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The isphysicalmath package*

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Abstract

This package helps user to write mathematical and physical formulas – their numerical values, their measurement units, their factors, their dimensions – in a scientific way (international mainly), by an elegant formatting and notation.

1 Introduction

The name *isphysicalmath* means: Physics is Math's daughter.

LaTeX is a powerful language, but to take advantage of it, to respect its quality and to observe the discipline of matters that LaTeX interacts with—it requires some devices.

If you are interested in math and physics, here comes *isphysicalmath* inside LaTeX as far as international scientific notation and formatting of formulas, quantities, numerical values, factors, dimensions, measurement units.

I respect Donald Knuth limit of nine arguments. I know that is possible to break this limit, but I prefer to respect Knuth's limit for pureness reasons.

2 Conventions

To have a clear doc text, I'll not refer to physical quantities dimensions every times; for them, the measurement units *isphysicalmath* acting is valid too.

hp. stands for *hypothesis*, *th.* stands for *thesis*.

3 Dependencies

isphysicalmath has *xstring* package dependency, but you don't need to specify it in your document preamble.

Internally, it uses standard LaTeX built-in commands like: `\textnormal`, `\hspace{}`, `\,`, etc.; however, it performs its activity in complex math environment too.

*This document corresponds to isphysicalmath v2.0.0, dated 2024/12/27.

4 Usage

4.1 Formatting

`\ispm`

hp. It is a jolly command. The default setting consists in — a 0.15 mm of space and normal text rendering for a generic "entity". In other words <`\textnormal`> and <0.15mm> are the values of `\ispm` "variable". So, if you are a developer you can modify this "variable" how and when you want. I use it for generic "entities".
th. Default setting: normal text rendering for a generic "entity".
`\ispm{`⟨*generic "entity" in place of argument*⟩`}`

`\ispmone`

hp. You have only a measurement unit.
th. Horizontal space between measurement unit and numerical value, and normal text rendering for the measurement unit.
`\ispmone{`⟨*measurement unit in place of argument*⟩`}`

`\ispmtwo`

hp. You have two measurement units.
th. Horizontal space between the first measurement unit and numerical value, horizontal space between the first measurement unit and second measurement unit; normal text rendering for both measurement units.
`\ispmtwo{`⟨*the first measurement unit in place of the I argument*⟩`}{`⟨*second measurement unit in place of II argument*⟩`}`

`\ispmthird`

hp. You have three measurement units.
th. Horizontal space between the first measurement unit and numerical value, horizontal space between the first measurement unit and the second measurement unit, horizontal space between the second measurement unit and third measurement unit; normal text rendering for all the measurement units.
`\ispmtwo{`⟨*the first measurement unit in place of the I argument*⟩`}{`⟨*the second measurement unit in place of the II argument*⟩`}` `\ispmthird{`⟨*third measurement unit in place of III argument*⟩`}`
Or, e.g. if you have a fraction [see 'In-depth formatting' (subsection 5.1)]:
`\ispmone{`⟨*the first measurement unit in place of the I argument (numerator)*⟩`}`
`\ispmone{`⟨*the second measurement unit in place of the II argument (denominator)*⟩`}`
`\ispmthird{`⟨*third measurement unit in place of III argument*⟩`}`

And so on until ninth measurement unit, having:

`\ispmfourth`
`\ispmfifth`
`\ispmsixth`
`\ispmseventh`
`\ispmeighth`
`\ispmninth`

`\ispmn`

If you don't want to follow a numerical order, useful in some cases to have the visual control and in complex environments always, you can use this command.

hp. You have three measurement units.

th. Horizontal space between the first measurement unit and numerical value, horizontal space between the first measurement unit and the second measurement unit, horizontal space between the second measurement unit and third measurement unit; normal text rendering for all the measurement units.

