

The footnoterange package

H.-Martin Münch
<Martin.Muench at Uni-Bonn.de>

2026-01-19 v1.1c

Abstract

This package provides the environments `footnoterange` and `footnoterange*`. Multiple footnotes inside these environments are not referenced as e.g. “^{1 2 3}” but as “¹⁻³”, i.e. the range (from first to last referred footnote at that place) is given. Depending on loading of `hyperref` and use of its `hyperfootnotes`-option the references are hyperlinked. (References to footnotes in `footnoterange*` are never hyperlinked.) The example additionally demonstrates how other footnote-number-representations (`\Roman`, `\roman`, `\Alph`, `\alph`, `\fnsymbol`) are possible, especially for more footnotes than letters in the alphabet or symbols in `fnsymbol`. Creation of smaller link boxes for footnotes is explained in the documentation.

Disclaimer for web links: The author is not responsible for any contents referred to in this work unless having full knowledge of illegal contents. If any damage occurs by the use of information presented there, only the author of the respective pages might be liable, not the one who has referred to those pages.

Contents

1	Introduction	2
2	Usage	2
3	Alternatives	3
4	Example	4
5	The implementation	7
6	Installation	11
6.1	Downloads	11
6.2	Package, unpacking TDS	12
6.3	Refresh file name databases	12
6.4	Some details for the interested	12
6.5	Compiling the example	13
7	Acknowledgements	13
8	History	13
	[2011/02/11 v0.1ff.]	13
	[2012/02/17 v1.0a]	13
	[2018/10/15 v1.0b]	13
	[2019/11/24 v1.0c]	13
	[2023-02-25 v1.1a]	14
	[2025-01-27 v1.1b]	14
	[2026-01-19 v1.1c]	14

1 Introduction

This L^AT_EX package provides the environments `footnoterange` and `footnoterange*`. Multiple footnotes inside these environments are not referenced as e.g. “^{1 2 3}” but as “^{1–3}”, i.e. the range (from first to last referred footnote at that place) is given. Depending on loading of `hyperref` and use of its `hyperfootnotes`-option the references are hyperlinked. References to footnotes in `footnoterange*` are never hyperlinked.

`\footnotemark\footnotetext` instead of `\footnote` is not supported inside `footnoterange` and `footnoterange*` environments.

The example additionally demonstrates how other footnote-number-representations (`\Roman`, `\roman`, `\Alph`, `\alph`, `\fnsymbol`) are possible, especially for more footnotes than letters in the alphabet or symbols in `fnsymbol`.

Creation of smaller link boxes for footnotes is explained in the following section Usage.

2 Usage

Just load the package placing

```
\usepackage{footnoterange}
```

in the preamble of your L^AT_EX 2_ε source file. There are no options to be used. The package should be loaded after `hyperref` (if that package is used) and after any other package redefining footnotes. Usage of the `footnoterange` (or `footnoterange*`) environment is simple: Just encapsulate the footnotes, which shall be referred as range instead of referencing as single ones (see the example file).

About hyperlinks:

Footnote-references in a `footnoterange*` environment are never hyperlinked.

Footnote-references in a `footnoterange` environment may be hyperlinked:

- When the `hyperref` package is not loaded, they are not hyperlinked (naturally).
- When the `hyperref` package is loaded, it depends on the `hyperfootnotes` option of the `hyperref` package:
 - With `hyperfootnotes=true`, the references are hyperlinked.
 - With `hyperfootnotes=false`, the references are not hyperlinked.

`\footnotes` inside of the `footnoterange/footnoterange*` environment can use the optional parameter, i.e. `\footnote[42]{text}` even if this is the third footnote. When giving ranges as reference, this does not seem to be such a good idea, if this is not done consistently (i.e. footnotes [42], [43], [44] resulting in 42–44 is OK, but [42] (original 2), unchanged 3, unchanged 4 resulting in 42–4 is confusing). A warning about these changed footnotemarks is written into the `.log`-file.

When there is only a single footnote in a `footnoterange` environment, this does not produce some reference like “^{7–7}”, but only one footnotemark is used automatically. Because it is strange to use a `footnoterange` environment without a range of footnotes, an info is written into the `.log`-file about this.

The usage of other footnote-number-representations (e.g. `\Roman`, `\roman`, `\Alph`, `\alph`, `\fnsymbol`) is also possible, but two things must be taken into account: The number of footnote references is restricted (for example with `\Alph` only references A to Z are possible), which can be fixed e.g. with the <https://ctan.org/pkg/alphalph> package (see `footnoterange-example`), and references to footnote-symbol-ranges (`\fnsymbol`) might not be very clear.

