

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

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

v0.80a 2024-09-18

## Abstract

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## 1 Introduction

This file implements adaptations 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 `[2024-07-13 v0.1a mathtools adaptations]`

### 2.2 Tagpdf support

To make the code independent from tagging being loaded and active we load the `tagpdf-base` package:

5 `\RequirePackage{tagpdf-base}`

---

\*

## 2.3 \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

```

6 \ExplSyntaxOn
7 \tl_new:N\l__math_mathtools_init_tl
8 \AddToHook{package/mathtools/after}
9 {%
10   \cs_if_eq:NNTF\intertext@ \MT_intertext:
11     {
12       \tl_set:Nn \l__math_mathtools_init_tl {\MT_orig_intertext_false:}
13     }
14     {
15       \tl_set:Nn \l__math_mathtools_init_tl {\MT_orig_intertext_true:}
16     }
17   \cs_if_eq:NNTF\shortintertext@ \MT_shortintertext:n
18     {
19       \tl_put_right:Nn \l__math_mathtools_init_tl
20         {\MT_orig_shortintertext_false:}
21     }
22     {
23       \tl_put_right:Nn \l__math_mathtools_init_tl
24         {\MT_orig_shortintertext_true:}
25     }
26   \def\MT_intertext: {%
27     \def\intertext##1{%
28       \ifmode\else\\\@empty\fi
29       \noalign{%
30         \penalty\postdisplaypenalty\vskip-\belowdisplayskip
31         \vskip-\lineskiplimit % CCS
32         \vskip\normallineskiplimit % CCS
33         \vskip\l_MT_above_intertext_sep
34         \vbox{%

```

Stop tagging when measuring:

```

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

```

End the previous mc:

```

46     \tag_mc_end_push:

```

We are already in a par so we change now to Span:

```

47     \tagpdfsetup{para/tag=Span}

```

```

48         \noindent\ignorespaces##1\par
Restart the MC
49         \tag_mc_begin_pop:n{}}%
50         \penalty\predisplaypenalty\vskip\abovedisplayskip%
51         \vskip-\lineskiplimit      % CCS
52         \vskip\normallineskiplimit % CCS
53         \vskip\l_MT_below_intertext_sep
54     }%
55 }%
56 \MH_let:NwN \shortintertext \shortintertext@
57 }

\def\MT_orig_shortintertext:n #1{%
58     \ifvmode\else\\\@empty\fi
59     \noalign{%
60         \penalty\postdisplaypenalty\vskip\abovedisplayshortskip
61         \vbox{%
62             \ifmeasuring@\tag_suspend:n{\measuring}\fi
63             \normalbaselines
64             \MH_if_dim:w
65             \MH_if_dim:w \@totalleftmargin=\z@
66             \linewidth
67             \MH_else:
68                 -\maxdimen
69             \MH_fi:
70             =\columnwidth
71         \MH_else:
72             \parshape\@ne \@totalleftmargin \linewidth
73             \MH_fi:
74             \tag_mc_end_push:
75             \tagpdfsetup{para/tag=Span}
76             \tagpdfparaOn
77             \noindent\ignorespaces#1\par
78             \tag_mc_begin_pop:n{}}
79         \penalty\predisplaypenalty\vskip\abovedisplayshortskip%
80     }%
81 }
82 }
83
84 \def\MT_shortintertext:n #1{%
85     \ifvmode\else\\\@empty\fi
86     \noalign{%
87         \penalty\postdisplaypenalty\vskip\abovedisplayshortskip
88         \vskip-\lineskiplimit
89         \vskip\normallineskiplimit
90         \vskip\l_MT_above_shortintertext_sep
91         \vbox{%
92             \ifmeasuring@\tag_suspend:n{\measuring}\fi
93             \normalbaselines
94             \MH_if_dim:w
95             \MH_if_dim:w \@totalleftmargin=\z@
96             \linewidth
97             \MH_else:
98                 -\maxdimen
99             \MH_fi:

```

```

100         =\columnwidth
101     \MH_else:
102         \parshape\@ne \@totalleftmargin \linewidth
103     \MH_fi:
104     \tag_mc_end_push:
105     \tagpdfsetup{para/tag=P}

```

Why is it needed to enable paratagging??

```

106     \tagpdfpara0n
107     \noindent\ignorespaces#1\par
108     \tag_mc_begin_pop:n{}}%
109     \penalty\predisplaypenalty\vskip\abovedisplayshortskip%
110     \vskip-\lineskiplimit
111     \vskip\normallineskiplimit
112     \vskip\l_MT_below_shortintertext_sep
113 }%
114 }
115

```

end hook

```

116 \l_math_mathtools_init_tl
117 }
118 \ExplSyntaxOff
119 </kernel>

```

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