

# Alternate integral signs with L<sup>A</sup>T<sub>E</sub>X

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## Abstract

The package `esint.sty` allows you to use new integral symbols.

## 1 License

The L<sup>A</sup>T<sub>E</sub>X Project Public License

## 2 Using esint

Load the package with `\usepackage{esint}`, and enjoy!

- BE CAREFUL: if you are using `amslatex`, you must load `esint` AFTER `amslatex`.
- This package is available with two options: `intimits` and `intnolimits`.  
When loading with `\usepackage[nointlimits]{esint}` (default), `\[\int_0^1 f(x) dx\]` gives

$$\int_0^1 f(x) dx$$

When loading with `\usepackage[intlimits]{esint}`, `\[\int_0^1 f(x) dx\]` gives

$$\int_0^1 f(x) dx$$

Available integrals signs:

Commande	textstyle	displaystyle
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<code>\int</code>	$\int$	$\int$
<code>\iint</code>	$\iint$	$\iint$
<code>\iiint</code>	$\iiint$	$\iiint$
<code>\iiiiint</code>	$\iiiiint$	$\iiiiint$
<code>\idotsint</code>	$\int\cdots\int$	$\int\cdots\int$
<code>\oint</code>	$\oint$	$\oint$
<code>\oiint</code>	$\oiint$	$\oiint$
<code>\varoiint</code>	$\varoiint$	$\varoiint$
<code>\sqint</code>	$\sqint$	$\sqint$
<code>\sqiint</code>	$\sqiint$	$\sqiint$
<code>\ointctrclockwise</code>	$\oint$	$\oint$
<code>\ointclockwise</code>	$\oint$	$\oint$
<code>\varointclockwise</code>	$\oint$	$\oint$
<code>\varointctrclockwise</code>	$\oint$	$\oint$
<code>\fint</code>	$f$	$f$
<code>\landupint</code>	$f$	$f$
<code>\landdownint</code>	$f$	$f$

You can customize the space between integral sign in multiple integrals. You have

to modify lines 12 and 13 of the `esint10.mf` file: `tdec#` and `ddec#` are spaces between signs. If you modify `esint10.mf`, delete `esint10.tfm`, the generated `*.pk` files, and run `METAFONT` on `esint10.mf`. Of course, you have to remove pub files: the type 1 version will not be modified!

### 3 Updates

- 20/01/2005: change in `esint.fd` in order to avoid a problem inside align environment. Thank's to Eckhard Neber. Font files (`mf`, `pfb`, `tfm`...) are unchanged.
- 2019/07/19: add `intlimits` and `nointlimits` options, and modify `\dotsint` command as `\idotsint` to modify all `amsmath` symbols (request from Frank Mittelbach).

### 4 The code

The package identifies himself

```
1 (*package)
2 \NeedsTeXFormat{LaTeX2e}
3 \ProvidesPackage{esint}
```

To redefine symbols

```
4 \DeclareOption{intlimits}{\let\ilimits@\displaylimits}
5 \DeclareOption{nointlimits}{\let\ilimits@\nolimits}
6 \ExecuteOptions{nointlimits}
7 \ProcessOptions
8 \def\re@DeclareMathSymbol#1#2#3#4{%
9     \let#1=\undefined
10    \DeclareMathSymbol{#1}{#2}{#3}{#4}}
```

Definition of the symbol font:

```
11 \DeclareSymbolFont{largesymbolsA}{U}{esint}{m}{n}
```

Definition of the new symbols:

```
12 \re@DeclareMathSymbol{\intop}{\mathop}{largesymbolsA}{'001}
13     \def\int{\intop\ilimits@}
14 \re@DeclareMathSymbol{\iintop}{\mathop}{largesymbolsA}{'003}
15     \def\iint{\iintop\ilimits@}
16 \re@DeclareMathSymbol{\iiintop}{\mathop}{largesymbolsA}{'005}
17     \def\iiint{\iiintop\ilimits@}
18 \re@DeclareMathSymbol{\iiiintop}{\mathop}{largesymbolsA}{'007}
19     \def\iiiint{\iiiintop\ilimits@}
20 \re@DeclareMathSymbol{\dotsintop}{\mathop}{largesymbolsA}{'011}
21     \def\dotsint{\dotsintop\ilimits@}
22 \re@DeclareMathSymbol{\ointop}{\mathop}{largesymbolsA}{'013}
23     \def\oint{\ointop\ilimits@}
24 \re@DeclareMathSymbol{\oiintop}{\mathop}{largesymbolsA}{'015}
25     \def\oiint{\oiintop\ilimits@}
26 \re@DeclareMathSymbol{\sqintop}{\mathop}{largesymbolsA}{'017}
27     \def\squint{\sqintop\ilimits@}
28 \re@DeclareMathSymbol{\sqiintop}{\mathop}{largesymbolsA}{'021}
29     \def\squiint{\sqiintop\ilimits@}
```

```

30 \re@DeclareMathSymbol{\ointctrclockwiseop}{\mathop}{largesymbolsA}{'027}
31     \def\ointctrclockwise{\ointctrclockwiseop\ilimits@}
32 \re@DeclareMathSymbol{\ointclockwiseop}{\mathop}{largesymbolsA}{'031}
33     \def\ointclockwise{\ointclockwiseop\ilimits@}
34 \re@DeclareMathSymbol{\varointclockwiseop}{\mathop}{largesymbolsA}{'033}
35     \def\varointclockwise{\varointclockwiseop\ilimits@}
36 \re@DeclareMathSymbol{\varointctrclockwiseop}{\mathop}{largesymbolsA}{'035}
37     \def\varointctrclockwise{\varointctrclockwiseop\ilimits@}
38 \re@DeclareMathSymbol{\fintop}{\mathop}{largesymbolsA}{'037}
39     \def\fint{\fintop\ilimits@}
40 \re@DeclareMathSymbol{\varoiintop}{\mathop}{largesymbolsA}{'041}
41     \def\varoiint{\varoiintop\ilimits@}
42 \re@DeclareMathSymbol{\landupintop}{\mathop}{largesymbolsA}{'043}
43     \def\landupint{\landupintop\ilimits@}
44 \re@DeclareMathSymbol{\landdownintop}{\mathop}{largesymbolsA}{'045}
45     \def\landdownint{\landdownintop\ilimits@}
46 \let\idotsint\dotsint
47 \end{package}
48 \end{*fdfile}

```

Font definition file:

```

49 \ProvidesFile{uesint.fd}
50 \DeclareFontFamily{U}{esint}{}
51 \DeclareFontShape{U}{esint}{m}{n}{
52     <-> esint10
53 }{}
54 \end{fdfile}

```