

The HEP-REFERENCE package*

Adjustments of standard references, footnotes, and citations

Jan Hajer[†]

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Abstract

The `HEP-REFERENCE` package collects small reference-related adjustments for high-energy physics documents. It loads and configures `HYPERREF`, `CLEVEREF`, and `FOOTNOTEBACKREF`, suppresses unwanted line breaks before references and citations, adds backlinking footnotes, sets useful PDF metadata from the document title data, and provides helper macros for text labels, subobject references, and named equation-like references.

1 Introduction

Load the package with `\usepackage{hep-reference}`.

The `HYPERREF` package [1] is loaded with hidden, breakable links and Unicode-aware PDF strings. The package also clears the PDF creator and producer fields and disables fragile formatting commands in bookmarks. Before `\maketitle` is executed, the PDF title is filled from `\title` and, if present, the subtitle defined by `HEP-TITLE`; keywords from `HEP-TITLE` are passed to the PDF metadata as well. If `HEP-TITLE` is loaded, label-only references to affiliations are formatted as superscript lists and ranges on the title page.

`\cref` References are extended with the `CLEVEREF` package [2], loaded with the `noabbrev` and `nameinlink` options. This allows `\cref{<key>}` to write context-sensitive references such as ‘figure 1’, and `\cref{<key1,<key2>}` to combine multiple references. The final conjunction is set to a comma followed by a non-breaking ‘and’, enumerated items from `enumerate` and `inlinelist` are named ‘point’ and ‘points’, and `\labelcrefrange{<key1>}{<key2>}` provides the corresponding range command for label-only references.

`\eqcrefname` The `\eqcrefname{<counter>}{<singular>}{<plural>}` macro declares a `CLEVEREF` name for an equation-like counter and formats label-only references to that counter in parentheses. If the optional plural is omitted, the plural form is built by appending ‘s’ to the singular name.

`\ref` The `\ref`, `\eqref`, `\subref`, and `\cite` commands are adjusted so that a preceding inter-word space is converted to a non-breaking space. This avoids line starts such as ‘[1]’ or ‘(2)’ without requiring repeated manual uses of `~\cite{<key>}`. When `AMSMATH` is loaded, `\eqref` is routed through `\labelcref`. When `SUBCAPTION` is loaded, `\subref` keeps the same no-break behaviour.

`\cite` If `SUBCAPTION` is loaded, the package additionally defines `\subcref{<key>}`, which applies `\cref` to the underlying subobject label.

`\footnote` Footnotes are adjusted to swallow white space before the footnote mark and at the beginning of the footnote text. They also receive backlinks to the text location from which they were called.

*This document corresponds to `HEP-REFERENCE` v1.5.

[†]jan.hajer@tecnico.ulisboa.pt

`\textlabel` The `\textlabel[reference format]{key}[text format]{text}` macro creates a hyperlink target and a label for a piece of text while also printing the text. The first optional argument formats the text stored in the label and the second optional argument formats the printed text.

`\usecommand` The `\usecommand[number of arguments]{definition}` helper defines a temporary command with the requested number of arguments and immediately applies it to the following arguments.

<*package>

A Implementation

Load the HYPERREF package [1] enable Unicode encoding and hide links.

```

1 \RequirePackage{hyperref}
2 \hypersetup{
3   pdfencoding=auto, psdextra,
4   linktoc=all, hidelinks, breaklinks=true,
5   pdfcreator={}, pdfproducer={}
6 }
7 \AtBeginDocument{\@ifpackageloaded{doc}{\hypersetup{hidelinks}}{}}
```

Ensure that unnecessary information is suppressed.

```

8 \pdfstringdefDisableCommands{\def\varepsilon{\textepsilon}}
9 \pdfstringdefDisableCommands{\def\to{\textrightarrow}}
10 \AtBeginDocument{
11   \pdfstringdefDisableCommands{\let\ensuremath@gobble}
12   \pdfstringdefDisableCommands{\let\mathsurround@gobble}
13   \pdfstringdefDisableCommands{\let\unskip@gobble}
14   \pdfstringdefDisableCommands{\let\thanks@gobble}
15   \pdfstringdefDisableCommands{\let\footnote@gobble}
16   \pdfstringdefDisableCommands{\let\\\@gobble}
17 }
```

