The uprightsubs package

Moritz R. Schäfer

November 14, 2026

1 Introduction

In physics, descriptive subscripts are conventionally set upright. A common way to achieve this is to use `E_{\mathrm{sub}}`. The uprightsubs package provides a shorter notation and supports accented text via `\textnormal`.

A leading `!` selects `\mathrm`, which uses the upright math alphabet. A leading `!!` selects `\textnormal`, which uses the document's normal text font and supports accented letters. Subscripts without either prefix retain their usual formatting.

Load the package with `\usepackage{uprightsubs}`. The shorthand becomes active at the start of the document.

```
$E_{!kin}$ % -> $E_{\mathrm{kin}}$

$E_{!!cinétique}$ % -> $E_{\textnormal{cinétique}}$

$E_{x}$ % -> $E_{x}$ (no change)
```

2 Acknowledgements

The implementation is based on Enrico Gregorio's (egreg's) answer on TeX Stack Exchange. Thanks to Enrico Gregorio for the original implementation and for his permission to distribute the adapted code under the LaTeX Project Public License (LPPL).

3 Implementation

```
⟨*package⟩
\ProvidesExplPackage
  {uprightsubs}
  {2026/09/13}
  {0.1.0}
  {Upright~descriptive~subscripts}
```

3.1 Subscript processing

`\uprightsubs_subscript:` Inspect explicit groups for the shorthand. Otherwise leave the input untouched for TeX's subscript scanner, so commands such as `E_\frac12` can still read their arguments. Ignore intervening spaces, just as TeX does when scanning a subscript.

```
\cs_new_protected:Nn \uprightsubs_subscript:
 {
```

```
  \peek_remove_spaces:n
   {
    \peek_catcode:NTF \c_group_begin_token
     { \uprightsubs_subscript:n }
     { \sb }
   }
 }
```

(*End of definition for* `\uprightsubs_subscript:`.)

`\uprightsubs_subscript:n` Inspect the subscript for a leading `!` and dispatch to the formatting helper; otherwise use the ordinary subscript.

```
\cs_new_protected:Nn \uprightsubs_subscript:n
 {
  \str_if_eq:eeTF { \str_head:n {#1} } { ! }
   {
    \__uprightsubs_subscript_text:e { \tl_tail:n {#1} }
   }
   {
    \sb{ #1 }
   }
 }
```

(*End of definition for* `\uprightsubs_subscript:n`.)

`\__uprightsubs_subscript_text:n` `\__uprightsubs_subscript_text:e` After removing the first `!`, a second `!` selects `\textnormal`; otherwise use `\mathrm`.

```
\cs_new_protected:Nn \__uprightsubs_subscript_text:n
 {
  \str_if_eq:eeTF { \str_head:n {#1} } { ! }
   {
    \sb{ \textnormal{ \tl_tail:n {#1} } }
   }
   {
    \sb{ \mathrm{#1} }
   }
 }
\cs_generate_variant:Nn \__uprightsubs_subscript_text:n { e }
```

(*End of definition for* `\__uprightsubs_subscript_text:n`.)

3.2 Activation

At the start of the document, give `_` category code 12 and an active mathcode. In mathematics it then invokes the subscript handler; in text it is an ordinary character. Subscripts already tokenized in the preamble retain their original meaning.

```
\AtBeginDocument
 {
  \char_set_active_eq:nN { `_ } \uprightsubs_subscript:
  \char_set_catcode:nn { `_ } { 12 }
  \char_set_mathcode:nn { `_ } { "8000 }
 }

\endinput
⟨/package⟩
```