stmglossaries package description

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Martin Rädel

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For larger documents, such as reports and thesis, it is nice to have LaTeX take care of things like a list of acronyms or symbols.

If you write multiple documents you maybe want to make sure that the acronyms and symbols you use throughout all your texts are consistent. And you maybe also want to have the chance to change a symbol at a single location instead of crawling through every equation that might be affected by a change in notation.

This package provides an expendable set of commonly used acronyms as well as symbols in structural mechanics. It is build upon the glossaries package.

Contents

1. Example

This is a simple test. It uses an acronym auxiliary power unit (APU). The example also has an equation to test the symbols:

$$F = ma \tag{1}$$

It creates a nice little list of symbols

Scalars

Symbol	Name	Description
a	Acceleration	
m	Mass	
F	Force	

and list of acronyms

Acronyms

APU auxiliary power unit

2. Contents

There are multiple packages included:

- `stmglossaries.sty`
- `stmglossariesacronymitems.sty`
- `stmglossariesacronymstyles.sty`
- `stmglossariessymbolitems.sty`
- `stmglossariessymbolstyles.sty`

`stmglossariesacronymitems.sty` contains all acronym definitions. These can be used by the `\gls`-like commands of `glossaries`, see section 6.1 of the `glossaries` documentation.

`stmglossariesacronymstyles` contains implementations for the `style` option in a call to `\printglossary[type=\acronymtype,style=STYLENAME]`. See subsection 5.1 for details.

`stmglossariessymbolitems.sty` contains all symbol definitions. These can be used by the `\glssymbol` command of `glossaries`, see section 6.2 of the `glossaries` documentation.

`stmglossariessymbolstyles` contains implementations for the `style` option in a call to `\printglossary[type=scalarlist,style=STYLENAME]`. See subsection 5.2 for details.

`stmglossaries.sty` is a wrapper around the definitions for `acronyms` and `symbols` and loads both.

3. Usage - in the preamble

There are different options to load acronyms, symbols or the whole thing. Additionally, the package offers some predefined styles to set your symbols in a nice way.

3.1. Load the whole package - acronyms and symbols

This way, the acronym as well as the symbol items are loaded. Load the package by adding

```
\usepackage{stmglossaries}
```

to your preamble. In case you have not loaded *glossaries* with your own options beforehand, the package will load the package with the options `acronym`, `nomain` and `toc`.

3.1.1. Options

Option *loadstyles* and *noloadstyles* These options are only available for loading the whole package, with

```
\usepackage[noloadstyles]{stmglossaries}
```

`loadstyles` is the default and loads the styles. It is used in case `noloadstyles` is not set explicitly.

Option *morewrites* and *nomorewrites* `morewrites` is the default and loads the morewrites package. It is used in case `nomorewrites` is not set explicitly.

3.2. Load the acronyms package

This way, the acronyms are loaded. Load the package individually by adding

```
\usepackage{stmglossariesacronymitems}
```

to your preamble. In case you have not loaded *glossaries* with your own options beforehand, the package will load the package with the options `acronym`, `nomain` and `toc`.

3.2.1. Options

Option *loadacronymstyles* and *noloadacronymstyles* Load or do not load the style definitions from `stmglossariesacronymstyles` with

```
\usepackage[loadacronymstyles]{stmglossariesacronymitems}
\usepackage{stmglossariesacronymitems}
```

or

```
\usepackage[noloadacronymstyles]{stmglossariesacronymitems}
```

`loadacronymstyles` is the default and loads the styles. It is used in case `noloadacronymstyles` is not set explicitly. So the

3.3. Load the symbols package

This way, the acronyms are loaded. Load the package individually by adding

```
\usepackage{stmglossariessymbolitems}
```

to your preamble. In case you have not loaded *glossaries* with your own options beforehand, the package will load the package with the options `acronym`, `nomain` and `toc`.

