

stmdtext class description

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`stmdtext` is a wrapper documentclass around a selection of existing class layouts for L^AT_EX. Additionally, it allows quick access to the modules of `stmdlatex`.

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1. About

`stmdtext` is supposed to be an easy-to-use interface to several other document classes with the additional use of the modules of `stmdlatex`. The class addresses users who want to use certain features without initially worrying about their implementation. However, there will most certainly come a point in the learning curve of a \LaTeX user where this documentclass becomes insufficient. That's what's wanted. Maybe, until this point, the class has helped to bring some possibilities of \LaTeX closer.

The goal is to make \LaTeX functionalities available to the user. It is not intended to make any changes to the document layout, despite loading the underlying document classes. The rest of the layout can be freely changed by the user.

The complete class and module system can be found at

<https://github.com/raedma/stmdlatex>

2. Options

This section describes the class options. All options are key-value-options, meaning they are set using the definition `KEY=VALUE`. It must be noted that these options can not represent the full features of the module packages. In case more advanced options are required make sure to have a look at the individual package descriptions and consider loading them individually. Maybe you find what you need.

2.1. Overview

Boolean options These options can only have the values `true` or `false`.

Table 1: Boolean class options

Key	Default value	Description
<code>attachfile</code>	<code>false</code>	Load the <code>attachfile</code> package at the correct position relative to <code>stmdhyperref</code>
<code>cleverref</code>	<code>false</code>	Load the <code>cleverref</code> package at the correct position relative to <code>stmdhyperref</code>
<code>color</code>	<code>true</code>	Load the <code>stmdcolors</code> package
<code>conditionallox</code>	<code>true</code>	Load the <code>stmdconditionallox</code> package
<code>conditionalloxnewpage</code>	<code>true</code>	Set the value of the <code>newpage</code> option in the <code>stmdconditionallox</code> package
<code>date</code>	<code>false</code>	Load the <code>stmddate</code> package
<code>glossaries</code>	<code>false</code>	Load the <code>stmdglossaries</code> package
<code>index</code>	<code>false</code>	Load the <code>stmdindex</code> package
<code>hyperref</code>	<code>true</code>	Load the <code>stmdhyperrefsetup</code> package
<code>listings</code>	<code>false</code>	Load the <code>stmdlistings</code> package

continued ...

...continued

Key	Default value	Description
<code>math</code>	<code>false</code>	Load the stmmath package
<code>plots</code>	<code>false</code>	Load the stmplots package
<code>tikz</code>	<code>false</code>	Load the stmtikz package
<code>units</code>	<code>false</code>	Load the <code>stmunits</code> package

String options These options have strings as values. Possible arguments are listed. The default is underlined.

Table 2: String class options

Key	Values	Description
<code>language</code>	<code>german</code> <u><code>english</code></u>	Document language, Load the <code>stmlanguage</code> package with this option
<code>layout</code>	<code>standard</code> <code>dlr</code> <u><code>koma</code></u>	Document layout
<code>type</code>	<code>article</code> <u><code>report</code></u> <code>book</code>	Base document type

The following options are only available for `layout=dlr` which uses the RM-LaTeX based document classes.

Table 4: Additional string class options for `layout=dlr`

Key	Values	Description
<code>institute</code>	<u><code>FA-STM</code></u>	See the RM-LaTeX documentation for alternatives
<code>site</code>	<u><code>BS</code></u>	See the RM-LaTeX documentation for alternatives

2.2. Option `attachfile`

The package [attachfile](#) is one of the packages that has to be loaded at a specific relative position to [hyperref](#). Thus, this option is only relevant in case the Option `hyperref` from section 2.11 is used.

2.3. Option `cleveref`

The package [cleveref](#) is one of the packages that has to be loaded at a specific relative position to [hyperref](#). Thus, this option is only relevant in case the Option `hyperref` from section 2.11 is used.

2.4. Option color

2.5. Option conditionallox

In case the option `conditionallox` is used, the document has to be compiled at least three times.

2.6. Option conditionalloxnewpage

2.7. Option date

2.8. Option glossaries

Setting `glossaries=true` loads the [stmglossaries](#). Thus, the user is able to use the glossary entries from the package as described in the package documentation.

In case the [arara](#) package is used for the build automation of the L^AT_EX document, add

```
arara: makeglossaries
```

in the build automation part of your preamble. That way, the glossaries are automatically compiled during your document creation.

For the glossaries to show up in your document, simply place the commands to print the glossary entries of your choice at the location in your document where you want them to show up, e.g.

```
\printstmacronyms  
  
\printstmscalarglossary  
\printstmvectorglossary  
\printstmmatrixglossary  
\printstmstateglossary  
\printstmindexglossary  
\printstmexponentglossary  
\printstmoperatorglossary
```

or

```
\printstmacronyms  
\printallstmglossaries
```

In case no entries are defined, the lists are simply omitted in your document.