`\ispmtwo{`⟨*the first measurement unit in place of the I argument*⟩`}{`⟨*the second measurement unit in place of the II argument*⟩`}` `\ispmn{`⟨*third measurement unit in place of III argument*⟩`}`

Or, e.g. if you have a fraction [see 'In-depth formatting' (subsection 5.1)]:

`\ispmone{`⟨*the first measurement unit in place of the I argument (numerator)*⟩`}`
`\ispmn{`⟨*the second measurement unit in place of the II argument (denominator)*⟩`}`
`\ispmn{`⟨*third measurement unit in place of III argument*⟩`}`

aka:

`\ispmn{`⟨*the first measurement unit in place of the I argument (numerator)*⟩`}`
`\ispmn{`⟨*the second measurement unit in place of the II argument (denominator)*⟩`}`
`\ispmn{`⟨*third measurement unit in place of III argument*⟩`}`

4.2 Notation

`\ispmdexpp`

It concerns rendering of a number as it multiplied by number ten raised to positive exponents of power, within real numbers field. The order sees first digit as leading digit, without truncated digits on the right of it.

`\ispmdexpp{`⟨*number to render*⟩`}`

`\ispmdexppt`

It's about rendering of a number as it multiplied by number ten raised to positive exponents of power, within real numbers field. The order sees first digit as leading digit, with truncated digits on the right of it.

`\ispmdexppt{`⟨*number to render*⟩`}`

`\ispmdexpm`

It concerns rendering of a number as it multiplied by number ten raised to negative exponents of power, within real numbers field. The order sees first digit as leading digit, without truncated digits on the right of it.

`\ispmdexpm{`⟨*number to render*⟩`}`

`\ispmdexpmt`

It concerns rendering of a number as it multiplied by number ten raised to negative exponents of power, within real numbers field. The order sees first digit as leading digit, with truncated digits on the right of it.

`\ispmdexpmt{`⟨*number to render*⟩`}`

Option *flushpostdot*

$\forall x, y, \ldots, +\infty \in \mathbb{R}$:
`\ispmflushpd` $\langle x.y \rangle$
It deletes all digits that are after dot.

Option *dc*

$\forall x, y, \ldots, +\infty \in \mathbb{R}$:
`\ispmc` $\langle x.y \rangle$
It changes commas in dots.

$\forall x, y, \ldots, +\infty \in \mathbb{Z}$:
`\ispmrc` $\langle x,y \rangle$
It changes dots in commas.

5 In-depth usage

5.1 In-depth formatting

isphysicalmath formatting commands, inside mathematical environments, can be joined or detached to previous term; while, outside mathematical environments, *isphysicalmath* commands must be joined to previous term.

isphysicalmath automatical settings:

- a small space between numerical value and first measurement unit, «first» if there are others.
- 0.15 mm between two or three measurement units, or between measurement units and their factors.
- Normal text for measurement unit.

Without *isphysicalmath*

- Without mathematical environment:

  $$\mathrm{F} = 1\ \mathrm{N}$$

  I don't like this style, and it has not a logical meaning.
- By mathematical environment:

  $$F = 1N$$

  I don't like this style, and it has not a logical meaning.
  The code:

  ```
  \[ F = 1 N \]
  ```

By *isphysicalmath*

- With one measurement unit.

$$F = 1\,\mathrm{N}$$

$$P = 1\,\mathrm{bar}$$

The code:

```
\[
F = 1 \ispmone{N}
\]
\[P = 1 \ispmone{bar}\]
```

- With two measurement units (a).

$$L = 1\,\mathrm{Nm}$$

The code:

```
\[
L = 1 \ispmtwo{N}{m}
\]
```

- With two measurement units and a factor for the last unit.

$$L = 1\,\mathrm{Nmm}(10^{-3})$$

The code:

```
\[
L = 1 \ispmtwo{N}{mm}\ispmthird{(10$^{-3}$)}
\]
```

- With three measurement units.