The link boxes for the footnotes span the line-height. If smaller boxes are wanted, this can be accomplished by:

- making a copy of `footnoterange.sty`
- renaming the copy to `footnoterangesb.sty`
- in `\newcommand{\fnr@ifhyperfnrA}{...}` and `\newcommand{\fnr@ifhyperfnrN}{...}` removing the `\hyperref[fnr:\arabic\@mpfn]` and both `\hyperref[fnr:\fnr@first]` (while *not* removing their arguments!)
- replacing the first `\ref*` in `\newcommand{\fnr@ifhyperfnrA}{...}` and the first and second `\ref*` in `\newcommand{\fnr@ifhyperfnrN}{...}` by `\ref` (and saving the `.sty` file)
- moving the `footnoterangesb.sty` into your private `texmf-local` tree
- refreshing the file name databases, for example, T_EX Live users run `texhash` or `mktexlsr`.
- using `\usepackage{footnoterangesb}` instead of `\usepackage{footnoterange}` in your document.
- Regular footnote(links) are *not* changed by this!

Options

The `footnoterange` package takes no options.

3 Alternatives

The `fnpct` (<https://ctan.org/pkg/fnpct>), 2021-01-21, v1.0, and newer *supports ranges for multiple footnotes natively*. For older versions the setting of multiple footnotes (`\multfootnote`), suppressing of footnotemarks (`*`), and customizing the multi-footnote-separator (`\setfnpct{mult-fn-sep={ something }}`) can be combined with stepping of the footnote-counter to give a `footnoterange`:

```
\documentclass{article}
\usepackage{hyperref}
\usepackage{fnpct}
\begin{document}
The three little pigs built their houses
out of straw\footnote{not to be confused with hay},
sticks\footnote{or lumber according to some sources}
and bricks%
\makeatletter%
\setfnpct{mult-fn-sep={--}}%
\multfootnote{probably fired clay bricks\addtocounter\@mpfn{+1}};%
*or something else;%
what do I know}. %
\makeatother%
\end{document}
```

If you programmed or found another alternative, which is available at <https://www.CTAN.org/>, please send an e-mail to me with the name, location at CTAN, and a short notice, and I will probably list it here.

