

The HEP-ACRONYM package*

An acronym extension for glossaries

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Abstract

The HEP-ACRONYM package provides an acronym macro based on the GLOSSARIES package.

Acronyms are implemented using the GLOSSARIES-EXTRA package [1] which is an extension of the GLOSSARIES package [2] and must be loaded after the HYPERREF package [3]. It can be loaded using `\usepackage{hep-acronym}`.

`\acronym` The `\acronym*[\typeset abbreviation]{\abbreviation*}{\definition}[\plural definition]` macro generates the singular `\langle abbreviation \rangle` and plural `\langle abbreviation \rangle s` macros.

The first star prevents the addition of an ‘s’ to the abbreviation plural. The second star restores the \TeX default of swallowing subsequent white space. The long form is only shown at the first appearance of these macros, later appearances generate the abbreviation with a hyperlink to the long form. Capitalisation at the beginning of paragraphs and sentences is (mostly) ensured. The long form is never used in math mode which can be exploited to enforce the short form. In order to enforce the long form use `\langle abbreviation \rangle long`. As there can be no fixed rule whether to use the long form or the short form in section headers the user is left to their own devices e.g.

`\sentence` `\glsdesc{\abbreviation}`, `\Glsdesc{\abbreviation}`. The `\sentence` macro ensures that the directly following abbreviation is capitalised.

`\shortacronym` The `\shortacronym` and `\longacronym` macros are drop-in replacements of the `\acronym` macro showing only the short or long form of their acronym.

`\longacronym`

`\resetacronym` The first use form of the acronym can be enforced by resetting the acronym counter with `\resetacronym{\key}`.

`\dummyacronym` If the acronym counter equals one at the end of the document the short form of the acronym is not introduced. Placing a `\dummyacronym{\key}` at the end of the document ensures that the short form is introduced.

*This document corresponds to HEP-ACRONYM v1.1.

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In order to reduce the number of potentially conflicting packages the GLOSSARIES package is loaded without any glossary style. In the case that the glossary should be printed additional packages must be loaded via e.g. `\usepackage{glossary-list}`.

A Implementation

<*package>

Load the base package [1, 2] and set the abbreviation style.

```

1 \PassOptionsToPackage{nostyles}{glossaries-extra}
2 \RequirePackage{glossaries-extra}
3 \setabbreviationstyle{long-hyphen-short-hyphen}

```

Use the entry count feature.

```

4 \glsenableentrycount
5 \glssetcategoryattribute{abbreviation}{entrycount}{1}

```

Provide macros for older glossaries-extra installations.

```

6 \AtBeginDocument{
7   \ifpackageloaded{hyperref}{
8     \providecommand{\glsxtrusefield}[2]{\@gls@entry@field{#1}{#2}}
9     \providecommand{\glsxtrsetfieldifexists}[3]{\glsdoifexists{#1}{#3}}
10    \providecommand{\gGlsXtrSetField}[3]{%
11      \glsxtrsetfieldifexists{#1}{#2}{%
12        \csgdef{glo@\glsdetoklabel{#1}@\#2}{#3}%
13      }%
14    }

```

Set hyperlinks from the abbreviation to their definition in the text.

```

15   \glssetcategoryattribute{abbreviation}{nohyperfirst}{true}
16   \renewcommand*{\glsdonohyperlink}[2]{%
17     \glsxtrprotectlinks\edef\fieldvalue{%
18       \glsxtrusefield{\glslabel}{hastarget}%
19     }%
20     \ifdefstring\fieldvalue{true}{#2}{%
21       \gGlsXtrSetField{\glslabel}{hastarget}{true}%
22       \glsdohypertarget{#1}{#2}%
23     }%
24   }}
25   }{-}
26 }

```

Provide for the case that hyperref is not loaded.

```

27 \newcommand{\hep@disable}[1]{%
28   \ifpackageloaded{hyperref}{\pdfstringdefDisableCommands{#1}}{-}%
29 }

```

`\begin@sentence` Mark the beginning of a paragraph as if it would follow a full stop using the EVERY-HOOK package [4].

```

30 \PassOptionsToPackage{excludeor}{everyhook}
31 \RequirePackage{everyhook}
32 \newcommand{\begin@sentence}{1001}
33 \newcommand{\sentence}{\spacefactor=\begin@sentence}
34 \hep@disable{\renewcommand\sentence{}}
35 \PushPostHook{par}{\sentence}
36 \gdef\ttl@case{\leavevmode\sentence}