3.3.1. Options

Option *loadsymbolstyles* and *noloadsymbolstyles* Load or do not load the style definitions from `stmglossariessymbolstyles` with

```
\usepackage[loadsymbolstyles]{stmglossariessymbolitems}
\usepackage{stmglossariessymbolitems}
```

or

```
\usepackage[noloadsymbolstyles]{stmglossariessymbolitems}
```

`loadacronymstyles` is the default and creates the styles. It is used in case `noloadacronymstyles` is not set explicitly.

4. Usage - in the document

4.1. Acronyms

Print the list of acronyms with the style *stmacronymstyle* and without number using *nonumberlist* with

```
\printglossary[type=\acronymtype,style=stmacronymstyle,nonumberlist]
```

For a description of acronym styles, see subsection 5.1.

4.2. Symbols

4.2.1. Commands

There might be a time where you very locally want to define a symbol without adding it to the global list of symbol. Despite that, you want to make sure that the symbol, e.g. for a vector, a matrix or a state, uses the correct notation style.

Therefore, `stmglossariessymbolitems` defines a couple of useful styling commands

\romanscalarsymbol	A roman scalar symbol
\greekscalarsymbol	A greek scalar symbol
\romanvectorsymbol	A roman vector symbol
\greekvectorsymbol	A greek vector symbol
\romanmatrixsymbol	A roman matrix symbol
\scalarstatesymbol	A greek matrix symbol
\romanvectorstatesymbol	A roman vector state symbol
\romandoublestatesymbol	A roman double state symbol

4.2.2. Lists

`stmglossariessymbolitems` defines a number of lists for different types of symbols:

scalarlist	A list for scalar values
vectorlist	A list for vectors
matrixlist	A list for matrices
statelist	A list for peridynamic states
indexlist	A list for indices
exponentlist	A list for exponents
operatorlist	A list for mathematical operators

4.2.3. Combine lists

In case you want to combine the predefined lists and print a single combined list, use

```
\documentclass{...}

\usepackage{stmglossaries}
%\usepackage{stmglossariessymbolitems}

\newglossary[slg1]{symbollist}{syi1}{syg1}{Nomenclature}
\forallglsentries[scalarlist]{\lfoo}{\glsmoveentry{\lfoo}{symbollist}}
\forallglsentries[vectorlist]{\lfoo}{\glsmoveentry{\lfoo}{symbollist}}
\forallglsentries[matrixlist]{\lfoo}{\glsmoveentry{\lfoo}{symbollist}}
\forallglsentries[statelist]{\lfoo}{\glsmoveentry{\lfoo}{symbollist}}
\makeglossaries

\begin{document}

...

\printglossary[type=symbollist,style=YOURSTYLENAME,nonumberlist]

\end{document}
```

as described in section 16.1 of the `glossaries` documentation.

5. Styles

5.1. Acronym styles

5.1.1. `stmacronymstyle`

Description This is a style for acronyms. It has one item column which is left aligned. The columns are *Abbreviation* and *Description*. Column headings are not printed.

Example

Acronyms

APU auxiliary power unit

5.2. Symbol styles

5.2.1. `stmsymbolstyle`

Description This is the basic style for variables. It has one item column which is left aligned. The columns are *Symbol*, *Name* and *Description*. Column headings are printed.

Example

Scalars

Symbol	Name	Description
a	Acceleration	
m	Mass	
F	Force	

5.2.2. `stmonecolpapersymbolstyle`

Description This is a style for variables for papers with one centered item column. The columns are *Symbol* and *Name*. Column headings are not printed.

Example

Scalars

a Acceleration

m	Mass
F	Force

5.2.3. `stmtwocolpapersymbolstyle`

Description This is a style for variables for papers with two centered item column. The columns are *Symbol* and *Name*. Column headings are not printed.

Example

Scalars

a	Acceleration	F	Force
m	Mass		

5.2.4. `stmindexstyle`

Description This is a style for variable indices with one left align item column. The columns are *Symbol* and *Description*. Column headings are printed.