4 Example

```
1 (*example)
2 \documentclass[british]{article}[2025/01/22]% v1.4n Standard LaTeX document class
3 \usepackage[extension=pdf,%
4 plainpages=false,%
5 pdfpagelabels=true,%
6 hyperindex=false,%
7 pdflang={en},%
8 pdftitle={footnoterange package example},%
9 pdfauthor={H.-Martin Muench},%
10 pdfsubject={Example for the footnoterange package},%
11 pdfkeywords={LaTeX, footnoterange},%
12 pdfview=FitH,%
13 pdfstartview=FitH,%
14 pdfpagelayout=OneColumn,%
15 hyperfootnotes=true%
16 ]{hyperref}[2025-07-12]% v7.01o Hypertext links for LaTeX
17
18 \usepackage{footnoterange}[2026-01-19]% v1.1c References to ranges of footnotes (HMM)
19
20 \IfPackageLoadedF{hyperref}{\usepackage{url}}
21
22 % For footnotes labelled after Z, z, and ¶ (Pilcrow character):
23 \usepackage[alphalph][2019/12/09]% v2.6 Convert numbers to letters (H0)
24 \makeatletter
25 \NewCommandCopy{\fnrfnsymbol}{\@fnrsymbol}
26 \makeatother
27 \newalphalph{\fnrsymbolfnr}[mult]{\fnrfnsymbol}{5}
28
29 \listfiles
30 \begin{document}
31 \pagenumbering{arabic}
32 \section*{Example for footnoterange}
33
34 This example demonstrates the use of package\newline
35 \textsf{footnoterange}, v1.1c as of 2026-01-19,\newline
36 references to ranges of footnotes (HMM).\newline
37 The package does not use options.\newline
38 \verb|footnoterange-example.pdf| can be created by\newline
39 \verb|pdflatex footnoterange-example.tex|,\newline
40 and \verb|footnoterange-example.tex| can be created by\newline
41 \verb|tex footnoterange.dtx|.\newline
42 \verb|footnoterange.dtx| is at
43 \url{https://ctan.org/pkg/footnoterange}.\newline
44
45 \noindent For more details please see the documentation!
46
47 This\footnote{Lorem} text bears a multiplicity of footnotes.
48 Because the \verb|hyperref| package is used with option
49 \verb|hyperfootnotes=true|, the footnotes
50 \begin{footnoterange}
51 \footnote{ipsum}%
52 \footnote{dolor}%
53 \footnote{sit}%
54 \footnote{amet,}%
55 \footnote{consectetur}%
56 \footnote{adipisicing}%
57 \footnote{elit,}%
58 \footnote{sed}%
59 \end{footnoterange}
60 are hyperlinked.\footnote{do eiusmod tempor incididunt %
61 ut labore et dolore magna aliqua.} Using
```

```

62 \verb|hyperfootnotes=false| or not using \verb|hyperref|
63 will remove the hyperlinks to the footnotes.\medskip
64
65 This text also bears a multiplicity of footnotes,
66 but due to the use of the starred
67 \begin{footnoterange*}
68 \footnote{Ut enim}%
69 \footnote{ad minim veniam,}%
70 \footnote{quis}%
71 \footnote{nostrud}%
72 \footnote{exercitation}%
73 \footnote{ullamco}%
74 \footnote{laboris}%
75 \footnote{nisi}%
76 \end{footnoterange*}
77 form of the environment they are not
78 hyperlinked.\footnote{ut aliquip ex ea commodo consequat.}
79 \medskip
80
81 The use of the optional parameter for footnotes%
82 \begin{footnoterange}%
83 \footnote[101]{Duis}%
84 \footnote[102]{aute}%
85 \footnote[103]{irure}%
86 \footnote[104]{dolor}%
87 \footnote[105]{in reprehenderit}%
88 \end{footnoterange}%
89 {} is also possible, but should be used consistently.
90 \pagebreak
91
92 When there is only one footnote
93 \begin{footnoterange}
94 \footnote{a single footnote}
95 \end{footnoterange}
96 in the \verb|footnoterange| environment, only one
97 footnotemark is used and an info is written into the
98 \verb|log|-file.
99
100 \bigskip
101
102 The usage of other footnote-number-representations
103 (e.\,g.\,~\verb|\Roman|
104 \renewcommand{\thefootnote}{\Roman{footnote}}%
105 \begin{footnoterange}%
106 \footnote{Nam arcu libero,}%
107 \footnote{nonummy eget,}%
108 \footnote{consectetuer id,}%
109 \footnote{vulputate a,}%
110 \footnote{magna.}%
111 \end{footnoterange}%
112 , \verb|\roman|
113 \renewcommand{\thefootnote}{\roman{footnote}}%
114 \begin{footnoterange}%
115 \footnote{in voluptate}%
116 \footnote{velit}%
117 \footnote{esse}%
118 \footnote{cillum}%
119 \footnote{dolore}%
120 \end{footnoterange}%

```

```

121 , \verb|\Alph|%
122 \renewcommand*{\thefootnote}{\AlphAlph{\value{footnote}}}%
123 \begin{footnoterange}%
124 \footnote{eu fugiat}%
125 \footnote{nulla}%
126 \footnote{pariatur.}%
127 \footnote{Excepteur}%
128 \footnote{sint}%
129 \end{footnoterange}%
130 , \verb|\alph|%
131 \renewcommand{\thefootnote}{\alphalph{\value{footnote}}}%
132 \begin{footnoterange}%
133 \footnote{occaecat}%
134 \footnote{cupidatat}%
135 \footnote{non proident,}%
136 \footnote{sunt}%
137 \footnote{in culpa}%
138 \end{footnoterange}%
139 , \verb|\fnsymbol|%
140 \renewcommand{\thefootnote}{\protect\fnsymbolfnr{\arabic{footnote}}}%
141 \begin{footnoterange}%
142 \footnote{qui officia}%
143 \footnote{deserunt}%
144 \footnote{mollit}%
145 \footnote{anim}%
146 \footnote{id est laborum.}%
147 \end{footnoterange}%
148 ) is also possible, but two things must be taken into account:
149
150 \begin{enumerate}
151 \item By default the number of footnote references is restricted
152   (for example with \verb|\Alph| only references A to Z are possible),
153   which needs to be fixed. In this example the
154   \IfPackageLoadedTF{hyperref}{%
155     \href{https://ctan.org/pkg/alphalph}{\texttt{alphalph} package} %
156   }{\texttt{alphalph} package, \url{https://ctan.org/pkg/alphalph}, %
157   }%
158   is used for this purpose.
159 \item References to footnote-symbol-ranges (\verb|\fnsymbol|)
160   might not be very clear. For example, if the symbols %
161   \newcounter{fnrxcnt}%
162   \setcounter{fnrxcnt}{1}%
163   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 1
164   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 2
165   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 3
166   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 4
167   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 5
168   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 6
169   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 7
170   {} are used, %
171   \setcounter{fnrxcnt}{2}\fnsymbolfnr{\value{fnrxcnt}}--%
172   \setcounter{fnrxcnt}{7}\fnsymbolfnr{\value{fnrxcnt}} %
173   means second to seventh footnote.\par%
174   But if %
175   \newalphalph{\fnsymbolfnr}[mult]{\fnrnfnsymbol}{6}%
176   \setcounter{fnrxcnt}{1}%
177   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 1
178   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 2
179   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 3
180   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 4
181   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 5
182   \fnsymbolfnr{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 6

