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 \[ \langle \text{abbreviation} \rangle \{ \langle \text{definition} \rangle \} \{ \langle \text{plural \ definition} \rangle \} \]

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

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

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

\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{\langle \text{key} \rangle} at the end of the document ensures that the short form is introduced.

\warning 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>*

Define a hepacronym namespace for the options using the \kvoptions package [4].

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*This document corresponds to **HEP-ACRONYM** v1.2.
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hyper Define the hyper option controlling the hyperlink to the first appearance of the acronyms.

\begin{verbatim}
\DeclareBoolOption[true]{hyper}
\end{verbatim}

Process options.

\begin{verbatim}
\ProcessKeyvalOptions*
\end{verbatim}

Load the base package \cite{1,2} and set the abbreviation style.

\begin{verbatim}
\PassOptionsToPackage{nostyles}{glossaries-extra}
\RequirePackage{glossaries-extra}
\setabbreviationstyle{long-hyphen-short-hyphen}
\end{verbatim}

Use the entry count feature.

\begin{verbatim}
\glsenableentrycount
\glssetcategoryattribute{abbreviation}{entrycount}{1}
\end{verbatim}

Provide macros for older glossaries-extra installations.

\begin{verbatim}
\AtBeginDocument{
  \@ifpackageloaded{hyperref}{
    \providecommand*{\glsxtrusefield}[2]{\@gls@entry@field{#1}{#2}}
    \providecommand*{\glsxtrsetfieldifexists}[3]{\glsdoifexists{#1}{#3}}
    \providecommand*{\gGlsXtrSetField}[3]{
      \glsxtrsetfieldifexists{#1}{#2}{% 
        \csgdef{glo@\glsdetoklabel{#1}@#2}{#3}}%
      }
    }
  }
\end{verbatim}

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

\begin{verbatim}
\glssetcategoryattribute{abbreviation}{nohyperfirst}{true}
\renewcommand{\glsdonohyperlink}[2]{{% 
  \glstrprotectlinks\edef\fieldvalue{% 
    \glsxtrusefield{\glslabel}{hastarget}%
  }% 
  \ifdefstring\fieldvalue{true}{#2}{% 
    \gGlsXtrSetField{\glslabel}{hastarget}{true}%
    \glsdohypertarget{#1}{#2}%
  }% 
}{}
\end{verbatim}
Provide for the case that hyperref is not loaded.

```latex
\newcommand{\hep@disable}[1]{%
  @ifpackageloaded{hyperref}{\pdfstringdefDisableCommands{#1}}{}%
}
```

Deactivate hyperrefs if requested.

```latex
\ifhepacronym@hyper
  \glsdisablehyper
\fi
```

\texttt{\begin@sentence} Mark the beginning of a paragraph as if it would follow a full stop using the \texttt{everyhook} package \cite{5}.

```latex
\PassOptionsToPackage{excludeor}{everyhook}
\RequirePackage{everyhook}
\newcommand{\begin@sentence}{1001}
\newcommand{\sentence}{\spacefactor=\begin@sentence}
\hep@disable{\renewcommand{\sentence}{}}
\PushPostHook{par}{{\sentence}}
\gdef{\ttl@case{\leavevmode{\sentence}}}
```

\texttt{\frenchspacing} Adjust the \texttt{\frenchspacing} macro to be compatible with this idea.

```latex
\def{\frenchspacing{\sfcode'\.egin@sentence \sfcode'\?\begin@sentence
  \sfcode'\!\begin@sentence \sfcode'\:\begin@sentence
  \sfcode'\;\@m \sfcode'\,\@m
}}
```

\texttt{\if@begin@of@sentence} Provide a macro checking for the beginning of a sentence by examining the length of the preceding space.

```latex
\newcommand{\if@begin@of@sentence}[2]{\leavevmode\protecting{%
  \ifboolexpr{ test { \ifnumcomp{\spacefactor}{=}{3000}} or%
    test { \ifnumcomp{\spacefactor}{=}{2000}} or%
    test { \ifnumcomp{\spacefactor}{=}{\begin@sentence}}%}
  {#1}{#2}%
}}
```

