

# The `latex-lab-mathtools` code\*

L<sup>A</sup>T<sub>E</sub>X Project

v0.80e 2026-04-25

## Abstract

## Contents

<b>1</b>	<b>Introduction</b>	<b>1</b>
<b>2</b>	<b>The Implementation</b>	<b>1</b>
2.1	File declaration . . . . .	1
2.2	<code>\shortintertext</code> . . . . .	1
	<b>Index</b>	<b>5</b>

## 1 Introduction

This file implements adaption to the `mathtools` package needed for the tagging project.

## 2 The Implementation

1 `<@@=math>`

2 `<*kernel>`

### 2.1 File declaration

3 `\ProvidesFile{latex-lab-mathtools.ltx}`

4 `[\ltlabmathtoolsdate\space \ltlabmathtoolsversion\space mathtools adaption]`

---

\*

## 2.2 \shortintertext

Similar to the `\intertext` command from `amsmath`, `\shortintertext` errors with active tagging as it is processed twice which leads to duplicated structures. The fix is similar but is complicated as `mathtools` defines two version (and an additional `\intertext` version) and package options to switch between the variants.

At first we redefine all the internal commands

```

5 \ExplSyntaxOn
6 \tl_new:N\l__math_mathtools_init_tl
7 \cs_if_eq:NNTF\intertext@ \MT_intertext:
8 {
9   \tl_set:Nn \l__math_mathtools_init_tl {\MT_orig_intertext_false:}
10 }
11 {
12   \tl_set:Nn \l__math_mathtools_init_tl {\MT_orig_intertext_true:}
13 }

14 \cs_if_eq:NNTF\shortintertext@ \MT_shortintertext:n
15 {
16   \tl_put_right:Nn \l__math_mathtools_init_tl
17     {\MT_orig_shortintertext_false:}
18 }
19 {
20   \tl_put_right:Nn \l__math_mathtools_init_tl
21     {\MT_orig_shortintertext_true:}
22 }

23 <@@=>

24 \def\MT_intertext: {%
25   \def\intertext##1{%
26     \ifvmode\else\\\@empty\fi
27     \noalign{%
28       \penalty\postdisplaypenalty\vskip\belowdisplayskip
29       \vskip-\lineskiplimit % CCS
30       \vskip\normallineskiplimit % CCS
31       \vskip\l_MT_above_intertext_sep
32       \vbox{%

```

Stop tagging when measuring:

```

33   \ifmeasuring@\tag_suspend:n{\measuring}\fi
34   \normalbaselines
35   \ifdim
36     \ifdim\@totalleftmargin=\z@
37       \linewidth
38     \else
39       -\maxdimen
40     \fi
41   =\columnwidth
42   \else \parshape\@ne \@totalleftmargin \linewidth
43   \fi

```

End the previous mc:

```

44   \UseTaggingSocket{math/intertext}{}

```

```

45     {\noindent\ignorespaces##1\par}
46   }%
47   \penalty\predisplaypenalty\vskip\abovedisplayskip%
48   \vskip-\lineskiplimit      % CCS
49   \vskip\normallineskiplimit % CCS
50   \vskip\l_MT_below_intertext_sep
51 }%
52 }%
53 \MH_let:NwN \shortintertext \shortintertext@
54 }

55 \def\MT_orig_shortintertext:n #1{%
56   \ifvmode\else\\@empty\fi
57   \noalign{%
58     \penalty\postdisplaypenalty\vskip\abovedisplayshortskip
59     \vbox{%
60       \ifmeasuring@\tag_suspend:n{\measuring}\fi
61       \normalbaselines
62       \MH_if_dim:w
63       \MH_if_dim:w \@totalleftmargin=\z@
64       \linewidth
65       \MH_else:
66       -\maxdimen
67       \MH_fi:
68       =\columnwidth
69       \MH_else:
70       \parshape\@ne \@totalleftmargin \linewidth
71       \MH_fi:

72       \UseTaggingSocket{math/intertext}{\}
73       {\noindent\ignorespaces#1\par}
74     }
75     \penalty\predisplaypenalty\vskip\abovedisplayshortskip%
76   }%
77 }

78 \def\MT_shortintertext:n #1{%
79   \ifvmode\else\\@empty\fi
80   \noalign{%
81     \penalty\postdisplaypenalty\vskip\abovedisplayshortskip
82     \vskip-\lineskiplimit
83     \vskip\normallineskiplimit
84     \vskip\l_MT_above_shortintertext_sep
85     \vbox{%
86       \ifmeasuring@\tag_suspend:n{\measuring}\fi
87       \normalbaselines
88       \MH_if_dim:w
89       \MH_if_dim:w \@totalleftmargin=\z@
90       \linewidth
91       \MH_else:
92       -\maxdimen
93       \MH_fi:
94       =\columnwidth
95       \MH_else:
96       \parshape\@ne \@totalleftmargin \linewidth