Example

$$\varepsilon_0 \tag{2}$$

Indices

Symbol	Description
$(\ )_0$	Reference configuration

5.2.5. `stmexponentstyle`

Description This is a style for variable exponents with one left align item column. The columns are *Symbol* and *Description*. Column headings are printed.

Example

$$\varepsilon^e \tag{3}$$

Exponents

Symbol Description

$(\ )^e$ Elastic

5.2.6. `stmoperatorstyle`

Description This is a style for variable operators with one left align item column. The columns are *Symbol* and *Description*. Column headings are printed.

Example

$$\nabla \tag{4}$$

Operators

Symbol Description

$\nabla(\ )$ Fréchet derivative

A. All acronyms

B. All symbols

Scalars

Label	Symbol
symb:scalar:acceleration	a
symb:scalar:load:bodyforce	b
symb:scalar:pd:bond:constant	c
symb:scalar:geo:diameter	d
symb:scalar:pd:bond:elongation	e
symb:scalar:thickness	h
symb:scalar:geo:1D:length	l
symb:scalar:mass	m
symb:scalar:pd:volume:weighted	m_V
symb:scalar:pd:stretch	s
symb:scalar:pd:stretch:critical	s_C
symb:scalar:time	t
symb:scalar:timestep	Δt
symb:scalar:displacement	u
symb:scalar:displacement:component:global:x	u_x
symb:scalar:displacement:component:global:y	u_y
symb:scalar:displacement:component:global:z	u_z
symb:scalar:velocity	v
symb:scalar:pd:bond:energy:potential	w
symb:scalar:coord:global:x	x
symb:scalar:coord:local:x	$\hat{x}$
symb:scalar:coord:material:x	1
symb:scalar:coord:global:y	y
symb:scalar:coord:local:y	$\hat{y}$
symb:scalar:coord:material:y	2
symb:scalar:coord:global:z	z
symb:scalar:coord:local:z	$\hat{z}$
symb:scalar:coord:material:z	3
symb:scalar:scalarromannull	
symb:scalar:geo:2D:surface	A
symb:scalar:mech:tensor:component:stiffness	C
symb:scalar:mat:modulus:young	E
symb:scalar:load:force	F

Label	Symbol
symb:scalar:mat:modulus:shear	G
symb:scalar:mat:energyreleaserate	G_0
symb:scalar:mat:energyreleaserate:critical	G_{0C}
symb:scalar:mat:energyreleaserate:mode:I	G_I
symb:scalar:mat:energyreleaserate:critical:mode:I	G_{IC}
symb:scalar:mat:energyreleaserate:mode:II	G_{II}
symb:scalar:mat:energyreleaserate:critical:mode:II	G_{IIC}
symb:scalar:pd:family	$\mathcal{H}$
symb:scalar:mat:modulus:bulk	K
symb:scalar:load:moment	M
symb:scalar:fe:shapefunction	N
symb:scalar:mat:strength	R
symb:scalar:system:euclidean	$\mathbb{R}$
symb:scalar:temperature	T
symb:scalar:geo:3D:volume	V
symb:scalar:mech:energy:strain:density	W
symb:scalar:pd:function:damage:bond	χ
symb:scalar:pd:horizon	δ
symb:scalar:geo:separation	δ_c
symb:scalar:mech:strain:normal:engineering	ε
symb:scalar:mech:strain:tensor:component	ϵ
symb:scalar:coord:natural:y	η
symb:scalar:mech:strain:shear:engineering	γ
symb:scalar:mat:poissonratio	ν
symb:scalar:domain:partial	ω
symb:scalar:pd:function:influence	ω
symb:scalar:pd:function:influence:radial	$\omega_{\boldsymbol{\xi}}$
symb:scalar:pd:function:damage:family	φ
symb:scalar:rotation	ψ
symb:scalar:mat:density	ρ
symb:scalar:mech:stress:normal:engineering	σ
symb:scalar:mech:stress:shear:engineering	τ
symb:scalar:pd:dilatation	θ
symb:scalar:geo:angle:debonding	θ_c
symb:scalar:coord:natural:x	ξ
symb:scalar:pd:bond:undeformed:component	ξ
symb:scalar:coord:natural:z	ζ
symb:scalar:scalargreeknull	
symb:scalar:discretization:distance:node	Δx
symb:scalar:domain:boundary	Γ
symb:scalar:domain	Ω