$$V = 8\,\mathrm{mmm}$$

The code:

```
\[
V = 8 \ispmtwo{m}{m}\ispmthird{m}
\]
```

- With a declared additional inner `\textnormal`, with inner `\tiny` environment, and with inner mathematical environment (a).

$$m = \gamma V = 1\frac{\mathrm{kg}}{\mathrm{m}^3}\,\mathrm{m}^3$$

The code:

```
\[
m = \gamma V = 1 \frac{\ispmone{kg}}
{\ispmone{m$^{\textnormal{\tiny 3}}$}}\ispmthird{m$^3$}
\]
```

- With inner mathematical environment (b).

$$m = \gamma V = 1 \frac{\mathrm{kg}}{\mathrm{m}^3} \mathrm{m}^3$$

The code:

```
\[
m = \gamma V = 1 \frac{\ispmone{kg}}
{\ispmone{m$^3$}}\ispmthird{m$^3$}
\]
```

- With inner mathematical environment (c) and `\large`, `\normalsize` environments.

$$m = \gamma V = 1 \frac{\mathrm{kg}}{\mathrm{m}^3} \mathrm{m}^3$$

The code:

```
\[
m = \gamma V = 1 \large\frac{\ispmone{kg}}
{\ispmone{m$^3$}}\normalsize\ispmthird{m$^3$}
\]
```

- With inner mathematical environments (d).

The following is a trascendental physical example, but it could be useful like material for some mathematical needs; however, this case demonstrates LaTeX power and *isphysicalmath*.

$$u = 7 \, \alpha \mathrm{m} \beta \mathrm{m}^2 \, \delta \mathrm{s}$$

The code:

```
\[
u = 7  \ispmtwo{$\alpha$m}{$\beta$m$^2$}
\ispmthird{$\delta$s}
\]
```

- With inner mathematical environments (e).

$$P_p = (V_{cls})(\gamma_{cls}) = (29.6 \, \mathrm{m}^3)\left(25 \frac{\mathrm{kN}}{\mathrm{m}^3}\right) = 740 \, \mathrm{kN}$$

The code:

```
\[
P_p = (V_{cls})(\gamma_{cls}) = (29.6\ispmone{m$^3$})
\Big(25\frac{\ispmone{kN}}
{\ispmone{m$^3$}}\Big) = 740 \ispmone{kN}
\]
```

- About physical quantities dimensions.

e.g.

$$F = ma \equiv \, [\mathrm{M}][\mathrm{L}][\mathrm{T}]^{-2}$$

The code:

```
F = m a \equiv \ispmtwo{[M]}{[L]}\ispmthird{[T]$^{-2}$}
```

- Final example.
  e.g.

$$1\,abcdefghi$$

$$1\,abcdefghi$$

$$1abcdefghi$$

The code:

```
\[1\ispmtwo{a}{b}\ispmthird{c}\ispmfourth{d}\ispmfifth{e}
\ispmsixth{f}\ispmseventh{g}\ispmeighth{h}\ispmninth{i}\]

\[1\ispmone{a}\ispmn{b}\ispmn{c}\ispmn{d}\ispmn{e}
\ispmn{f}\ispmn{g}\ispmn{h}\ispmn{i}\]

\[1\ispmn{a}\ispmn{b}\ispmn{c}\ispmn{d}\ispmn{e}
\ispmn{f}\ispmn{g}\ispmn{h}\ispmn{i}\]
```

5.2 In-depth notation

5.2.1 command \ispmcomma

It adds comma after every three digits, according to international scientific notation. It is independent of *dc*, option but compatible with it.

$\forall a, b, c, d, e, f, g, h, i \in \mathbb{Z}$ [0,9]:

100,000,000
100,000,000.00
10,000,000.00
1,000,000.00
100,000.00
10,000.00
1,000.00

The code:

```
\ispmcomma{100000000} \\
\ispmcomma{100000000}.00 \\
\ispmcomma{10000000}.00 \\
\ispmcomma{1000000}.00 \\
\ispmcomma{100000}.00 \\
\ispmcomma{10000}.00 \\
\ispmcomma{1000}.00
```

5.2.2 Rendering by positive exponents of number ten powers

Rendering of a number as it multiplied by number ten raised to positive exponents of power.