```

```

97      \MH_fi:

98      \UseTaggingSocket{math/intertext}{\}
99      {\noindent\ignorespaces#1\par}
100    }%
101    \penalty\predisplaypenalty\vskip\abovedisplayshortskip%
102    \vskip-\lineskiplimit
103    \vskip\normallineskiplimit
104    \vskip\l_MT_below_shortintertext_sep
105  }%
106 }

```

see <https://github.com/latex3/tagging-project/issues/734>. The multlined environment still creates a few unneeded structure, perhaps triggered by empty tags.

```

107    \renewcommand*\MT_mult_internal:n [1]{
108      \MH_if_boolean:nF {outer_mult}{\alignedspace@left} %<-- requires amsmath 2016/11/05
109      \MT_next:
110      \bgroup
111      \Let@
112      \def\l_MT_multline_lastline_fint{0 }
113      \chardef\dspbrk@context\@ne \restore@math@cr
114      \MH_let:NwN \math@cr@@\MT_mult_mathcr_atat:w
115      \MH_let:NwN \shoveleft\MT_shoveleft:wn
116      \MH_let:NwN \shoveright\MT_shoveright:wn
117      \spread@equation
118      \MH_set_boolean_F:n {mult_firstline}
119      \MT_measure_mult:n {#1}
120      \MH_if_dim:w \l_MT_multwidth_dim<\l_MT_multline_measure_fdim
121      \MH_setlength:dn \l_MT_multwidth_dim{\l_MT_multline_measure_fdim}
122      \fi
123      \MH_set_boolean_T:n {mult_firstline}
124      \MH_if_num:w \l_MT_multline_lastline_fint=\@ne
125      \MH_let:NwN \math@cr@@\MT_mult_firstandlast_mathcr:w
126      \MH_fi:
127      \ialign\bgroup
128      \hfil\strut@$\m@th\displaystyle{##}
129      \UseTaggingSocket{math/luamml/save/nNn}{\ } \displaystyle {mtd}}
130      $
131      \UseTaggingSocket{math/luamml/mtable/finalizecol}{last}
132      \hfil
133      \crrc
134      \hfilneg
135      #1
136    }

```

end hook

```

137 <@@=math>

138 \l__math_mathtools_init_tl
139 \ExplSyntaxOff

140 </kernel>

```

# Index

The italic numbers denote the pages where the corresponding entry is described, numbers underlined point to the definition, all others indicate the places where it is used.