Label	Symbol

Vectors

Label	Symbol
symb:vector:pd:bond:deformed	$\boldsymbol{\eta}$
symb:vector:pd:bond:undeformed	$\boldsymbol{\xi}$
symb:vector:load:bodyforce	$\mathbf{b}$
symb:vector:unit	$\mathbf{e}$
symb:vector:pd:force	$\mathbf{f}$
symb:vector:mech:strain	$\boldsymbol{\varepsilon}$
symb:vector:mech:stress:cauchy	$\boldsymbol{\sigma}$
symb:vector:pd:bondforcedensity	$\mathbf{t}$
symb:vector:mech:deformation	$\mathbf{u}$
symb:vector:mech:acceleration	$\ddot{\mathbf{u}}$
symb:vector:mech:velocity	$\dot{\mathbf{u}}$
symb:vector:position:undeformed	$\mathbf{x}$
symb:vector:position:deformed	$\mathbf{y}$

Matrices & Tensors

Label	Symbol
symb:matrix:laminate:membrane	$\mathbf{A}$
symb:matrix:laminate:coupling	$\mathbf{B}$
symb:matrix:mat:stiffness	$\mathbf{C}$
symb:matrix:mech:tensor:stiffness	$\mathbf{K}$
symb:matrix:laminate:bending	$\mathbf{D}$
symb:matrix:mech:strain:green	$\mathbf{E}$
symb:matrix:mech:gradient:deformation	$\mathbf{F}$
symb:matrix:laminate:shear	$\mathbf{H}$
symb:matrix:mech:gradient:displacement	$\mathbf{H}$
symb:matrix:identity	$\mathbf{I}$
symb:matrix:interpolationoperator	$\mathbf{I}_\Gamma$
symb:matrix:jacobian	$\mathbf{J}$
symb:matrix:mech:tensor:shape	$\mathbf{K}$
symb:matrix:stiffness	$\mathbf{K}$
symb:matrix:mass	$\mathbf{M}$
symb:matrix:mech:stress:piolakirchhoff:first	$\mathbf{P}$

Label	Symbol
symb:matrix:laminate:ply:stiffness	$\mathbf{Q}$
symb:matrix:mat:compliance	$\mathbf{S}$
symb:matrix:mech:stress:piolakirchhoff:second	$\mathbf{S}$
symb:matrix:transformation	$\mathbf{T}$

States

Label	Symbol
symb:state:scalar:influence	$\underline{\omega}$
symb:state:scalar:extension	$\underline{e}$
symb:state:scalar:force	$\underline{t}$
symb:state:scalar:position:undeformed	$\underline{x}$
symb:state:scalar:position:deformed	$\underline{y}$
symb:state:scalar:stateromannull	
symb:state:vector:force	$\underline{\mathbf{T}}$
symb:state:vector:direction:deformed	$\underline{\mathbf{M}}$
symb:state:vector:position	$\underline{\mathbf{X}}$
symb:state:vector:deformation	$\underline{\mathbf{Y}}$
symb:state:vector:stateromannull	
symb:state:double:modulus	$\underline{\mathbb{K}}$

Indices

Label	Symbol
symb:index:load:compression	C
symb:index:load:compression:long	cmp
symb:index:critical	C
symb:index:hardening	H
symb:index:mat:damage:mode:I	I
symb:index:mat:damage:mode:II	II
symb:index:init	$init$
symb:index:load:shear	S
symb:index:load:shear:long	shr
symb:index:load:tension	T
symb:index:load:tension:long	ten
symb:index:xyz	x, y, z
symb:index:yield	y