By first digit as leading digit, without truncated digits on the right of it

Two arguments

Two digits, two arguments:
input: `\ispmdexpp{12}`
output: (1.2)(10)

Inside mathematical environment:
input: `$F = \ispmdexpp{12} \ispmone{N}$`
output: $F = (1.2)(10)\,\mathrm{N}$
And so on for other `\ispmdexp`* commands.

Three arguments

Two digits, three arguments:
input: `\ispmdexpp{1.2}`
output: 1.2

Three digits, three arguments:
input: `\ispmdexpp{123}`
output: $(1.23)(10)^2$

Four arguments

Three digits, four arguments:
`\ispmdexpp{1.23}`
1.23

`\ispmdexpp{12.3}`
(1.23)(10)

`\ispmdexpp{1234}`
$(1.234)(10)^3$

Five arguments

Four digits, five arguments:
`\ispmdexpp{1.234}`
1.234

`\ispmdexpp{12.34}`
(1.23)(10)

`\ispmdexpp{123.4}`
$(1.234)(10)^{2}$

Five digits, five arguments:
`\ispmdexpp{12345}`
$(1.2345)(10)^{4}$

Six arguments

Five digits, six arguments:
`\ispmdexpp{1.2345}`
1.2345

`\ispmdexpp{12.345}`
$(1.23)(10)$

`\ispmdexpp{123.45}`
$(1.234)(10)^{2}$

`\ispmdexpp{1234.5}`
$(1.2345)(10)^{3}$

Six digits, six arguments:
`\ispmdexpp{123456}`
$(1.23456)(10)^{5}$

Seven arguments

Six digits, seven arguments:
`\ispmdexpp{1.23456}`
1.23456

`\ispmdexpp{12.3456}`
$(1.23)(10)$

`\ispmdexpp{123.456}`
$(1.234)(10)^{2}$

`\ispmdexpp{1234.56}`
$(1.2345)(10)^{3}$

`\ispmdexpp{12345.6}`
$(1.23456)(10)^{4}$

Seven digits, seven arguments:
`\ispmdexpp{1234567}`
$(1.234567)(10)^{6}$

Eight arguments

Seven digits, eight arguments:
`\ispmdexpp{1.234567}`
1.234567

`\ispmdexpp{12.34567}`
(1.23)(10)

`\ispmdexpp{123.4567}`
$(1.234)(10)^{2}$

`\ispmdexpp{1234.567}`
$(1.2345)(10)^{3}$

`\ispmdexpp{12345.67}`
$(1.23456)(10)^{4}$

`\ispmdexpp{123456.7}`
$(1.234567)(10)^{5}$

Eight digits, eight arguments:
`\ispmdexpp{12345678}`
$(1.2345678)(10)^{7}$

Nine arguments

Eight digits, nine arguments:
`\ispmdexpp{1.2345678}`
1.2345678

`\ispmdexpp{12.345678}`
(1.23)(10)

`\ispmdexpp{123.45678}`
$(1.234)(10)^{2}$

`\ispmdexpp{1234.5678}`
$(1.2345)(10)^{3}$

`\ispmdexpp{12345.678}`
$(1.23456)(10)^{4}$

`\ispmdexpp{123456.78}`
$(1.234567)(10)^{5}$

`\ispmdexpp{1234567.8}`
$(1.2345678)(10)^{6}$

Nine digits, nine arguments:
`\ispmdexpp{123456789}`
$(1.23456789)(10)^{8}$

By first digit as leading digit, with truncated digits on the right of it

Two arguments

Two digits, two arguments:
`\ispmdexppt{12}`
(1)(10)