2.9. Option index

2.10. Option institute

2.11. Option hyperref

<https://tex.stackexchange.com/a/26592>

2.12. Option language

2.13. Option layout

2.14. Option listings

2.15. Option math

2.16. Option plots

2.17. Option site

2.18. Option tikz

2.19. Option type

2.20. Option units

2.21. Other options

All other options are passed to the underlying document class. Thus, it has to be made sure that the underlying document class understands these options. At this point, switching the argument in the `Option layout` may lead to problems in case the options is specific to a document class.

3. Usage

3.1. type-independent document structure

[coseoul](#) package

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A. The code

A.1. stmtext.cls

```
1 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
2 % Header %
3 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
4 %
5 % This is a document class for structural mechanics
6 % documentation
7 %
8 % Usage
9 % - Preamble:
10 % - \documentclass{stmtext}
11 %
12 % Revisions: 2019-11-25 Martin Raedel <martin.raedel@dlr.de>
13 % Initial draft
14 %
15 % Contact: Martin Raedel, martin.raedel@dlr.de
16 % DLR Composite Structures and Adaptive Systems
17 %
18 % --/|--
19 % /-/_/_/_/
20 % www.dlr.de/fa/en |// DLR
21 %
22 % Copyright (C) 2019-... DLR Composite Structures and
23 % Adaptive Systems
24 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
25 % Content %
26 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
27
28 % Declare that this style file requires at least LaTeX
29 % version 2e.
30 \NeedsTeXFormat{LaTeX2e}
31
32 % Provide the name of your page, the date it was last
33 % updated, and a comment about what it's used for
34 \ProvidesClass{stmtext}[2019/11/25 STM documentation class]
35
36 % -----
37 % Package
38 % -----
```

```

38 \@ifpackageloaded{kvoptions}{\RequirePackage{kvoptions}}%
39 \@ifpackageloaded{ifthen}{\RequirePackage{ifthen}}%
40
41 % -----
42 % Options base
43 % -----
44
45 \SetupKeyvalOptions{%
46   family=stmttextbase,%
47   prefix=stmttextbase@,%
48   setkeys=\kvsetkeys,%
49 }
50
51 % String options
52 \DeclareStringOption[report]{type}
53 \DeclareStringOption[koma]{layout}
54
55 % Process options
56 \ProcessKeyvalOptions{stmttextbase}
57
58 % -----
59 % Options
60 % -----
61
62 \SetupKeyvalOptions{%
63   family=stmttext,%
64   prefix=stmttext@,%
65   setkeys=\kvsetkeys,%
66 }
67
68 % Bool option
69 \DeclareBoolOption[true] {color}
70 \DeclareBoolOption[true] {conditionallox}
71 \DeclareBoolOption[true] {conditionalloxnewpage}
72 \DeclareBoolOption[false]{date}
73 \DeclareBoolOption[false]{glossaries}
74 \DeclareBoolOption[false]{index}
75 \DeclareBoolOption[true] {hyperref}
76 \DeclareBoolOption[false]{listings}
77 \DeclareBoolOption[false]{math}
78 \DeclareBoolOption[false]{plots}
79 \DeclareBoolOption[false]{tikz}
80 \DeclareBoolOption[false]{units}
81

```

```

82 %
83 \DeclareStringOption[english]{language}
84
85 % DLR options
86 \DeclareStringOption[FA-STM]{institute}
87 \DeclareStringOption[BS]{site}
88
89 % Options that are dependent of the position of hyperref
90 \DeclareBoolOption[false]{attachfile}
91 \DeclareBoolOption[false]{cleveref}
92
93 % any other options are passed to the base class
94 \DeclareDefaultOption{%
95   \ifthenelse{\equal{\stmtextbase@type}{article}}{%
96     \ifthenelse{\equal{\stmtextbase@layout}{standard}}{%
97       \PassOptionsToClass{\CurrentOption}{article}%
98     }{}%
99     \ifthenelse{\equal{\stmtextbase@layout}{dlr}}{%
100       \PassOptionsToClass{\CurrentOption}{dlrartcl}%
101     }{}%
102     \ifthenelse{\equal{\stmtextbase@layout}{koma}}{%
103       \PassOptionsToClass{\CurrentOption}{scrartcl}%
104     }{}%
105   }{}%
106 }
107 \DeclareDefaultOption{%
108   \ifthenelse{\equal{\stmtextbase@type}{report}}{%
109     \ifthenelse{\equal{\stmtextbase@layout}{standard}}{%
110       \PassOptionsToClass{\CurrentOption}{report}%
111     }{}%
112     \ifthenelse{\equal{\stmtextbase@layout}{dlr}}{%
113       \PassOptionsToClass{\CurrentOption}{dlrreprt}%
114     }{}%
115     \ifthenelse{\equal{\stmtextbase@layout}{koma}}{%
116       \PassOptionsToClass{\CurrentOption}{scrreprt}%
117     }{}%
118   }{}%
119 }
120 \DeclareDefaultOption{%
121   \ifthenelse{\equal{\stmtextbase@type}{book}}{%
122     \ifthenelse{\equal{\stmtextbase@layout}{standard}}{%
123       \PassOptionsToClass{\CurrentOption}{book}%
124     }{}%
125     \ifthenelse{\equal{\stmtextbase@layout}{dlr}}{%