```

```

183 \fnsymbolfnri{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 7
184 \fnsymbolfnri{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 8
185 {} are used, %
186 \setcounter{fnrxcnt}{2}\fnsymbolfnri{\value{fnrxcnt}}--%
187 \setcounter{fnrxcnt}{8}\fnsymbolfnri{\value{fnrxcnt}} %
188 means second to eighth footnote.\par%
189 And if %
190 \newalphalph{\fnsymbolfnrx}[mult]{\fnrfnsymbol}{3}%
191 \setcounter{fnrxcnt}{1}%
192 \fnsymbolfnrx{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 1
193 \fnsymbolfnrx{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 2
194 \fnsymbolfnrx{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 3
195 \fnsymbolfnrx{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 4
196 \fnsymbolfnrx{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 5
197 \fnsymbolfnrx{\value{fnrxcnt}}\stepcounter{fnrxcnt}% 6
198 {} are used, %
199 \setcounter{fnrxcnt}{2}\fnsymbolfnrx{\value{fnrxcnt}}--%
200 \setcounter{fnrxcnt}{5}\fnsymbolfnrx{\value{fnrxcnt}} %
201 means second to fifth footnote.%
202 \end{enumerate}
203
204 \newpage
205
206 The \texttt{Lorem ipsum} text for the footnotes was taken from
207 \url{https://www.lipsum.com/}, where as original source
208 sections~1.10.32 and 1.10.33 of
209 \textquotedblleft de Finibus Bonorum et Malorum\textquotedblright{}
210 by \textsc{Cicero}, written in 45~BCE, is given.
211 \end{document}
212 \end{example}

```

5 The implementation

We start off by checking that we are loading into L^AT_EX 2_ε and announcing the name and version of this package.

```

213 (*package)
214 \NeedsTeXFormat{LaTeX2e}[2024/11/01]
215 \ProvidesPackage{footnoterange}[2026-01-19 v1.1c %
216 References to ranges of footnotes (HMM)]
217 %% Provides the footnoterange and footnoterange* environments
218 %% to refer to ranges of footnotes.
219
220 \@ifl@t@r\fmtversion{2024/11/01}{% would have understood
221 % \IfFormatAtLeastTF{2024-11-01}{<true code>}{<false code>}
222 }{\PackageError{footnoterange}{%
223     Newer LaTeX format needed or older footnoterange package%
224     }{Needed LaTeX format version: 2024-11-01 or newer.\MessageBreak%
225     Found\space\space LaTeX format version: \fmtversion.\MessageBreak%
226     Please update your TeX distribution.%
227     }
228 }
229

```

We use `\ifHy@hyperfootnotes ... \else ... \fi`, but when the `hyperref` package has not been loaded, `\ifHy@hyperfootnotes` is not defined, and L^AT_EX relates the `\else` and/or `\fi` (wrongly) to other `\ifs` or groups. Therefore the `\ifHy@hyperfootnotes` are placed in their own commands, which are not looked at when the `hyperref` package has not been loaded. With `\DocumentMetadata` there is no `Hfootnote` counter.