Three arguments

Two digits, three arguments:
`\ispmdexppt{1.2}`
1

Three digits, three arguments:
`\ispmdexppt{123}`
$(1)(10)^{2}$

Four arguments

Three digits, four arguments:
`\ispmdexppt{1.23}`
1

`\ispmdexppt{12.3}`
(1)(10)

`\ispmdexppt{1234}`
$(1)(10)^{3}$

Five arguments

Four digits, five arguments:
`\ispmdexppt{1.234}`
1

`\ispmdexppt{12.34}`
(1)(10)

`\ispmdexppt{123.4}`
$(1)(10)^{2}$

Five digits, five arguments:
`\ispmdexppt{12345}`
$(1)(10)^{4}$

Six arguments

Five digits, six arguments:
`\ispmdexppt{1.2345}`
1

`\ispmdexppt{12.345}`
(1)(10)

`\ispmdexppt{123.45}`
$(1)(10)^{2}$

`\ispmdexppt{1234.5}`
$(1)(10)^{3}$

Six digits, six arguments:
`\ispmdexppt{123456}`
$(1)(10)^{5}$

Seven arguments

Six digits, seven arguments:
`\ispmdexppt{1.23456}`
1

`\ispmdexppt{12.3456}`
(1)(10)

`\ispmdexppt{123.456}`
$(1)(10)^{2}$

`\ispmdexppt{1234.56}`
$(1)(10)^{3}$

`\ispmdexppt{12345.6}`
$(1)(10)^{4}$

Seven digits, seven arguments:
`\ispmdexppt{1234567}`
$(1)(10)^{6}$

Eight arguments

Seven digits, eight arguments:
`\ispmdexppt{1.234567}`
1

```
\ispmdexppt{12.34567}
```
$(1)(10)$

```
\ispmdexppt{123.4567}
```
$(1)(10)^{2}$

```
\ispmdexppt{1234.567}
```
$(1)(10)^{3}$

```
\ispmdexppt{12345.67}
```
$(1)(10)^{4}$

```
\ispmdexppt{123456.7}
```
$(1)(10)^{5}$

Eight digits, eight arguments:
```
\ispmdexppt{12345678}
```
$(1)(10)^{7}$

Nine arguments

Eight digits, nine arguments:
```
\ispmdexppt{1.2345678}
```
1

```
\ispmdexppt{12.345678}
```
$(1)(10)$

```
\ispmdexppt{123.45678}
```
$(1)(10)^{2}$

```
\ispmdexppt{1234.5678}
```
$(1)(10)^{3}$

```
\ispmdexppt{12345.678}
```
$(1)(10)^{4}$

```
\ispmdexppt{123456.78}
```
$(1.234567)(10)^{5}$

```
\ispmdexppt{1234567.8}
```
$(1)(10)^{6}$

Nine digits, nine arguments:
```
\ispmdexppt{123456789}
```
$(1)(10)^{8}$

5.2.3 Rendering by negative exponents of number ten powers

Rendering of a number as it multiplied by number ten raised to negative exponents of power.

By first digit as leading digit, without truncated digits on the right of it

One digit after dot

```
\ispmdexpm{0.1}
```

$(1)(10)^{-1}$

Two digits after dot

```
\ispmdexpm{0.12}
```

$(1.2)(10)^{-1}$

```
\ispmdexpm{0.01}
```

$(1)(10)^{-2}$

```
\ispmdexpm{0.10}
```

$(1.0)(10)^{-1}$

Three digits after dot

```
\ispmdexpm{0.123}
```

$(1.23)(10)^{-1}$

```
\ispmdexpm{0.012}
```

$(1.2)(10)^{-2}$

```
\ispmdexpm{0.001}
```

$(1)(10)^{-3}$

Four digits after dot

```
\ispmdexpm{0.1234}
```

$(1.234)(10)^{-1}$

```
\ispmdexpm{0.0123}
```

$(1.23)(10)^{-2}$

```
\ispmdexpm{0.0012}
```

$(1.2)(10)^{-3}$

```
\ispmdexpm{0.0001}
```

$(1)(10)^{-4}$

Five digits after dot

```
\ispmdexpm{0.12345}
```

$(1.2345)(10)^{-1}$

```
\ispmdexpm{0.01234}
```

$(1.234)(10)^{-2}$

```
\ispmdexpm{0.00123}
```
$(1.23)(10)^{-3}$

```
\ispmdexpm{0.00012}
```
$(1.2)(10)^{-4}$

```
\ispmdexpm{0.00001}
```
$(1)(10)^{-5}$