```

```

126     \PassOptionsToClass{\CurrentOption}{dlrbook}%
127   }{}%
128   \ifthenelse{\equal{\stmsymbol@layout}{koma}}{%
129     \PassOptionsToClass{\CurrentOption}{scrbook}%
130   }{}%
131 }{}%
132 }
133
134 % Process options
135 \ProcessKeyvalOptions{stmsymbol}
136
137 % -----
138 % Base class
139 % -----
140
141 % Load scrreprt class
142
143 \ifthenelse{\equal{\stmsymbol@type}{article}}{%
144   \ifthenelse{\equal{\stmsymbol@layout}{standard}}{%
145     \LoadClass{article}
146   }{}%
147   \ifthenelse{\equal{\stmsymbol@layout}{dlr}}{%
148     \LoadClass{dlrartcl}
149   }{}%
150   \ifthenelse{\equal{\stmsymbol@layout}{koma}}{%
151     \LoadClass{scrartcl}
152   }{}%
153 }{}%
154 \ifthenelse{\equal{\stmsymbol@type}{report}}{%
155   \ifthenelse{\equal{\stmsymbol@layout}{standard}}{%
156     \LoadClass{report}
157   }{}%
158   \ifthenelse{\equal{\stmsymbol@layout}{dlr}}{%
159     \LoadClass{dlrreprt}
160   }{}%
161   \ifthenelse{\equal{\stmsymbol@layout}{koma}}{%
162     \LoadClass{scrreprt}
163   }{}%
164 }{}%
165 \ifthenelse{\equal{\stmsymbol@type}{book}}{%
166   \ifthenelse{\equal{\stmsymbol@layout}{standard}}{%
167     \LoadClass{book}
168   }{}%
169   \ifthenelse{\equal{\stmsymbol@layout}{dlr}}{%

```

```

170     \LoadClass{dlrbook}
171   }{}%
172   \ifthenelse{\equal{\stmttextbase@layout}{koma}}{%
173     \LoadClass{scrbook}
174   }{}%
175 }{}%
176
177 % -----
178 % Commands for communality between document classes
179 % -----
180
181 % Commands for the standard document classes
182 \ifthenelse{\equal{\stmttextbase@layout}{standard}}{%
183
184   \@ifundefined{subtitle}{      \def\subtitle#1{\gdef\
185     @subtitle{#1} }%
186                                   \def\@subtitle{}}{}%
187 }{}%
188
189 % Commands for DLR document classes
190 \ifthenelse{\equal{\stmttextbase@layout}{dlr}}{%
191
192   \dlrinstitute{\stmttext@institute}%
193   \dlrsite      {\stmttext@site}%
194
195 }{}%
196
197 % Commands from RM-LaTeX that other classes need to
198 % understand
199 \ifthenelse{%
200   \equal{\stmttextbase@layout}{standard} \OR%
201   \equal{\stmttextbase@layout}{koma}%
202 }{%
203   % These commands are created to allow for an easy switch
204   % between
205   % dlrreprt and bootstrap_dlrreprt.
206   \@ifundefined{subject}{      \def\subject#1{\gdef\
207     @subject{#1} }%
208                                   \def\@subject{}}{}%
209   \@ifundefined{keywords}{     \def\keywords#1{\gdef\
210     @keywords{#1} }%