\texttt{\mathdef} Provide a macro that allows to extend a macro definition into math mode using the \texttt{xparse} package \cite{6}.

```latex
\RequirePackage{xparse}
\ProvideDocumentCommand{\mathdef}{mO{0}m}{%
  \expandafter\let\expandafter\next\csname hep@text\string#1\endcsname=#1
  \expandafter\newcommand\csname hep@math\string#1\endcsname[#2]{#3}
  \DeclareRobustCommand#1{%
    \ifmmode
      \expandafter\let\expandafter\next\csname hep@math\string#1\endcsname
      hep@math\string#1\endcsname%
    \else
```
\texttt{\textbackslash acronym} \texttt{\textbackslash define the \texttt{\textbackslash acronym}(\textasciitilde)[\texttt{\textbackslash typeset abbreviation}]{\textit{abbreviation}}\{\texttt{\textbackslash definition}\}\{\texttt{\textbackslash plural definition}\}} macro using the \texttt{xspace} \cite{7} and \texttt{amstext} \cite{8} packages.

- #1 \texttt{\textbackslash star} for omitting the ‘s’ in the short plural
- #2 optional \texttt{\textbackslash typeset abbreviation}
- #3 \texttt{\textbackslash mandatory abbreviation}
- #4 \texttt{\textbackslash star} for restoring the \TeX\ default for space after text macros
- #5 \texttt{\textbackslash mandatory long form}
- #6 \texttt{\textbackslash optional plural long form}

\texttt{\textbackslash RequirePackage\{xspace\}}
\texttt{\textbackslash RequirePackage\{amstext\}}
\texttt{\texttt{\textbackslash NewDocumentCommand}\{\texttt{\textbackslash acronym}\}\{somsmo\}\{\texttt{\textbackslash newabbreviation}[\texttt{\textbackslash type=\texttt{\textbackslash acronymtype},\texttt{\textbackslash sort=#3,}\texttt{\textbackslash glsshortpluralkey=\IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}},\texttt{\textbackslash longplural=\IfNoValueTF{#6}{#5s}{#6}}]\{\textit{abbreviation}\}{\texttt{\textbackslash IfNoValueTF}\{\texttt{\textbackslash #3}\}{\texttt{\textbackslash #2}\}}\{\texttt{\textbackslash #5}\}]}}

Provide the singular acronym macro.

- \texttt{\textbackslash expandafter\{\texttt{\textbackslash newcommand\{csname\#3\\texttt{\textbackslash endcsname}[1]\}}\}}\%
- \texttt{\texttt{\textbackslash ifglsused}\{\texttt{\textasciitilde}\}{\texttt{\textbackslash cgls(\textit{\texttt{\textbackslash #3}\})}\texttt{\texttt{\textasciitilde}\#1\}}}\{\texttt{\textasciitilde}\texttt{\textbackslash cgls(\textit{\texttt{\textbackslash #3}\})}\}\%\texttt{\textbackslash ifnum}\texttt{\textbackslant\textbackslash glsentrycurrcount(\textit{\texttt{\textbackslash #3}})>1}\texttt{\textbackslash \relax} \texttt{\textbackslash IfBooleanTF}\{\texttt{\#4}\}\{\texttt{\textbackslash \@\textbackslash xspace}\}\%
- \texttt{\texttt{\textbackslash else}\texttt{\textbackslash \@\textbackslash xspace}}
- \texttt{\texttt{\textbackslash fi}}

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

- \texttt{\texttt{\textbackslash hep@disable}\{\texttt{\textbackslash expandafter\textbackslash def\csname\textit{\texttt{\textbackslash endcsname}\}}\}}\%
- \texttt{\texttt{\textbackslash IfNoValueTF}\{\texttt{\#2}\}{\texttt{\#3}\}{\texttt{\#2}\}}\%
- \texttt{\texttt{\textbackslash fi}}

Provide the singular acronym macro in math mode.

- \texttt{\texttt{\textbackslash expandafter\textbackslash mathdef\csname\textit{\texttt{\textbackslash endcsname}\}}\}}%
- \texttt{\texttt{\textbackslash mathinner\{\texttt{\textbackslash text\{\texttt{\textbackslash cglsextrshort(\textit{\texttt{\textbackslash #3}})\}}}\texttt{\textbackslash @\textbackslash gls@increment@currcount(\textit{\texttt{\textbackslash #3}})}\}}\%
- \texttt{\texttt{\textbackslash fi}}

Provide the plural acronym macro.