Label	Symbol
symb:index:zero	0

Exponents

Label	Symbol
symb:exponent:midplane	0
symb:exponent:deviatoric	d
symb:exponent:elastic	e
symb:exponent:linear	l
symb:exponent:nonlinear	nl
symb:exponent:plastic	p
symb:exponent:volumetric	v

Operators

Label	Symbol
symb:operator:csys:local	$(\hat{\ })$
symb:operator:csys:material	$(\bar{\ })$
symb:operator:Delta	$\Delta(\ )$
symb:operator:dif	$\mathrm{d}(\ )$
symb:operator:dif:short:time	$(\dot{\ })$
symb:operator:dif:short:time2	$(\ddot{\ })$
symb:operator:dif:short	$(\ )_{,x}$
symb:operator:dif:partial	$\partial(\ )$
symb:operator:div	$\mathrm{div}(\ )$
symb:operator:product:dot	$\cdot$
symb:operator:kroneckerdelta	δ_{ij}
symb:operator:matrix:inverse	$(\ )^{-1}$
symb:operator:matrix:transpose	$(\ )^{T}$
symb:operator:mean	$(\bar{\ })$

Label	**Symbol**
symb:operator:derivative:frechet	$\nabla(\ )$
symb:operator:norm	$\|(\ )\|$
symb:operator:product:tensor	$\otimes$

C. The code

C.1. stmglossaries.sty

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Header                                      %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% This file includes the common LaTeX
% glossaries definitions
% (acronyms, glossaries, symbols)
% for structural mechanics
%
% Usage
%  - Premble:
%    - \usepackage{stmglossaries}
%    - \makeglossaries
%  - Document: e.g. (Adapt to your type of glossary item)
%    - \printglossary[type=\acronymtype] or
%    - \printglossary[type=\acronymtype,nonumberlist]
%  - Compilation: e.g. (Adapt to your type of glossary item)
%    - makeindex -s [MYTEXFILENAME].ist -o [MYTEXFILENAME].
   acr [MYTEXFILENAME].acn
%
% Revisions: 2019-10-27 Martin Raedel <martin.raedel@dlr.de>
%                       Initial draft
%
% Contact:   Martin Raedel,  martin.raedel@dlr.de
%            DLR Composite Structures and Adaptive Systems
%
%                                    __/|__
%                                   /_/_/_/
%            www.dlr.de/fa/en         |/ DLR
%
% Copyright (C) 2019-... DLR Composite Structures and
   Adaptive Systems
%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Content                                     %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Declare that this style file requires at least LaTeX
   version 2e.
\NeedsTeXFormat{LaTeX2e}
```

```
% Provide the name of your page, the date it was last updated
   , and a comment about what it's used for
\ProvidesPackage{stmglossaries}[2019/10/27 STMs custom LaTeX
   glossaries definitions]

% If not loaded in advance, load the glossaries package with
   some default options
\@ifpackageloaded{glossaries}{%
%
}{%
  \RequirePackage[%
    acronym,    % create a list of acronyms
    nomain,     % do not use the main glossary
    toc,        % add glossary titles to table of contents
  ]{glossaries}%
}%

%------------------
% Options
%------------------

% Load morewrites
\newif\ifstmglossaries@morewrites
\DeclareOption{morewrites}{\stmglossaries@morewritestrue}
\DeclareOption{nomorewrites}{\stmglossaries@morewritesfalse}

\ExecuteOptions{morewrites} % default is to load morewrites

% Do not load the styles
% Default behaviour is to load the styles to really have a
   benefit
% https://tex.stackexchange.com/a/135255/44634
% Load the default
\newif\ifstmglossaries@loadstyles
\DeclareOption{loadstyles}{\stmglossaries@loadstylestrue}
\DeclareOption{noloadstyles}{\stmglossaries@loadstylesfalse}

