 thefnote= \subitem \*+thefnate+, \hdclindex{1061}{code}{1061},  
 thefootnote= \subitem \*+thefootnote+, \hdclindex{1061}{code}{1061},  
 renewcommand= \subitem \*+renewcommand+ \hdclindex{301}{code}{301} \hdclindex{301}{code}{301},  
 splwrite= \subitem \*+splwrite+ \hdclindex{1197}{code}{1197} \hdclindex{1197}{code}{1197},  
 renewenvironment= \subitem \*+renewenvironment+ \hdclindex{635}{code}{635} \hdclindex{635}{code}{635},  
 RequirePackage= \subitem \*+RequirePackage+ \hdclindex{26}{code}{26} \hdclindex{26}{code}{26},  
 stepcounter= \subitem \*+stepcounter+ \hdclindex{1259}{code}{1259} \hdclindex{1259}{code}{1259},  
 newcommand= \subitem newcommand+ \hdclindex{549}{code}{549} \hdclindex{549}{code}{549},  
 resetTitleCounters= \subitem \*+resetTitleCounters+ \hdclindex{188}{code}{188} \hdclindex{188}{code}{188},  
 stmexpandonce= \subitem \*+stmexpandonce+ \hdclindex{583}{code}{583} \hdclindex{583}{code}{583},  
 rmfamily= \subitem \*+rmfamily+ \hdclindex{1059}{code}{1059} \hdclindex{1059}{code}{1059},  
 titleheight= \subitem \*+titleheight+, \hdclindex{1059}{code}{1059},  
 Roman= \subitem \*+Roman+ \hdclindex{1046}{code}{1046} \hdclindex{1046}{code}{1046},  
 roman= \subitem \*+roman+ \hdclindex{1045}{code}{1045} \hdclindex{1045}{code}{1045},  
 romannumeral= \subitem \*+romannumeral+ \hdclindex{1065}{code}{1065} \hdclindex{1065}{code}{1065},  
 prefix= \subitem prefix+ \hdclindex{188}{code}{188} \hdclindex{188}{code}{188},  
 tmp= \subitem \*+tmp+ \hdclindex{186}{code}{186} \hdclindex{186}{code}{186},  
 savepageheight= \subitem \*+savepageheight+ \hdclindex{1012}{code}{1012} \hdclindex{1012}{code}{1012}

```

tmptocnumberline= \subitem **\tmptocnumberline+, \hdclindex{\subitemcode}\subitem+, \hdclindex{87}
tnotemark= \subitem **\tnotemark+, \hdclindex{111}{code}{111}, \hdclindex{907,13924,
121, 681, 683, 693, 930, 946, 952
tnoteref= \subitem **\tnoteref+, \hdclindex{99}{code}{99}, \hdclindex{650}{code}{650}, 655,
tnotesep= \subitem **\tnotesep+, \hdclindex{93}{code}{93}, \subitem **\warnbox+, \hdclindex{
tnotetext= \subitem **\tnotetext+, \hdclindex{124}{code}{124}, \hdclindex{1288}{code}{1288}, \hdclindex{1267}{code}{1267},
= \subitem +, \hdclindex{1289}{code}{1289}, 11430 write= \subitem **\write+, \hdclindex{187}
topsep= \subitem **\topsep+, \hdclindex{1081}{code}{1081}, 199, 1349, \hdclindex{204}{code}{204}, 208
trivlist= \subitem **\trivlist+, \hdclindex{1139}{code}{1139}, 1141, 1353, \subitem **\useauthors+, \hdclindex{215}{code}{215}, 243,
1145, 1148, 260, 266
1185, 1187 usecounter= \subitem **\usecounter+, \hdclindex{1286}{code}{1286},
ttdefault= \subitem **\ttdefault+, \hdclindex{65}{code}{65}, 689, \hdclindex{96}{code}{96}, 100,
ttfamily= \subitem **\ttfamily+, \hdclindex{195}{code}{195}, 251, \subitem **\xdef+, \hdclindex{47}{code}{47},
= \subitem +, \hdclindex{569}{code}{569}, 53, 54, 57, 60,
twoocolumn= \subitem **\twoocolumn+, \hdclindex{908}{code}{908}, 1491, 1436, \subitem **\useexplthreefunctionsfalse+, \hdclindex{908}{code}{908},
913, 931, 934, 936 useexplthreefunctionstrue= \subitem **\useexplthreefunctionstrue+, \hdclindex{908}{code}{908},
typeout= \subitem **\typeout+, \hdclindex{811}{code}{811}, 484, 812, 485, 486,
813 vbox= \subitem **\vbox+, \hdclindex{635}{code}{635}, 662,
676, 698, 490, 491, 492,
underscorechar= \subitem **\underscorechar+, \hdclindex{476}{code}{476}, 182,
200 vfill= \subitem **\vfill+, \hdclindex{774}{code}{774}, 778
unexpanded= \subitem **\unexpanded+, \hdclindex{854}{code}{854}, 855, \subitem **\vsize+, \hdclindex{854}{code}{854},
588 vskip= \subitem **\vskip+, \hdclindex{271}{code}{271}, 628,
unskip= \subitem **\unskip+, \hdclindex{138}{code}{138}, 851, 854, 858,
196, 211, 229, 679, 681, 749, 1113, 1121,
232, 235, 236, 756, 757, 762, 1159, 1167, 1192
237, 239, 249, 763, 764, 765, xstmappto= \subitem **\xstmappto+, \hdclindex{700}{code}{700},
252, 253, 254, 795, 799, 800, 614
256, 305, 309, 802, 803, 804,
314, 319, 324, 805, 1265, 1273 = \subitem +, \hdclindex{700}{code}{700},
329, 637, 638, vspace= \subitem **\vspace+, \hdclindex{754}{code}{754}, 797

```