- \texttt{\texttt{\textbackslash expandafter\textbackslash newcommand\csname\textit{\texttt{\textbackslash endcsname}[1]\}\}}\%
Expand the plural acronym macro in PDF labels.

```latex
\hepdisable{\expandafter\def\csname#3s\endcsname{\IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}}}}%
```

Provide the plural acronym macro in math mode.

```latex
\expandafter\mathdef\csname#3s\endcsname{\mathinner{\text{\glsxtrshortpl{#3}}}}\@gls@increment@currcount{#3}%
```

Provide an enforced long form.

```latex
\expandafter\newcommand\csname#3long\endcsname[1][1]{\IfNoValueTF{#6}{#5s}{#6}}%
```

Ensure that it works in PDFs.

```latex
\hepdisable{\expandafter\def\csname#3long\endcsname{#5}}%
```

Provide an enforced long plural form.

```latex
\expandafter\newcommand\csname#3slong\endcsname[1][1]{\IfNoValueTF{#6}{#5s}{#6}}%
```

Ensure that it works in PDFs.

```latex
\hepdisable{\expandafter\def\csname#3slong\endcsname{%}
```

End of \acronym.

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

```latex\NewDocumentCommand{\shortacronym}{somsmo}{\expandafter\newcommand\csname#3\endcsname[1][1]{\IfNoValueTF{#6}{#5s}{#6}}%}
```

Provide the singular acronym macro.

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

\end{document}
Expand the singular acronym macro in PDF labels.

\texttt{\hep@disable{\expandafter{\def\csname#3\endcsname{\IfNoValueTF{#2}{#3}{#2}}}}}

Provide the singular acronym macro in math mode.

\texttt{\expandafter{\mathdef\csname#3\endcsname{\mathinner{\text{\IfNoValueTF{#2}{#3}{#2}}}}}}

Provide the plural acronym macro.

\texttt{\expandafter{\newcommand\csname#3s\endcsname{\IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}}}{\@xspace}##1}}

Expand the plural acronym macro in PDF labels.

\texttt{\hep@disable{\expandafter{\def\csname#3s\endcsname{\IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}}}}}}

Provide the plural acronym macro in math mode.

\texttt{\expandafter{\mathdef\csname#3s\endcsname{\text{\IfBooleanTF{#1}{#3}{\IfNoValueTF{#2}{#3s}{#2s}}}}}}

Ensure that long form also exists.

\texttt{\expandafter{\let\csname#3long\expandafter\endcsname\csname#3\endcsname\expandafter\let\csname#3slong\expandafter\endcsname\csname#3s\endcsname}}

\texttt{End of \shoracronym.}

\texttt{\longacronym} The \texttt{\longacronym} never shows the abbreviated form.

\texttt{\NewDocumentCommand{\longacronym}{somsmo}{}}

Provide the singular acronym macro.

\texttt{\expandafter{\newcommand\csname#3\endcsname{\if@begin@of@sentence{\MakeUppercase#5}{#5}\IfBooleanTF{#4}{\@xspace}##1}}}

Expand the singular acronym macro in PDF labels.

\texttt{\hep@disable{\expandafter{\def\csname#3\endcsname{#5}}}}
Provide the plural acronym macro.

\expandafter\newcommand\csname#3s\endcsname[1]\[1\]{%
\If@begin@of@sentence{%\IfNoValueTF{#6}{\MakeUppercase#5s}{\MakeUppercase#6}%%
\IfNoValueTF{#6}{#5s}{#6}}\IfBooleanTF{#4}{}{\@xspace}##1%
}

Expand the plural acronym macro in PDF labels.

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

Ensure that long form also exists.

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

End of \longacronym.

\acronymalternative Allow for alternative long text in abbreviation.