\ExecuteOptions{loadstyles} % default is to load the styles

\ProcessOptions\relax

% Load morewrites
\@ifpackageloaded{morewrites}{%
```

```
%
}{%
  \ifstmglossaries@morewrites
    \RequirePackage{morewrites}
  \fi
}%


% Load the acronyms
\@ifpackageloaded{stmglossariesacronymitems}{%
%
}{%
  %\RequirePackage{stmglossariesacronymitems}%
  \ifstmglossaries@loadstyles
    %\RequirePackage[loadacronymstyles]{
       stmglossariesacronymitems}
    \RequirePackage{stmglossariesacronymitems}
  \else
    \RequirePackage[noloadacronymstyles]{
       stmglossariesacronymitems}
  \fi
}%

% Load the symbols
\@ifpackageloaded{stmglossariessymbolitems}{%
%
}{%
  %\RequirePackage{stmglossariessymbolitems}%
  \ifstmglossaries@loadstyles
    %\RequirePackage[loadsymbolstyles]{
       stmglossariessymbolitems}
    \RequirePackage{stmglossariessymbolitems}
  \else
    \RequirePackage[noloadsymbolstyles]{
       stmglossariessymbolitems}
  \fi
}%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% That's it                         %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Finally, we'll use \endinput to indicate that LaTeX can
   stop reading this file. LaTeX will ignore anything after
```

```
   this line.
\endinput
```

C.2. stmglossariesacronymstyles.sty

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Header                                  %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% This file includes the common LaTeX
% glossaries style definitions
% (acronyms, glossaries, symbols)
% for structural mechanics
%
% Revisions: 2019-10-27 Martin Raedel <martin.raedel@dlr.de>
%                       Initial draft
%
% Contact:   Martin Raedel,  martin.raedel@dlr.de
%            DLR Composite Structures and Adaptive Systems
%
%                                    __/|__
%                                   /_/_/_/
%            www.dlr.de/fa/en         |/ DLR
%
% Copyright (C) 2019-... DLR Composite Structures and
   Adaptive Systems
%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Content                                 %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Declare that this style file requires at least LaTeX
   version 2e.
\NeedsTeXFormat{LaTeX2e}

% Provide the name of your page, the date it was last updated
   , and a comment about what it's used for
\ProvidesPackage{stmglossariesacronymstyles}[2019/10/27 STMs
   custom LaTeX glossaries style definitions]

% Now paste your code from the preamble here

% If not loaded in advance, load the glossaries package with
   some default options
```

```
\@ifpackageloaded{glossaries}{%
%
}{%
  \RequirePackage[%
    acronym,    % create a list of acronyms
    nomain,     % do not use the main glossary
    toc,        % add glossary titles to table of contents
  ]{glossaries}%
}%

\@ifpackageloaded{longtable}{}{\RequirePackage{longtable}}%
\@ifpackageloaded{tabu}{}{\RequirePackage{tabu}}%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Functionality                     %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Redefine package options          %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%Den Punkt am Ende jeder Beschreibung deaktivieren
\renewcommand*{\glspostdescription}{}
% \renewcommand*{\glspostdescription}{\dotfill}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Own styles                        %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% -----------------
% Acronym-styles
% -----------------

\newglossarystyle{stmacronymstyle}{%
  \renewenvironment{theglossary}%
    {\begin{longtabu} to \linewidth {lX}}%
    {\end{longtabu}}%
  % Header line
  \renewcommand*{\glossaryheader}{%
  }%
  % indicate what to do at the start of each logical group
  %\renewcommand*{\glsgroupheading}[1]{}%
  %\renewcommand*{\glsgroupskip}{}% What to do between groups
  \renewcommand*{\glsgroupskip}{\tabularnewline}% What to do
```

```
      between groups
  \renewcommand*{\glossaryentryfield}[5]{%
    \glsentryitem{##1}\glstarget{##1}{##2}
     %\glstarget{##2}{##2}% Name
      & ##3\glspostdescription ##5% Description
      \\% end of row
  }
}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% That's it                          %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Finally, we'll use \endinput to indicate that LaTeX can
   stop reading this file. LaTeX will ignore anything after
   this line.
\endinput
```