Set the PDF meta data according to the paper information

```

18 \NewDocumentCommand{\subject}{m}{\def\hep@subject{#1}}
19 \AddToHook{cmd/maketitle/before}[hep-reference/pdfinfo]{%
20   \@ifundefined{hep@sub@title}{%
21     \hypersetup{pdftitle={\@title}}}%
22   }{%
23     \hypersetup{pdftitle={\@title: \hep@sub@title}}}%
24   }%
25   \@ifundefined{hep@key@words}{\{}{%
26     \hypersetup{pdfkeywords={\hep@key@words}}}%
27   }%
28   \@ifundefined{hep@subject}{\{}{\hypersetup{pdfsubject=\hep@subject}}}%
29 }
```

A.1 Footnotes

Place a hyperlink from the footnote back to its referencing label using the FOOTNOTEBACKREF package [3].

```
30 \def\BackrefFootnoteTag{}
31 \RequirePackage{footnotebackref}
```

`\footnote` Ensure that no spaces appear before the footmark or at the beginning of the footnote.

```
32 \let\@foot@note\footnote
33 \renewcommand*\footnote[1]{\unskip\@foot@note{\ignorespaces#1}}
```

A.2 References

`\ref` Adjust `\ref{<key>}` in order to prevent preceding line breaks.

```
34 \AtBeginDocument{
35   \let\hep@ref\ref
36   \renewcommand*\ref{\no@break@before\hep@ref}
37 }
```

`\eqref` Adjust `\eqref{<key>}` from the AMSMATH package in order to prevent preceding line breaks.

```
38 \AtBeginDocument{\@ifpackageloaded{amsmath}{%
39   \renewcommand*\eqref{\no@break@before\labelcref}%
40 }}{}}
```

`\usecommand` Define the `\usecommand` macro providing an anonymous function.

```
41 \providecommand*\hep@use@command{}
42 \newcommand*\usecommand[2][1]{%
43   \renewcommand*\hep@use@command[#1]{#2}\hep@use@command%
44 }
```

`\textlabel` Define the `\textlabel` macro allowing to link to a piece of text using the ETOOLBOX package [4].

```
45 \RequirePackage{etoolbox}
46 \NewDocumentCommand\textlabel{0{}m0{}m}{%
47   \protected@write\@auxout{}{%
48     \string\newlabel{#2}{%
49       {\hspace{-4pt}\protecting{#1{#4}}}{\thepage}{#4}{#2}{}}%
50   }%
51 }%
52 \hypertarget{#2}{}%
53 {#3{#4}}%
54 }
```

`\cref` Improve reference using the CLEVEREF package [2].

```
55 \PassOptionsToPackage{noabbrev, nameinlink}{cleveref}
56 \RequirePackage{cleveref}
```

```

57 \newcommand*\creflastconjunction}{, and\nobreakspace}
58 \crefname{enumi}{point}{points}
59 \crefname{inlinelisti}{point}{points}

```

`\no@break@before` Define a macro able to prevent line breaks.

```

60 \newcommand*\no@break@before{%
61   \relax\ifvmode\else%
62     \ifhmode%
63       \ifdim\lastskip > 0pt%
64         \relax\unskip\nobreakspace%
65       \fi%
66     \fi%
67   \fi%
68 }

```

`\subref` Adjust `\subref{<key>}` from the SUBCAPTION package in order to prevent preceding line breaks.

```

69 \AtBeginDocument{\@ifpackageloaded{subcaption}{%
70   \let\hep@subref\subref
71   \renewcommand*\subref{\no@break@before\hep@subref}
72   \renewcommand*\subcaption@ref[2]{\begingroup%
73     \caption@setoptions{sub}%
74     \subcaption@reffmt\p@subref{\hep@ref#1{sub@#2}}}%
75   \endgroup}

```

`\subcref` Provide the `\subcref` macro.

```

76 \newcommand*\subcref[1]{\cref{sub@#1}}
77 }{}

```

`\eqcrefname` Define the `\eqcrefname` macro for named equation types.

```

78 \NewDocumentCommand{\eqcrefname}{mmo}{
79   \crefname{#1}{#2}{\IfValueTF{#3}{#3}{#2s}}
80   \creflabelformat{#1}{(##2##1##3)}
81 }

```

`\labelcrefrange` Define the missing `\labelcrefrange{<key1>}{<key2>}` macro.

```

82 \DeclareRobustCommand{\labelcrefrange}[2]{%
83   \@crefrangenostar{labelcref}{#1}{#2}%
84 }