Six digits after dot

```
\ispmdexpm{0.123456}
```
$(1.23456)(10)^{-1}$

```
\ispmdexpm{0.012345}
```
$(1.2345)(10)^{-2}$

```
\ispmdexpm{0.001234}
```
$(1.234)(10)^{-3}$

```
\ispmdexpm{0.000123}
```
$(1.23)(10)^{-4}$

```
\ispmdexpm{0.000012}
```
$(1.2)(10)^{-5}$

```
\ispmdexpm{0.000001}
```
$(1)(10)^{-6}$

Seven digits after dot

```
\ispmdexpm{0.1234567}
```
$(1.234567)(10)^{-1}$

```
\ispmdexpm{0.0123456}
```
$(1.23456)(10)^{-2}$

```
\ispmdexpm{0.0012345}
```
$(1.2345)(10)^{-3}$

```
\ispmdexpm{0.0001234}
```
$(1.234)(10)^{-4}$

```
\ispmdexpm{0.0000123}
```
$(1.23)(10)^{-5}$

```
\ispmdexpm{0.0000012}
```
$(1.2)(10)^{-6}$

```
\ispmdexpm{0.0000001}
```

$(1)(10)^{-7}$

By first digit as leading digit, with truncated digits on the right of it

One digit after dot

```
\ispmdexpmt{0.1}
```

$(1)(10)^{-1}$

Two digits after dot

```
\ispmdexpmt{0.12}
```

$(1)(10)^{-1}$

```
\ispmdexpmt{0.01}
```

$(1)(10)^{-2}$

```
\ispmdexpmt{0.10}
```

$(1)(10)^{-1}$

Three digits after dot

```
\ispmdexpmt{0.123}
```

$(1)(10)^{-1}$

```
\ispmdexpmt{0.012}
```

$(1)(10)^{-2}$

```
\ispmdexpmt{0.001}
```

$(1)(10)^{-3}$

Four digits after dot

```
\ispmdexpmt{0.1234}
```

$(1)(10)^{-1}$

```
\ispmdexpmt{0.0123}
```

$(1)(10)^{-2}$

```
\ispmdexpmt{0.0012}
```

$(1)(10)^{-3}$

```
\ispmdexpmt{0.0001}
```

$(1)(10)^{-4}$

Five digits after dot

```
\ispmdexpmt{0.12345}
```

$(1)(10)^{-1}$

```
\ispmdexpmt{0.01234}
```

$(1)(10)^{-2}$

```
\ispmdexpmt{0.00123}
```

$(1)(10)^{-3}$

```
\ispmdexpmt{0.00012}
```
$(1)(10)^{-4}$

```
\ispmdexpmt{0.00001}
```
$(1)(10)^{-5}$

Six digits after dot

```
\ispmdexpmt{0.123456}
```
$(1)(10)^{-1}$

```
\ispmdexpmt{0.012345}
```
$(1)(10)^{-2}$

```
\ispmdexpmt{0.001234}
```
$(1)(10)^{-3}$

```
\ispmdexpmt{0.000123}
```
$(1)(10)^{-4}$

```
\ispmdexpmt{0.000012}
```
$(1)(10)^{-5}$

```
\ispmdexpmt{0.000001}
```
$(1)(10)^{-6}$