```

```

209                                     \def\@keywords{}}{}
210 \@ifundefined{restrictions}{\def\restrictions#1{\gdef\
    @restrictions{#1} }%
211                                     \def\@restrictions{}}{}
212 \@ifundefined{author}{\def\author#1{\gdef\@author
    {#1} }%
213                                     \def\@author{}}{}
214 \@ifundefined{coauthor}{\def\coauthor#1{\gdef\
    @coauthor{#1} }%
215                                     \def\@coauthor{}}{}
216 \@ifundefined{savedby}{\def\savedby#1{\gdef\
    @savedby{#1} }%
217                                     \def\@savedby{}}{}
218 \@ifundefined{approvedby}{\def\approvedby#1{\gdef\
    @approvedby{#1} }%
219                                     \def\@approvedby{}}{}
220 \@ifundefined{releasedby}{\def\releasedby#1{\gdef\
    @releasedby{#1} }%
221                                     \def\@releasedby{}}{}
222 \@ifundefined{contactname}{\def\contactname#1{\gdef\
    @contactname{#1} }%
223                                     \def\@contactname{}}{}
224 \@ifundefined{telnumber}{\def\telnumber#1{\gdef\
    @telnumber{#1} }%
225                                     \def\@telnumber{}}{}
226 \@ifundefined{faxnumber}{\def\faxnumber#1{\gdef\
    @faxnumber{#1} }%
227                                     \def\@faxnumber{}}{}
228 \@ifundefined{email}{\def\email#1{\gdef\@email
    {#1} }%
229                                     \def\@email{}}{}
230 \@ifundefined{reportno}{\def\reportno#1{\gdef\
    @reportno{#1} }%
231                                     \def\@reportno{}}{}
232
233 % From dlrinstitutes.sty
234 \@ifundefined{institute}{\def\institute#1{\gdef\
    @institute{#1} }%
235                                     \def\@institute{}}{}
236 \@ifundefined{site}{\def\site#1{\gdef\@site{#1}
    }%
237                                     \def\@site{}}{}
238
239 % The command for the second titlepage

```

```

240     \newcommand{\secondpage}{}%
241 }{
242
243     \RequirePackage{d1rsecondpage}
244
245 }
246
247 % -----
248 % Modules
249 % -----
250
251 \ifsttext@color
252     \RequirePackage{stmcolors}
253 \fi
254
255 \ifsttext@conditionallo
256     \RequirePackage[%
257         newpage={\ifsttext@conditionallo
258             newpage true\else
259             false\fi},%
260     ]{stmconditionallo}
261 \fi
262
263 \ifsttext@date
264     \RequirePackage{stmdate}
265 \fi
266
267 \ifsttext@glossaries
268     \RequirePackage{stm glossaries}
269 \fi
270
271 \ifsttext@index
272     \RequirePackage{stmindex}
273 \fi
274
275 %\ifsttext@language
276     \PassOptionsToPackage{%
277         language=\sttext@language,%
278     }{stm language}%
279     \RequirePackage{stm language}
280 %\fi
281
282 \ifsttext@listings
283     \RequirePackage{stm listings}
284 \fi

```

```

283
284 \ifsttext@math
285   \RequirePackage{stmmath}
286 \fi
287
288 \ifsttext@plots
289   \RequirePackage{stmplots}
290 \fi
291
292 \ifsttext@tikz
293   \RequirePackage{stmtikz}
294 \fi
295
296 \ifsttext@units
297   \RequirePackage{stmunits}
298 \fi
299
300 % -----
301 % Coseoul to get a level-independent document structure
302 % -----
303
304 \RequirePackage{coseoul}
305
306 \newcommand{\basetoclevelnr}[1]{#1}
307 \ifthenelse{\equal{\sttextbase@type}{article}}{%
308   \renewcommand{\basetoclevelnr}{5}%
309 }{%
310 \ifthenelse{\equal{\sttextbase@type}{report}}{%
311   \renewcommand{\basetoclevelnr}{6}%
312 }{%
313 \ifthenelse{\equal{\sttextbase@type}{book}}{%
314   \renewcommand{\basetoclevelnr}{7}%
315 }{%
316
317 \setcounter{currentlevel}{\basetoclevelnr}
318
319 % -----
320 % Hyperref - make sure it is loaded as the last package
321 % -----
322
323 \ifsttext@hyperref
324   \%makeatletter
325
326   \@ifpackageloaded{etoolbox}{%

```



```

327     \RequirePackage{etoolbox}
328 }
329
330 %\AtBeginDocument{
331 \AtEndPreamble{
332
333     %
334     \RequirePackage{stmhyperrefsetup}
335
336     % Must be loaded after hyperref
337     \ifsttext@attachfile
338         \RequirePackage{attachfile}
339     \fi
340
341     \ifsttext@cleveref
342         \RequirePackage{cleveref}
343     \fi
344 }
345 %\makeatother
346 \else
347     \ifsttext@attachfile
348         \RequirePackage{attachfile}
349     \fi
350
351     \ifsttext@cleveref
352         \RequirePackage{cleveref}
353     \fi
354 \fi
355
356 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
357 % That's it %
358 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
359
360 % Finally, we'll use \endinput to indicate that LaTeX can
361 % stop reading this file. LaTeX will ignore anything after
362 % this line.
363 \endinput

```