```

`\frenchspacing` Adjust the `\frenchspacing` macro to be compatibel with this idea.

```

37 \def\frenchspacing{%
38   \sfcode'\.\begin@sentence \sfcode'\?\begin@sentence
39   \sfcode'\!\begin@sentence \sfcode'\:\begin@sentence
40   \sfcode'\;\@m \sfcode'\,\@m
41 }

```

`\if@begin@of@sentence` Provide a macro checking for the beginning of a sentence by examining the length of the preceeding space.

```

42 \newcommand{\if@begin@of@sentence}[2]{\leavevmode\protecting{%
43   \ifboolexpr{ test {\ifnumcomp{\spacefactor}{=}{3000}} or%
44               test {\ifnumcomp{\spacefactor}{=}{2000}} or%
45               test {\ifnumcomp{\spacefactor}{=}{\begin@sentence}}}%
46   }{#1}{#2}%
47 }}

```

`\mathdef` Provide a macro that allows to extend a macro definition into math mode using the XPARSE package [5].

```

48 \RequirePackage{xparse}
49 \ProvideDocumentCommand{\mathdef}{m0{0}m}{%
50   \expandafter\let\csname hep@text\string#1\endcsname=#1
51   \expandafter\newcommand\csname hep@math\string#1\endcsname[#2]{#3}
52   \DeclareRobustCommand#1{%
53     \ifmmode
54       \expandafter\let\expandafter\next\csname%
55         hep@math\string#1\endcsname%
56     \else
57       \expandafter\let\expandafter\next\csname%
58         hep@text\string#1\endcsname%
59     \fi
60     \next
61   }%
62 }

```

`\acronym` Define the `\acronym(*)[typeset abbreviation]{abbreviation}{*}{definition}[plural definition]` macro using the XSPACE [6] and AMSTEXT [7] packages.

#1 star for omitting the ‘s’ in the short plural
 #2 optional typeset abbreviation
 #3 mandatory abbreviation
 #4 star for restoring the T_EX default for space after text macros
 #5 mandatory long form
 #6 optional plural long form

```
63 \RequirePackage{xspace}
64 \RequirePackage{amstext}
65 \NewDocumentCommand{\acronym}{somsmo}{
66   \newabbreviation[
67     type=\acronymtype,
68     sort=#3,
69     \glsshortpluralkey=\IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}},
70     longplural=\IfNoValueTF{#6}{#5s}{#6}
71 ]{#3}{\IfNoValueTF{#2}{#3}{#2}}{#5}
```

Provide the singular acronym macro.

```
72 \expandafter\newcommand\csname#3\endcsname[1] []{%
73   \if@begin@of@sentence{%
74     \ifglused{#3}{\cgl{s}{#3}[##1]}{\cGls{#3}[##1]}%
75   }\cgl{s}{#3}[##1]}%
76   \ifnum\glentrycurrcount{#3}>1\relax
77     \IfBooleanTF{#4}{-}{\@xspace}%
78   \else\@xspace\fi
79 }
```

Expand the singular acronym macro in portable document format (PDF) labels.

```
80 \hep@disable{\expandafter\def\csname#3\endcsname{%
81   \IfNoValueTF{#2}{#3}{#2} }%
82 }
```

Provide the singular acronym macro in math mode.

```
83 \expandafter\mathdef\csname#3\endcsname{%
84   \text{\glxtrshort{#3}}\@gls@increment@currcount{#3}%
85 }
```

Provide the plural acronym macro.

```
86 \expandafter\newcommand\csname#3s\endcsname[1] []{%
87   \if@begin@of@sentence{\cGlspl{#3}[##1]}{\cgl{spl}{#3}[##1]}%
88   \IfBooleanTF{#4}{-}{\@xspace}%
89 }
```

Expand the plural acronym macro in PDF labels.

```
90 \hep@disable{\expandafter\def\csname#3s\endcsname{%
91   \IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s} }%
92 }
```

Provide the plural acronym macro in math mode.

```
93 \expandafter\mathdef\csname#3s\endcsname{%
94   \text{\glxtrshortpl{#3}}\@gls@increment@currcount{#3}%
95 }
```

Provide an enforced long form.

```
96 \expandafter\newcommand\csname#3long\endcsname[1][1]{%
97   \if@begin@of@sentence{\Glsdesc*{#3}[##1]}\@glsdesc*{#3}[##1]}%
98   \IfBooleanTF{#4}{-}{\@xspace}%
99 }
```