C.3. stmglossariessymbolstyles.sty

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Header                             %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% This file includes the common LaTeX
% glossaries style definitions
% (acronyms, glossaries, symbols)
% for structural mechanics
%
% Revisions: 2019-10-27 Martin Raedel <martin.raedel@dlr.de>
%                       Initial draft
%
% Contact:   Martin Raedel,  martin.raedel@dlr.de
%            DLR Composite Structures and Adaptive Systems
%
%                                 __/|__
%                                /_/_/_/
%            www.dlr.de/fa/en      |/ DLR
%
% Copyright (C) 2019-... DLR Composite Structures and
   Adaptive Systems
%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Content                            %
```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Declare that this style file requires at least LaTeX
   version 2e.
\NeedsTeXFormat{LaTeX2e}

% Provide the name of your page, the date it was last updated
   , and a comment about what it's used for
\ProvidesPackage{stmglossariessymbolstyles}[2019/10/27 STMs
   custom LaTeX glossaries style definitions]

% Now paste your code from the preamble here

% If not loaded in advance, load the glossaries package with
   some default options
\@ifpackageloaded{glossaries}{%
%
}{%
  \RequirePackage[%
    acronym,    % create a list of acronyms
    nomain,     % do not use the main glossary
    toc,        % add glossary titles to table of contents
  ]{glossaries}%
}%

\@ifpackageloaded{longtable}{}{\RequirePackage{longtable}}%
\@ifpackageloaded{tabu}{}{\RequirePackage{tabu}}%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Functionality                      %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Redefine package options           %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

%Den Punkt am Ende jeder Beschreibung deaktivieren
\renewcommand*{\glspostdescription}{}
% \renewcommand*{\glspostdescription}{\dotfill}

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Own styles                         %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
% -----------------
% Coordinate-system style
% -----------------

\newglossarystyle{mycoordinatesystemstyle}{%
  %\renewcommand{\glossarysection}[2][]{}% no title
  \renewcommand*{\glsclearpage}{}% avoid page break before
     glossary
  \renewenvironment{theglossary}%
    {\begin{longtabu} to \linewidth {cX}}%
    {\end{longtabu}}%
  % Header line
  \renewcommand*{\glossaryheader}{%
    % Requires booktabs
    %\toprule%
    \textbf{Symbol} & \textbf{Description}%
    \tabularnewline%
    \tabularnewline%
    %\midrule%
    \endhead%
    %\bottomrule%
    \endfoot%
  }%
  % indicate what to do at the start of each logical group
  %\renewcommand*{\glsgroupheading}[1]{}%
  %\renewcommand*{\glsgroupskip}{}% What to do between groups
  \renewcommand*{\glsgroupskip}{\tabularnewline}% What to do
     between groups
  \renewcommand*{\glossentry}[1]{%
    \glsentryitem{##1}% Entry number if required
    \glstarget{##1}{\glossentrysymbol{##1}} &
    %\glossentrysymbol{##1}      & % Symbol
    %\glossentryname{##1}        & % Name
    \glossentrydesc{##1}         %& % Description
    %\glsentryuseri{##1}%          % Unit in User1-Variable
    \tabularnewline%
  }%
}

% -----------------
% Symbols-styles
% -----------------

\newglossarystyle{stmsymbolstyle}{%
```

```
  %\renewcommand{\glossarysection}[2][]{}% no title
  \renewcommand*{\glsclearpage}{}% avoid page break before