`\fnr@ifhyperrfn`

```
230 \newcommand{\fnr@ifhyperrfn}{%
231   \ifHy@hyperfootnotes% option hyperfootnotes=true
232   \IfDocumentMetadataF{\addtocounter{Hfootnote}{+1}}%
233   % Code from the hyperref package
234   \global\let\Hy@saved@currentHref\@currentHref%
235   \hyper@makecurrent{Hfootnote}%
236   \global\let\Hy@footnote@currentHref\@currentHref%
237   \global\let\@currentHref\Hy@saved@currentHref%
238   % End of code from the hyperref package
239   \fi%
240 }
241
```

`\fnr@rangefootnote` The `\fnr@rangefootnote` is the internal replacement for the original `\footnote` command inside of a `footnoterange` environment.

```
242 \newcommand{\fnr@rangefootnote}[2][\empty]{%
    #1 contains the optional argument, which is predefined as \empty.
243   \nolinebreak%
244   % no \footnotemark here
245   \addtocounter{\mpfn}{+1}%
246   \IfPackageLoadedT{hyperref}{\fnr@ifhyperrfn}%

```

See the explanation before the declaration of the `\fnr@ifhyperrfn` command!

```
247 \xdef\fnr@opt{#1}% contains the optional argument
248 \xdef\fnr@arabic{\arabic{\mpfn}}%
249 \protected@edef\fnr@formatted{\thefootnote}%

```

The `\footnotemark` is not set (yet), but the `\footnotetext`, and it gets a label.

```
250 \ifx\fnr@opt\empty\relax%
251   \footnotetext{\label{fnr:\fnr@arabic}#2}%
252 \else%
253   \PackageWarning{footnoterange}{%
254     Custom footnote-numbers used in a footnoterange\MessageBreak%
255     environment: Footnote with natural number\MessageBreak%
256     \ifx\fnr@formatted\fnr@arabic%
257       \fnr@arabic%
258     \else%
259       \space\fnr@arabic\space (\fnr@formatted )%
260     \fi%
261     \MessageBreak%
262     was renumbered to \fnr@opt\MessageBreak%
263   }%
264   \IfPackageLoadedTF{hyperref}{%
265     \footnotetext[#1]{\phantomsection\label{fnr:\fnr@arabic}#2}%
266     }{\footnotetext[#1]{\label{fnr:\fnr@arabic}#2}%
267     }%
268   \fi%
269 }
270
```

`\fnr@ifhyperfnrA` `\ifHy@hyperfootnotes` “encapsulation” again:

```
271 \newcommand{\fnr@ifhyperfnrA}{%
272   \ifHy@hyperfootnotes% option hyperfootnotes=true
273   \hbox{\hyperref[fnr:\fnr@first]{%
274     \@textsuperscript{\normalfont \ref*{fnr:\fnr@first}}}%
275   \else% option hyperfootnotes=false
276   \hbox{\@textsuperscript{\normalfont \ref*{fnr:\fnr@first}}}%
277   \fi%
278 }
279
```


`\fnr@ifhyperfnrN`

```
280 \newcommand{\fnr@ifhyperfnrN}{%
281   \ifHy@hyperfootnotes% option hyperfootnotes=true
282   \hbox{\hyperref[fnr:\fnr@first]{%
283     \@textsuperscript{\normalfont \ref*{fnr:\fnr@first}}}%
284     \@textsuperscript{\normalfont --}%
285     \hyperref[fnr:\arabic\@mpfn]{%
286       \@textsuperscript{\normalfont \ref*{fnr:\arabic\@mpfn}}}}}%
287 \else% option hyperfootnotes=false
288   \hbox{\@textsuperscript{\normalfont \ref*{fnr:\fnr@first}%
289     --\ref*{fnr:\arabic\@mpfn}}}%
290   \fi%
291 }
292
```

`footnoterange` (*env.*) The `footnoterange` environment remembers the next footnote number as `\fnr@first` and the current `\footnote` definition as `\fnr@origfn` and uses `\fnr@rangefootnote` instead.

Because we cannot `\RenewCommandCopy` a command which does not exist, we need to once define `\fnr@origfnmark`.

```
293 \AddToHook{begindocument}{\NewCommandCopy{\fnr@origfnmark}{\footnotemark}}
294
295 \newenvironment{footnoterange}{%
296   % at begin of the footnoterange environment
297   \ifhmode \unskip \fi% FMi
298   \addtocounter\@mpfn{+1}%
299   \xdef\fnr@first{\arabic\@mpfn}%
300   \addtocounter\@mpfn{-1}%
301   \let\fnr@origfn\footnote%
302   \let\footnote\fnr@rangefootnote%
303   \RenewCommandCopy{\fnr@origfnmark}{\footnotemark}%
304   \RenewCommandCopy{\footnotemark}{\fnr@rangefootnotemark}%
305   \ignorespaces% FMi
```

End of the environment:

```
306 }{% at end of the footnoterange environment
307   \ifhmode% FMi
308     \unskip% FMi
```

Remember the spacefactor for restoring after the environment has ended (only in `hmode!`). % FMi

```
309   \xdef\fnr@aftergroup{\spacefactor\the\spacefactor\relax}% FMi
310   \else% FMi
```

