

The pdfmathaccents package*

Joris Pinkse
pinkse@gmail.com

2026/07/27

1 Introduction

Some editors make it easy to type accented mathematical symbols directly. For instance, typing `x\hat` followed by `Tab` in VS Code (with the Julia or Unicode Latex extension) shows an x with a hat on top. What actually ends up in the file is the letter `x` followed by the Unicode *combining character* U+0302 (combining circumflex accent). L^AT_EX does not interpret this two-character sequence: pdfL^AT_EX stops with an error because combining characters are not set up at all.

With `pdfmathaccents` loaded, a base character followed by a supported combining character is typeset in math mode as the corresponding accent command: `x + U+0302` becomes `\hat x`, and likewise for the other combining characters listed in Section 4.

This package requires pdfL^AT_EX. It is the pdfL^AT_EX companion of the `luamathaccents` package: under LuaL^AT_EX, use `luamathaccents` instead, which supports more combining characters and is less invasive (LuaL^AT_EX can rewrite the input line before T_EX tokenizes it, which pdfT_EX cannot).

2 Usage

```
\usepackage{pdfmathaccents}
```

The conversion is active from that point on and applies in math mode, to base characters that are ASCII letters or digits.

`\PdfMathAccentsOff` disables the conversion and `\PdfMathAccentsOn` re-enables it. Both are local to the current group.

3 Example

The input¹

`\hat{x} + \tilde{y} = \bar{z}`, force `\vec{F} = m \vec{a}`, and average `\bar{v}`.

is typeset as

$$\hat{x} + \tilde{y} = \bar{z}, \text{ force } \vec{F} = m\vec{a}, \text{ and average } \bar{v}.$$

*This document describes `pdfmathaccents` v1.0, released 2026/07/27.

¹In this listing the combining characters are shown as marks over the preceding character, which is also how most editors display them.

4 Supported combining characters

The table below lists the supported combining characters, the accent command each one is converted to, and the result on the letter x . The last two require the `amsmath` package; if `amsmath` is not loaded, those two characters are not converted.

Code point	Name	Command	Result
U+0300	combining grave accent	<code>\grave</code>	$\grave{x}$
U+0301	combining acute accent	<code>\acute</code>	$\acute{x}$
U+0302	combining circumflex accent	<code>\hat</code>	$\hat{x}$
U+0303	combining tilde	<code>\tilde</code>	$\tilde{x}$
U+0304	combining macron	<code>\bar</code>	$\bar{x}$
U+0305	combining overline	<code>\bar</code>	$\bar{x}$
U+0306	combining breve	<code>\breve</code>	$\breve{x}$
U+0307	combining dot above	<code>\dot</code>	$\dot{x}$
U+0308	combining diaeresis	<code>\ddot</code>	$\ddot{x}$
U+030A	combining ring above	<code>\mathring</code>	$\mathring{x}$
U+030C	combining caron	<code>\check</code>	$\check{x}$
U+0331	combining macron below	<code>\underline</code>	$\underline{x}$
U+20D6	combining left arrow above	<code>\overleftarrow</code>	$\overleftarrow{x}$
U+20D7	combining right arrow above	<code>\vec</code>	$\vec{x}$
U+20DB	combining three dots above	<code>\dddot</code>	$\dddot{x}$
U+20E1	combining left right arrow above	<code>\overleftrightarrow</code>	$\overleftrightarrow{x}$

5 How it works, and caveats

pdfTeX cannot rewrite the input line the way LuaTeX does. Instead, `pdfmathaccents` gives every ASCII letter and digit the math code "8000, which makes it behave like an active character in math mode (the technique used by, for example, the `icomma` package). The character then looks at the following token; if it is the start of a supported combining character, the accent command is applied, and otherwise the character is typeset as usual. This has a number of consequences.

- The conversion applies in math mode only, and the base character must be an ASCII letter or digit. A combining character in text, in verbatim, or after any other base character produces the standard `inputenc` error (“not set up for use with L^AT_EX”), just as it would without this package. (This document declares text-mode renderings for a few combining characters in its preamble, which is how the verbatim listing in the example above is typeset.)
- Only combining *sequences* (NFD) are recognized. A precomposed (NFC) character such as U+0177 (*y with circumflex*) is a different, single character and is not converted. Beware: some editors silently normalize combining sequences to precomposed characters. Because such a character in math mode always leads to an error whose message does not mention the real cause (either “Please use `\mathaccent`” or “not set up for use with L^AT_EX”), `pdfmathaccents` precedes that error with a warning pointing at NFC normalization as the likely culprit.
- Only the first combining character after a base character is converted; a second one produces the `inputenc` error mentioned above. (`luamathaccents` passes it through instead.)
- Ten of the combining characters supported by `luamathaccents` are unavailable here (U+0309, U+0310, U+0312, U+0315, U+031A, U+20D0, U+20D1, U+20E7, U+20E9, and U+20F0), because standard L^AT_EX math fonts provide no corresponding accents.

- Every letter and digit in math mode is wrapped in a group, as if you had typed `{x}` instead of `x`. This is almost always invisible; the one observable effect is that a superscript on a letter with a large italic correction, such as f , is placed very slightly closer to the letter.
- Packages that assign math codes to letters (for example `mathastext`) will silently undo or be undone by this package, depending on load order. Load `pdfmathaccents` last.

6 License

Copyright 2026 Joris Pinkse. This work may be distributed and/or modified under the conditions of the L^AT_EX Project Public License, either version 1.3c of this license or (at your option) any later version. This work has the LPPL maintenance status “maintained”; the current maintainer is Joris Pinkse (pinkse@gmail.com).

Development happens at <https://github.com/NittanyLion/pdfmathaccents>; please report bugs there.