```

Adjust the title page

```

85 \AtBeginDocument{\@ifpackageloaded{hep-title}{%
86   \labelcrefmultiformat{affiliation}{#2#1#3}{%
87     \textsuperscript,#2#1#3}{\textsuperscript,#2#1#3%
88   }{%
89     \textsuperscript,#2#1#3%
90   }

```

```

91 \labelcrefrangeformat{affiliation}{#3#1#4\textsuperscript{--}#5#2#6}
92 }{}}

```

A.3 Citations

`\cite` Adjust `\cite{<key>}` in order to prevent preceding line breaks.

```

93 \let\hep@cite\cite
94 \renewcommand*\cite{\no@break@before\hep@cite}

```

`</package>`

B Tests

`<*test>`

```

95 \documentclass{article}
96
97 \usepackage{amsmath}
98 \usepackage{hep-reference}
99 \usepackage{parskip}
100 \providecommand*\cref{section \ref}
101
102 \begin{document}
103
104 \section{Section} \label{sec:Section}
105
106 Lorem ipsum dolor sit amet, consectetur adipiscing elit.
107 Etiam lobortis section \ref{sec:Section}
108
109 Lorem ipsum dolor sit amet, consectetur adipiscing elit.
110 Etiam lobortis \cref{sec:Section}
111
112 Lorem ipsum dolor sit amet, consectetur adipiscing elit.
113 Etiam loborti equation \eqref{eq:Equation}
114
115 Lorem ipsum dolor sit amet, consectetur adipiscing elit.
116 Etiam loborti reference \cite{cite}
117
118 Lorem ipsum dolor sit amet, consectetur adipiscing elit.
119 \footnote{
120 Lorem ipsum dolor sit amet, consectetur adipiscing elit.
121 }
122
123 \begin{equation} \label{eq:Equation}
124 E=mc^2
125 \end{equation}
126
127
128 \begin{thebibliography}{1}

```

```

129 \bibitem{cite} reference
130 \end{thebibliography}
131
132 \end{document}

```

</test>

C Readme

<*readme>

```

133 # The 'hep-reference' package
134
135 Reference, citation, and footnote helpers
136
137 ## Introduction
138
139 The 'hep-reference' package loads and configures 'hyperref',
140 'cleveref', and 'footnotebackref' for high-energy physics documents.
141 It hides and breaks links, fills PDF title and keyword metadata from the
142 document title data, prevents unwanted line breaks before references and
143 citations, adds footnote backlinks, and provides helper macros for text
144 labels, subobject references, and named equation-like references.
145
146 Load the package with '\usepackage{hep-reference}'.
147
148 ## Author
149
150 Jan Hajer
151
152 ## License
153
154 This file may be distributed and/or modified under the conditions of the
155 'LaTeX' Project Public License, either version 1.3c of this license or
156 (at your option) any later version. The latest version of this license is
157 in 'http://www.latex-project.org/lppl.txt' and version 1.3c or later is
158 part of all distributions of LaTeX version 2005/12/01 or later.

```

</readme>

References

- [1] *L^AT_EX 3 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.
- [2] T. Cubitt. 'The cleveref package: Intelligent cross-referencing' (2006). CTAN: cleveref. URL: dr-qubit.org/cleveref.
- [3] H. Lange. 'The footnotebackref package: Back-references from footnotes' (2012). CTAN: footnotebackref.
- [4] P. Lehman and J. Wright. 'The etoolbox package: e-_T_EX tools for L^AT_EX' (2007). CTAN: etoolbox.

Change History

v1.0 General: Provided hidden hyperref links, PDF metadata setup, footnote backlinks, non-breaking references and citations, cleveref integration, subreference helpers, and title-page affiliation reference formats. 1	namespaced the temporary command helper, loaded etoolbox for textlabel, and refreshed the README. 1
v1.1 General: Rescoped the package metadata and documentation, added keyword metadata, added usecommand and textlabel, and made the amsmath, subcaption, and hep-title patches conditional on the corresponding packages. 1	v1.3 General: Updated the release metadata for the 2024 package version. 1
v1.2 General: Updated documentation formatting and package metadata, made PDF titles subtitle-aware,	v1.4 General: Applied starred command definitions consistently, guarded missing titles in PDF metadata, and stopped setting the PDF author from the raw author macro. 1
	v1.5 General: Raised the LaTeX format requirement, bumped release metadata, moved PDF metadata setup to the maketitle hook, and expanded the documentation and README to cover the package interface. 1