<b>Symbols</b>	
<code>\</code> .....	26, 56, 79
<b>A</b>	
<code>\abovedisplayskip</code> ...	58, 75, 81, 101
<code>\abovedisplayskip</code> .....	47
<b>B</b>	
<code>\belowdisplayskip</code> .....	28
<code>\bgroup</code> .....	110, 127
<b>C</b>	
<code>\chardef</code> .....	113
<code>\columnwidth</code> .....	41, 68, 94
<code>\crrc</code> .....	133
cs commands:	
<code>\cs_if_eq:NNTF</code> .....	7, 14
<b>D</b>	
<code>\def</code> .....	24, 25, 55, 78, 112
<code>\displaystyle</code> .....	128, 129
<b>E</b>	
<code>\else</code> .....	26, 38, 42, 56, 79
<code>\ExplSyntaxOff</code> .....	139
<code>\ExplSyntaxOn</code> .....	5
<b>F</b>	
<code>\fi</code> .....	26, 33, 40, 43, 56, 60, 79, 86, 122
<b>H</b>	
<code>\hfil</code> .....	128, 132
<code>\hfilneg</code> .....	134
<b>I</b>	
<code>\ialign</code> .....	127
<code>\ifdim</code> .....	35, 36
<code>\ifvmode</code> .....	26, 56, 79
<code>\ignorespaces</code> .....	45, 73, 99
<code>\intertext</code> .....	1, 25
<b>L</b>	
<code>\lineskiplimit</code> .....	29, 48, 82, 102
<code>\linewidth</code> .....	37, 42, 64, 70, 90, 96
<code>\ltlabmathtoolsdate</code> .....	4
<code>\ltlabmathtoolsversion</code> .....	4
<b>M</b>	
<code>\maxdimen</code> .....	39, 66, 92
<code>\measuring</code> .....	33, 60, 86
MH commands:	
<code>\MH_else:</code> .....	65, 69, 91, 95
<code>\MH_fi:</code> .....	67, 71, 93, 97, 126
<code>\MH_if_boolean:nTF</code> .....	108
<code>\MH_if_dim:w</code> .....	62, 63, 88, 89, 120
<code>\MH_if_num:w</code> .....	124
<code>\MH_let:NwN</code> ....	53, 114, 115, 116, 125
<code>\MH_set_boolean_F:n</code> .....	118
<code>\MH_set_boolean_T:n</code> .....	123
<code>\MH_setlength:dn</code> .....	121
MT commands:	
<code>\l_MT_above_intertext_sep</code> .....	31
<code>\l_MT_above_shortintertext_sep</code> ..	84
<code>\l_MT_below_intertext_sep</code> .....	50
<code>\l_MT_below_shortintertext_sep</code> .	104
<code>\MT_intertext:</code> .....	7, 24
<code>\MT_measure_mult:n</code> .....	119
<code>\MT_mult_firstandlast_mathcr:w</code> .	125
<code>\MT_mult_internal:n</code> .....	107
<code>\MT_mult_mathcr_atat:w</code> .....	114
<code>\l_MT_multline_lastline_fint</code> ..	112, 124
<code>\l_MT_multline_measure_fdim</code> ..	120, 121
<code>\l_MT_multwidth_dim</code> .....	120, 121
<code>\MT_next:</code> .....	109
<code>\MT_orig_intertext_false:</code> .....	9
<code>\MT_orig_intertext_true:</code> .....	12
<code>\MT_orig_shortintertext:n</code> .....	55
<code>\MT_orig_shortintertext_false:</code> ..	17
<code>\MT_orig_shortintertext_true:</code> ...	21
<code>\MT_shortintertext:n</code> .....	14, 78
<code>\MT_shoveleft:wn</code> .....	115
<code>\MT_shoveright:wn</code> .....	116
<b>N</b>	
<code>\noalign</code> .....	27, 57, 80
<code>\noindent</code> .....	45, 73, 99
<code>\normalbaselines</code> .....	34, 61, 87
<code>\normallineskiplimit</code> ....	30, 49, 83, 103
<b>P</b>	
<code>\par</code> .....	45, 73, 99
<code>\parshape</code> .....	42, 70, 96
<code>\penalty</code> .....	28, 47, 58, 75, 81, 101
<code>\postdisplaypenalty</code> .....	28, 58, 81
<code>\predisdisplaypenalty</code> .....	47, 75, 101
<code>\ProvidesFile</code> .....	3

<b>R</b>		
<code>\renewcommand</code>	107	<code>\math@cr@@</code> 114, 125
<b>S</b>		<code>\restore@math@cr</code> 113
<code>\shortintertext</code>	1, 53	<code>\shortintertext@</code> 14, 53
<code>\shoveleft</code>	115	<code>\spread@equation</code> 117
<code>\shoveright</code>	116	<code>\strut@</code> 128
<code>\space</code>	4	<code>\z@</code> 36, 63, 89
<b>T</b>		tl commands:
tag commands:		<code>\tl_new:N</code> 6
<code>\tag_suspend:n</code>	33, 60, 86	<code>\tl_put_right:Nn</code> 16, 20
TeX and L <sup>A</sup> T <sub>E</sub> X 2 <sub>ε</sub> commands:		<code>\tl_set:Nn</code> 9, 12
<code>\@empty</code>	26, 56, 79	tl internal commands:
<code>\@one</code>	42, 70, 96, 113, 124	<code>\l__math_mathtools_init_tl</code> 6, 9, 12, 16, 20, 138
<code>\@totalleftmargin</code>	36, 42, 63, 70, 89, 96	
<code>\alignedspace@left</code>	108	
<code>\dspbrk@context</code>	113	
<code>\ifmeasuring@</code>	33, 60, 86	
<code>\intertext@</code>	7	
<code>\Let@</code>	111	
<code>\m@th</code>	128	
<b>U</b>		
		<code>\UseTaggingSocket</code> 44, 72, 98, 129, 131
<b>V</b>		
<code>\vbox</code>	32, 59, 85	
<code>\vskip</code>	28, 29, 30, 31, 47, 48, 49, 50, 58, 75, 81, 82, 83, 84, 101, 102, 103, 104	