\NewDocumentCommand{\acronymalternative}{mmsm}{%
Store it in the useri field.
\GlsXtrSetField{#1}{useri}{#4}%
Define the acronym
\expandafter\newcommand\csname#2\endcsname[1]\[1\]{%
Redirect the relevant macros to the useri field.
\let\hep@Glsaccesslong\Glsaccesslong%
\let\Glsaccesslong\Glsuseri%
\let\Glsaccesslong\Glsuseri%
Execute abbreviation macros.
\if@begin@of@sentence{%\ifglsused{#1}{\cgls{#1}[##1]}{\cGls{#1}[##1]}{\cgls{#1}[##1]}%
{\cgls{#1}[##1]}%
Undo the redirection.
\let\Glsaccesslong\hep@Glsaccesslong%
\let\Glsaccesslong\hep@Glsaccesslong%


Spacing code.

```
174  \ifnum\glsentrycurrcount{#1}>1\relax%
175  IfBooleanTF{#3}{\@\xspace}%
176  \else\@\xspace\fi%
177 }
```

Redirect PDF code to original acronym.

```
178  \hep@disable{\expandafter\def\csname#2\endcsname{%
179     \csname#1\endcsname }%}
180 }
```

Redirect math macro to original acronym.

```
181  \expandafter\mathdef\csname#2\endcsname{%
182     \mathinner{\text{\glsxtrshort{#1}}}{\@\xspace}%
183 }
```

Provie long version of acronym.

```
184  \expandafter\newcommand\csname#2long\endcsname[1][1]{%}
```

Redirect relevant macros.

```
185  \let\hep@glslsentrydesc\glsentrydesc%
186  \let\hep@Glsentrydesc\Glsentrydesc%
187  \renewrobustcmd*{\glsentrydesc}{1}{\@\xspace}%
188  \renewrobustcmd*{\Glsentrydesc}{1}{\@\xspace}%
```

Execute relevant macro.

```
189  \if@begin@of@sentence{\Glsdesc*{#1}[##1]}{\glsdesc*{#1}[##1]}%
190  \IfBooleanTF{#3}{\@\xspace}%
```

Undo redefinition.

```
191  \let\glsentrydesc\hep@glslsentrydesc%
192  \let\Glsentrydesc\hep@Glsentrydesc%
193 }
```

Provie PDF code.

```
194  \hep@disable{%
195  \expandafter\def\csname#2\endcsname{%
196     \Glsentrydesc{1}{\@\xspace}%
197 }%
198 }%
199 }
```

Silence warning if no acronyms are defined.

```
200  \renewcommand*{\@\xspace}{\immediate\write@auxout{%
201     \string\providecommand*{\string\glsentrycount}{2}{}%}
```
Add two macros for acronym management.
\resetacronym \dummyacronym

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

abstract Adjust the abstract environment to reset all acronym counters.

@ifundefined{endabstract}{}{\let\end@hep@abstract\endabstract%
\renewcommand\endabstract{\glsresetall\end@hep@abstract}}

\let\hep@table@of@contents\tableofcontents
\renewcommand\tableofcontents{\glsunsetall\hep@table@of@contents\glsresetall}

\let\hep@list@of@figures\listoffigures
\renewcommand\listoffigures{\glsunsetall\hep@list@of@figures\glsresetall}

\let\hep@list@of@tables\listoftables
\renewcommand\listoftables{\glsunsetall\hep@list@of@tables\glsresetall}

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

NewDocumentCommand{\acrodicts}{om}{%
\IfNoValueTF{#1}{
\newglossary{#2}{#2.in}{#2.out}{#2}%
\renewcommand{\acronymtype}{#2}%
}{
\newglossary{#1}{#1.in}{#1.out}{#2}%
\renewcommand{\acronymtype}{#1}%
}
\documentclass{article}
\usepackage{hyperref}
\usepackage{hep-acronym}
\usepackage{titlesec}
\acronym{PDF}{portable document format}
\acronym{URL}{uniform resource locator}
\acronym{CM}{computer modern}
\acronym{LM}{latin modern}
\begin{document}
\PDF \emph{(Capitalised at beginning of paragraph)}
\PDF \emph{(Second appearance is shortened)}.
\URLs \emph{(Capitalised plural form at beginning of sentence)}
$\URL$ \emph{(Second appearance is forced to be always short)}
\LM \emph{(Not capitalised in middle of sentence)}
\CM \emph{(Second appearance is shorted)}.
$\CMS$ \emph{(Enforce short form)}
\CM \emph{(then extend second appearance)}
\URLLong \emph{(enforce long form)}
\section{PDF long table of contents is not broken}
\end{document}

\section{Readme}

# The ‘hep-acronym’ package

An acronym extension for glossaries

## Introduction

The ‘hep-acronym’ package provides an acronym macro based on the ‘glossaries’ package. It can be loaded using ‘\usepackage{hep-acronym}’. 
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</readme>

### References