Otherwise do something harmless. % FMi

```
311   \xdef\fnr@aftergroup{\relax}%
312   \fi% FMi
```

At the end of the environment the previous definition of `\footnote` is restored

```
313 \let\footnote\fnr@origfn%
314 \RenewCommandCopy{\footnotemark}{\fnr@origfnmark}%
```

and the references are placed:

```
315 \ifx\fnr@first\fnr@arabic\relax% There is only one reference in the environment.
316   \PackageInfo{footnoterange}{%
317     Environment footnoterange used,\MessageBreak%
318     but only one footnote (number \fnr@first ) is contained\MessageBreak}%
319   \IfPackageLoadedTF{hyperref}{\fnr@ifhyperfnrA%
320     }{\hbox{\@textsuperscript{\normalfont \ref{fnr:\fnr@first}}}%
321     }%
322   \else%
```

```

323   \IfPackageLoadedTF{hyperref}{\fnr@ifhyperfnrN%
324     }\hbox{\@textsuperscript{\normalfont \ref{fnr:\fnr@first}}%
325           --\ref{fnr:\arabic\@mpfn}}}%
326   }%
327   \fi%

```

Restore the space-factor after the environment has ended. % FMi

```

328   \aftergroup\fnr@aftergroup% FMi
329 }
330

```

`footnoterange*` (*env.*) The `footnoterange*` environment does the same as the `footnoterange` environment but suppresses all hyperlinks to footnotes inside.

```

331 \newenvironment{footnoterange*}{%
332   % at begin of the footnoterange* environment
333   \ifhmode \unskip \fi% FMi
334   \addtocounter\@mpfn{+1}%
335   \xdef\fnr@first{\arabic\@mpfn}%
336   \addtocounter\@mpfn{-1}%
337   \let\fnr@origfn\footnote%
338   \let\footnote\fnr@rangefootnote%
339   \RenewCommandCopy{\fnr@origfnmark}{\footnotemark}%
340   \RenewCommandCopy{\footnotemark}{\fnr@rangefootnotemark}%
341   \ignorespaces% FMi
342 }{% at end of the footnoterange* environment
343   \ifhmode% FMi
344     \unskip% FMi
345     \xdef\fnr@aftergroup{\spacefactor\the\spacefactor\relax}% FMi
346   \else% FMi
347     \xdef\fnr@aftergroup{\relax}%
348   \fi% FMi
349   \let\footnote\fnr@origfn%
350   \RenewCommandCopy{\footnotemark}{\fnr@origfnmark}%
351   \ifx\fnr@first\fnr@arabic\relax% There is only one reference in the environment.
352     \PackageInfo{footnoterange}{%
353       Environment footnoterange used,\MessageBreak%
354       but only one footnote (number \fnr@first ) is contained\MessageBreak}%
355     \IfPackageLoadedTF{hyperref}{%
356       \hbox{\@textsuperscript{\normalfont \ref*{fnr:\fnr@first}}}%
357     }\hbox{\@textsuperscript{\normalfont \ref{fnr:\fnr@first}}}%
358     }%
359   \else%
360     \IfPackageLoadedTF{hyperref}{%
361       \hbox{\@textsuperscript{\normalfont \ref*{fnr:\fnr@first}}%
362             --\ref*{fnr:\arabic\@mpfn}}}%
363     }\hbox{\@textsuperscript{\normalfont \ref{fnr:\fnr@first}}%
364           --\ref{fnr:\arabic\@mpfn}}}%
365     }%
366   \fi%
367   \aftergroup\fnr@aftergroup% FMi
368 }
369

```

`\fnr@rangefootnotemark` The `footnoterange` package does not handle `\footnotemarks`, but at least the user is made aware of this:

```

370 \newcommand{\fnr@rangefootnotemark}[1][\empty]{%
371   \PackageError{footnoterange}{%
372     \string\footnotemark\space not supported in footnoterange(*) environment%
373   }{The footnoterange package does not handle a \string\footnotemark.\MessageBreak%
374     Either use \string\footnote\string{...\string}\space instead of%
375     \string\footnotemark\space and \string\footnotetext\string{...\string}\MessageBreak%
376     in footnoterange and footnoterange* environments,\MessageBreak%

```

```

377     or do not use those environments around a \string\footnotemark\MessageBreak%
378     (or \string\renewcommand\string{\string\fnr@rangefootnotemark\string}\MessageBreak%
379     with your own fixing code).%
380     }%
381     \xdef\fnr@mopt{#1}%
382     \ifx\fnr@mopt\empty\relax%
383     \fnr@origfnmark%
384     \else%
385     \fnr@origfnmark[#1]%
386     \fi%
387 }
388
389 </package>

```

6 Installation

6.1 Downloads

Everything is available on CTAN, <https://www.CTAN.org/>, but may need additional packages themselves.