Seven digits after dot

```
\ispmdexpmt{0.1234567}
```
$(1)(10)^{-1}$

```
\ispmdexpmt{0.0123456}
```
$(1)(10)^{-2}$

```
\ispmdexpmt{0.0012345}
```
$(1)(10)^{-3}$

```
\ispmdexpmt{0.0001234}
```
$(1)(10)^{-4}$

```
\ispmdexpmt{0.0000123}
```
$(1)(10)^{-5}$

```
\ispmdexpmt{0.0000012}
```
$(1)(10)^{-6}$
```
\ispmdexpmt{0.0000001}
```
$(1)(10)^{-7}$

5.2.4 option 'flushpostdot'

Usage: `\usepackage[flushpostdot]{isphysicalmath}`

Outside mathematical environment:
`\ispmflushpd 12.3`
12

Inside mathematical environment:
`$\ispmflushpd 12.3$`
12

5.2.5 option 'dc'

Usage: `\usepackage[dc]{isphysicalmath}`

The code of this option is not mine, it already exists in LaTeX literature, I discovered it in https://en.wikibooks.org/wiki/LaTeX.

This option by `\ispmc` changes dots in commas. It is useful for some users who don't use scientific international notation. It is convenient for users who respect scientific international notation, so they change dots in commas to select thousands and not to express numbers under the unit.

e.g.

1.234 becomes 1,234

The code:

```
\ispmc 1.234
```

This option by `\ispmrc` changes commas in dots. It is useful for some users who want to use scientific international notation. It is convenient for users who respect scientific international notation, so they change commas in dots to express numbers under the unit.

e.g.

1,234 becomes 1.234

The code:

```
\ispmrc 1,234
```

6 isphysicalmath url

Package home URL: https://ctan.org/pkg/isphysicalmath

7 Copyright

8 Change history

8.1 v1.0.0

2023.09.18 First version.

8.2 v1.1.0

2024.01.03 Following improvements have been brought:

1. section 3 changed.
2. URL https://ctan.org/pkg/isphysicalmath specified.
3. Original *comma* option changed in command, and new *comma* option `\ispmc` added.
4. Example added in subsection 5.1.
5. Doc *dc* option improved in subsection 4.1.
6. *dc* option changed in `\ispmc`.
7. *dc* option improved adding `\ispmrc` to change commas in dots.
8. Doc *comma* option improved in subsection 4.1.
9. Doc *comma* option changed in subsection 5.2.
10. Option *comma* improved, now the goal is reached by a single command.
11. Option *comma* changed.
12. subsubsection 5.2.1 added.
13. Following commands added:
    - `\ispmfourth`;
    - `\ispmfifth`;
    - `\ispmsixth`;

- `\ispmseventh`;
- `\ispmeighth`;
- `\ispmninth`;
- `\ispmn`.

14. Example ‘With inner mathematical environments (e)’ added in subsection 5.1.
15. Example ‘Final example’ added in subsection 5.1.
16. subsubsection 5.2.5 changed.
17. `\ispm` command changed, so subsection 4.1 changed.
18. ‘About physical quantities dimensions’ (subsection 5.1) improved.
19. Clarified in subsection 5.1 when to join or to detach formatting commands to previous term.
20. Year of the copyright modified.
21. README.md:
    - Year of the copyright modified.
    - ‘Change History’ added.
    - ‘URL’ modified.
    - ‘Documentation’ modified.
    - ‘Dependencies’ modified.
    - ‘Build the documentation’ removed.
    - ‘Build isphysicalmath.sty’ removed.

8.3 v2.0.0

2024.12.24 Following corrections, improvements and new features have been brought:

1. I have corrected some distraction mistakes. However, perfect operation of *isphysicalmath* was guarenteed before these corrections too.
2. I have removed *comma option*.
3. I have changed the order of *options* in the documentation index.
4. I have added the following new features:
   - `\ispmdexpp` command;
   - `\ispmdexppt` command;
   - `\ispmdexpm` command;
   - `flushpostdot` option.
5. I have changed my e-mail contact.