Ensure that it works in PDFs.

```
100 \hep@disable{\expandafter\def\csname#3long\endcsname{#5 } }
```

Provide an enforced long plural form.

```
101 \expandafter\newcommand\csname#3slong\endcsname[1][1]{%
102   \if@begin@of@sentence{%
103     \Glsxtrlongpl*{#3}[##1]}\@glsxtrlongpl*{#3}[##1]%
104   }%
105   \IfBooleanTF{#4}{-}{\@xspace}%
106 }
```

Ensure that it works in PDFs.

```
107 \hep@disable{\expandafter\def\csname#3slong\endcsname{%
108   \IfNoValueTF{#6}{#5s}{#6} }%
109 }
```

End of \acronym.

```
110 }
```

`\shortacronym` The `\shortacronym` never expands into the long form.

```
111 \NewDocumentCommand{\shortacronym}{somsmo}{
```

Provide the singular acronym macro.

```
112 \expandafter\newcommand\csname#3\endcsname[1][1]{%
113   \IfNoValueTF{#2}{#3}{#2}\IfBooleanTF{#4}{-}{\@xspace}##1%
114 }
```

Expand the singular acronym macro in PDF labels.

```
115 \hep@disable{\expandafter\def\csname#3\endcsname{%
116   \IfNoValueTF{#2}{#3}{#2} }%
117 }
```

Provide the singular acronym macro in math mode.

```
118 \expandafter\mathdef\csname#3\endcsname{%
119   \text{\IfNoValueTF{#2}{#3}{#2}}%
120 }
```

Provide the plural acronym macro.

```
121 \expandafter\newcommand\csname#3s\endcsname[1] [] {%
122   \IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}}%
123   \IfBooleanTF{#4}{}{\@xspace}##1%
124 }
```

Expand the plural acronym macro in PDF labels.

```
125 \hep@disable{\expandafter\def\csname#3s\endcsname{%
126   \IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}} }%
127 }
```

Provide the plural acronym macro in math mode.

```
128 \expandafter\mathdef\csname#3s\endcsname{%
129   \text{\IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}}}%
130 }
```

Ensure that long form also exists.

```
131 \expandafter\let\csname#3long\expandafter\endcsname\csname#3\endcsname
132 \expandafter\let\csname#3slong\expandafter\endcsname\csname#3s\endcsname
```

End of \shoracronym.

```
133 }
```

\longacronym The \longacronym never shows the abbreviated form.

```
134 \NewDocumentCommand{\longacronym}{\somsmo}{
```

Provide the singular acronym macro.

```
135 \expandafter\newcommand\csname#3\endcsname[1] [] {%
136   \if@begin@of@sentence{\MakeUppercase#5}{#5}%
137   \IfBooleanTF{#4}{}{\@xspace}##1%
138 }
```

Expand the singular acronym macro in PDF labels.

```
139 \hep@disable{\expandafter\def\csname#3\endcsname{#5 }}}
```

Provide the plural acronym macro.

```
140 \expandafter\newcommand\csname#3s\endcsname[1] [] {%
141   \if@begin@of@sentence{%
```

```

142     \IfNoValueTF{#6}{\MakeUppercase#5s}{\MakeUppercase#6}%
143   }{%
144     \IfNoValueTF{#6}{#5s}{#6}}\IfBooleanTF{#4}{}{\@xspace}##1%
145   }

```

Expand the plural acronym macro in PDF labels.

```

146   \hep@disable{\expandafter\def\csname#3s\endcsname{%
147     \IfNoValueTF{#6}{#5s}{#6} }%
148   }

```

Ensure that long form also exists.

```

149   \expandafter\let\csname#3long\expandafter\endcsname\csname#3\endcsname
150   \expandafter\let\csname#3slong\expandafter\endcsname\csname#3s\endcsname

```

End of `\longacronym`.

```

151 }

```

Silence warning if no acronyms are defined.

```

152 \renewcommand*{\@gls@write@entrycounts}{%
153   \immediate\write\@auxout{%
154     \string\providecommand*{\string\@gls@entry@count}[2]{%
155     }%
156     \count@=0\relax
157   \forallglsentries{\@glsentry}{%
158     \glshasattribute{\@glsentry}{entrycount}{%
159       \ifglsused{\@glsentry}{%
160         \immediate\write\@auxout{%
161           \string\@gls@entry@count{\@glsentry}{%
162             \glsentrycurrcount{\@glsentry}%
163           }
164         }%
165       }{\advance\count@ by \@ne
166       }{}}%
167     }%
168   }

```

`\resetacronym` Add two macros for acronym management.