`footnoterange.dtx` For unpacking the `footnoterange.dtx` file and constructing the documentation it is required:

- T_EXFormat L^AT_EX 2_ε 2024-11-01 or newer: <https://www.CTAN.org>
- document class `ltxdoc`, 2024/02/08, v2.1j, <https://www.ctan.org/pkg/ltxdoc>
- package `holtxdoc`, 2019/12/09, v0.30, <https://www.ctan.org/pkg/holtxdoc>

`footnoterange.sty` The `footnoterange.sty` for L^AT_EX 2_ε (i.e. each document using the `footnoterange` package) requires:

- T_EXFormat L^AT_EX 2_ε 2024-11-01 or newer: <https://www.CTAN.org>

`footnoterange-example.tex` The `footnoterange-example.tex` requires the same files as all documents using the `footnoterange` package and additionally:

- class `article`, 2025/01/22, v1.4n, from classes: <https://www.ctan.org/pkg/classes>
- package `footnoterange`, 2026-01-19, v1.1c, <https://ctan.org/pkg/footnoterange>
(Well, it is the example file for this package, and because you are reading the documentation for the `footnoterange` package, it can be assumed that you already have some version of it – is it the current one?)
- package `hyperref`, 2025-07-12, v7.01o, <https://ctan.org/pkg/hyperref>
- package `alphalph`, 2019/12/09, v2.6, <https://ctan.org/pkg/alphalph>

`Oberdiek` All packages of the ‘`oberdiek`’ bundle (especially `alphalph`) are also available in `holtxdoc` a TDS compliant ZIP archive:

`alphalph` <https://mirror.ctan.org/install/macros/latex/contrib/oberdiek.tds.zip>.

It is probably best to download and use this, because the packages in there are quite probably both recent and compatible among themselves.

`hyperref` `hyperref` is not included in that bundle and needs to be downloaded separately, <https://mirror.ctan.org/install/macros/latex/contrib/hyperref.tds.zip>.

`Münch` A hyperlinked list of my (other) packages can be found at <https://ctan.org/author/muench-hm>.

6.2 Package, unpacking TDS

Package. This package is available on <https://www.CTAN.org>.

<https://mirror.ctan.org/macros/latex/contrib/footnoterange/footnoterange.dtx>
The source file.

<https://mirror.ctan.org/macros/latex/contrib/footnoterange/footnoterange.pdf>
The documentation.

<https://mirror.ctan.org/macros/latex/contrib/footnoterange/footnoterange-example.pdf>
The compiled example file, as it should look like.

<http://mirror.ctan.org/macros/latex/contrib/footnoterange/README>
The README file.

There is also a `footnoterange.tds.zip` available:

<https://mirror.ctan.org/install/macros/latex/contrib/footnoterange.tds.zip>
Everything in TDS compliant, compiled format.

which additionally contains

`footnoterange.ins` The installation file.
`footnoterange.drv` The driver to generate the documentation.
`footnoterange.sty` The `.sty` file.

For required other packages, please see the preceding subsection.

Unpacking. The `.dtx` file is a self-extracting `docstrip` archive. The files are extracted by running the `.dtx` through plain \TeX :

```
tex footnoterange.dtx
```

About generating the documentation see paragraph 6.4 below.

TDS. Now the different files must be moved into the different directories in your installation TDS tree (also known as `texmf` tree):

```
footnoterange.sty      → tex/latex/footnoterange/footnoterange.sty
footnoterange.pdf      → doc/latex/footnoterange/footnoterange.pdf
footnoterange-example.tex → doc/latex/footnoterange/footnoterange-example.tex
footnoterange-example.pdf → doc/latex/footnoterange/footnoterange-example.pdf
footnoterange.dtx      → source/latex/footnoterange/footnoterange.dtx
```

If you have a `docstrip.cfg` that configures and enables `docstrip`'s TDS installing feature, then some files can already be in the right place, see the documentation of `docstrip`.

6.3 Refresh file name databases

If your \TeX distribution (\TeX Live, MiK \TeX , ...) relies on file name databases, you must refresh these. For example, \TeX Live users run `texhash` or `mktexlsr`.