`\dummyacronym`

```

169 \newcommand{\resetacronym}[1]{\protect\glsreset{#1}}
170 \newcommand{\dummyacronym}[1]{\protect\glsunset{#1}}

```

`abstract` Adjust the `abstract` environment to reset all acronym counters.

```

171 \@ifundefined{endabstract}{}{%
172   \let\end@hep@abstract\endabstract%
173   \renewcommand\endabstract{\glsresetall\end@hep@abstract}%
174 }

```

`\tableofcontents` Adjust the `\tableofcontents` macro to never show the long form of acronyms.

```
\listoffigures
\listoftables 175 \let\hep@table@of@contents\tableofcontents
176 \renewcommand\tableofcontents{%
177   \glsunsetall\hep@table@of@contents\glsresetall%
178 }
179 \let\hep@list@of@figures\listoffigures
180 \renewcommand\listoffigures{%
181   \glsunsetall\hep@list@of@figures\glsresetall%
182 }
183 \let\hep@list@of@tables\listoftables
184 \renewcommand\listoftables{%
185   \glsunsetall\hep@list@of@tables\glsresetall%
186 }
```

`\acronyms` Add a possibility to have different groups of acronyms.

```
187 \NewDocumentCommand{\acronyms}{om}{%
188   \IfNoValueTF{#1}{
189     \newglossary{#2}{#2.in}{#2.out}{#2}%
190     \renewcommand{\acronymtype}{#2}%
191   }{
192     \newglossary{#1}{#1.in}{#1.out}{#2}%
193     \renewcommand{\acronymtype}{#1}%
194   }
195 }
```

`</package>`

B Test

`<*test>`

```
196 \documentclass{article}
197
198 \usepackage{hyperref}
199 \usepackage{hep-acronym}
200 \usepackage{titlesec}
201
202 \acronym{PDF}{portable document format}
203 \acronym{URL}{uniform resource locator}
204 \acronym{CM}{computer modern}
205 \acronym{LM}{latin modern}
206
207 \begin{document}
208
209 \PDF \emph{(Capitalised at beginning of paragraph)}
210 \PDF \emph{(Second appearance is shortened)}.
211 \URLs \emph{(Capitalised plural form at beginning of sentence)}
212 $\URL$ \emph{(Second appearance is forced to be always short)}
```



```
213 \LM \emph{(Not capitalised in middle of sentence)}
214 \LM \emph{(Second appearance is shorted)}.
215 $\CM$ \emph{(Enforce short form)}
216 \CM \emph{(then extend second appearance)}
217 \URLlong \emph{(enforce long form)}
218
219 \section{\PDFlong table of contents is not broken}
220
221 \end{document}
```

</test>

C Readme

<*readme>

```
222 # The ‘hep-acronym’ package
223
224 An acronym extension for glossaries
225
226 ## Introduction
227
228 The ‘hep-acronym’ package provides an acronym macro based on the ‘glossaries’ package.
229 It can be loaded using ‘\usepackage{hep-acronym}’.
230
231 ## Author
232
233 Jan Hajer
234
235 ## License
236
237 This file may be distributed and/or modified under the conditions of the ‘LaTeX’ Project
238 The latest version of this license is in ‘http://www.latex-project.org/lppl.txt’ and ver
```

</readme>

References

- [1] N. T. Dickimaw Books. ‘The glossaries-extra package: An extension to the glossaries package’ (2015). CTAN: `glossaries-extra`.
- [2] N. Talbot. ‘The glossaries package: Create glossaries and lists of acronyms’ (2007). CTAN: `glossaries`.
- [3] *L^AT_EX₃ Project*. ‘Hypertext marks in L^AT_EX: a manual for hyperref: Extensive support for hypertext in L^AT_EX’ (1995). CTAN: `hyperref`. GitHub: `latex3/hyperref`.
- [4] S. Checkoway. ‘The everyhook package: Hooks for standard T_EX token lists’ (2010). CTAN: `everyhook`.

- [5] *L^AT_EX*3 Project. ‘The `xparse` package: A generic document command parser’ (1999). CTAN: `xparse`.
- [6] *L^AT_EX* Team. ‘The `xspace` package: Define commands that appear not to eat spaces’ (1993). CTAN: `xspace`.
- [7] *L^AT_EX* Team. ‘The `amstext` package: Typeset text fragments in mathematics’ (1995). CTAN: `amstext`. URL: ams.org/tex/amslatex.