6.4 Some details for the interested

Unpacking with \LaTeX . The `.dtx` chooses its action depending on the format:

plain \TeX : Run `docstrip` and extract the files.

\LaTeX : Generate the documentation.

If you insist on using \LaTeX for `docstrip` (really, `docstrip` does not need \LaTeX), then inform the autodetect routine about your intention:

```
latex \let\install=y\input{footnoterange.dtx}
```

Do not forget to quote the argument according to the demands of your shell.

Generating the documentation. You can use both the `.dtx` or the `.drv` to generate the documentation. The process can be configured by a configuration file `ltxdoc.cfg`. For instance, put the following line into this file, if you want to have A4 as paper format:

```
\PassOptionsToClass{a4paper}{article}
```

An example follows how to generate the documentation with pdfL^AT_EX:

```
pdflatex footnoterange.dtx
makeindex -s gind.ist footnoterange.idx
pdflatex footnoterange.dtx
makeindex -s gind.ist footnoterange.idx
pdflatex footnoterange.dtx
```

6.5 Compiling the example

The example file, `footnoterange-example.tex`, can be compiled via

```
(pdf)latex footnoterange-example.tex
```

but will need probably at least two compiler runs to get everything right.

`footnoterange-example.tex` can be created by

```
tex footnoterange.dtx.
```

`footnoterange.dtx` is at <https://www.ctan.org/pkg/footnoterange>.

7 Acknowledgements

I (H.-Martin Münch) would like to thank HEIKO OBERDIEK for providing a lot of useful packages (from which I also got everything I know about creating a file in `.dtx` format, OK, say it: copying), FRANK MITTELBACH for several bug reports, for code for improving the package, and for pointing me to the `fnpct` package as alternative, and WILLIE WONG for reporting a bug and its fix. This package was created as response to question “Compressing consecutive footnote marks” by user001 (<https://tex.stackexchange.com/users/10127/user001>) on <https://tex.stackexchange.com/q/44165>.

8 History

[2011/02/11 v0.1ff.]

- Some versions at <https://tex.stackexchange.com/q/44165/6865>.

[2012/02/17 v1.0a]

- Package created and uploaded to CTAN.

[2018/10/15 v1.0b]

- Fixed/updated minor details.
- Bug fix: Did not work without `hyperref`, wrong `spacefactor`.
- Listing the `fnpct` package as alternative.

[2019/11/24 v1.0c]

- Bug fix: Issue with footnote symbols.

[2023-02-25 v1.1a]

- Converted to UTF-8.
- Updated to [then] current L^AT_EX format 2022-11-01.
- Example now also demonstrates the usage of footnote-number-representations other than `arabic`: `\Roman`, `\roman`, `\Alph`, `\alph`, `\fnsymbol` (!), especially for more footnotes than A–Z, a–z, *–¶.
- Creation of smaller link-boxes explained in the documentation.
- Documentation and README updates.

[2025-01-27 v1.1b]

- Renamed `\fnr@formatted` to `\fnr@formatted`.
- Documentation updates.

[2026-01-19 v1.1c]

- Added code to the example to be compilable without hyperref.
- Corrected the date of the format required by the package.
- Locked the `Hfootnote` counter inside a `\IfDocumentMetadataF` (because it does not exist in that case).

When you find a mistake or have a suggestion for an improvement of this package, please send an e-mail to the maintainer, thanks! (Please see BUG REPORTS in the README.)

9 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; plain numbers refer to the code lines where the entry is used.

A		<code>footnoterange*</code> (env.) <u>331</u>
<code>\AddToHook</code> 293		<code>\footnoterange-example.tex</code> 11
<code>\alph</code> 130		<code>\footnoterange.dtx</code> 11
<code>\alphalph</code> 11		<code>\footnoterange.sty</code> 11
E		H
environments:		<code>\holtxdoc</code> 11
<code>footnoterange</code> <u>293</u>		<code>\hyperref</code> 11
<code>footnoterange*</code> <u>331</u>		
F		M
<code>\fnr@ifhyperfnrA</code> <u>271</u> , 319		<code>\Münch</code> 11
<code>\fnr@ifhyperfnrN</code> <u>280</u> , 323		
<code>\fnr@ifhyperrfn</code> <u>230</u> , 246		O
<code>\fnr@rangefootnote</code> <u>242</u> , 302, 338		<code>\Oberdiek</code> 11
<code>\fnr@rangefootnotemark</code> 304, 340, <u>370</u>		
<code>footnoterange</code> (env.) <u>293</u>		R
		<code>\roman</code> 112, 113