     glossary
  \renewenvironment{theglossary}%
    {\begin{longtabu} to \linewidth {clX}}%c}}%
    {\end{longtabu}}%
  % Header line
  \renewcommand*{\glossaryheader}{%
    \textbf{Symbol} & \textbf{Name} & \textbf{Description}% &
        \textbf{Unit}%
    \tabularnewline%
    \tabularnewline%
    \endhead%
    \endfoot%
  }%
  % What to do between groups
  \renewcommand*{\glsgroupskip}{\tabularnewline}
  \renewcommand*{\glossentry}[1]{%
    \glsentryitem{##1}% Entry number if required
    \glstarget{##1}{\glossentrysymbol{##1}} &
    %\glossentrysymbol{##1}      & % Symbol
    \glossentryname{##1}         & % Name
    \glossentrydesc{##1}         %& % Description
    %\glsentryuseri{##1}%          % Unit in User1-Variable
    \tabularnewline%
  }%
}

% -----------------
% Symbols-styles for papers
% -----------------

\newglossarystyle{stmonecolpapersymbolstyle}{%
  %\renewcommand{\glossarysection}[2][]{}% no title
  \renewcommand*{\glsclearpage}{}% avoid page break before
     glossary
  \renewenvironment{theglossary}%
    {\begin{longtabu} to \linewidth {clXcl}}%c}}%
    {\end{longtabu}}%
  % Header line
  \renewcommand*{\glossaryheader}{}%
  % indicate what to do at the start of each logical group
  %\renewcommand*{\glsgroupheading}[1]{}
  % What to do between groups -> no skip
```

```
  \renewcommand*{\glsgroupskip}{}
  % How the entry looks like
  \renewcommand*{\glossentry}[1]{
    \glsentryitem{##1}% Entry number if required
    \glstarget{##1}{\glossentrysymbol{##1}} & % Symbol
    \glossentryname{##1}        %& % Name
    \tabularnewline%
  }%
}

% https://tex.stackexchange.com/a/216434/44634
% needs: \usepackage{multicol}
\newglossarystyle{stmtwocolpapersymbolstyle}{%
  %\renewcommand{\glossarysection}[2][]{}% no title
  \renewenvironment{theglossary}%
    {\begin{multicols}{2}\raggedright}
    {\end{multicols}}
  % Header line
  \renewcommand*{\glossaryheader}{}%
  \renewcommand*{\glsgroupheading}[1]{}% indicate what to do
     at the start of each logical group
  \renewcommand*{\glsgroupskip}{}% What to do between groups
     -> no skip
  \renewcommand*{\glsclearpage}{}% avoid page break before
     glossary
  % set how each entry should appear:
  \renewcommand*{\glossentry}[2]{
    \noindent\makebox[2.5em][c]{\glstarget{##1}{\
       glossentrysymbol{##1}}}% Symbol
    \glossentryname{##1}% Name
    \newline
  }
}

% -----------------
% Exponent-styles
% -----------------

\newglossarystyle{stmexponentstyle}{%
  %\renewcommand{\glossarysection}[2][]{}% no title
  \renewcommand*{\glsclearpage}{}% avoid page break before
     glossary
  \renewenvironment{theglossary}%
    % \extrarowsep=1mm
```

```
    {%
      \begingroup
      \renewcommand{\arraystretch}{1.4}
      \begin{longtabu} to \linewidth {@{\ \ }r@{}lX}
    }{%
      \end{longtabu}
      \endgroup
    }%
  % Header line
  \renewcommand*{\glossaryheader}{%
    \multicolumn{2}{@{}c@{}}{\textbf{Symbol}} & \textbf{
       Description}%
    \tabularnewline%
    \tabularnewline%
    \endhead%
    \endfoot%
  }%
  % indicate what to do at the start of each logical group
  %\renewcommand*{\glsgroupheading}[1]{}%
  % What to do between groups
  %\renewcommand*{\glsgroupskip}{}
  % What to do between groups
  \renewcommand*{\glsgroupskip}{\tabularnewline}%
  \renewcommand*{\glossentry}[1]{%
    \glsentryitem{##1}% Entry number if required
    \protect\ensuremath{\protect\left(\protect\phantom{a}\
       protect\right)} &
    \glstarget{##1}{\protect\ensuremath{\protect\vphantom{a
       }^{\glossentrysymbol{##1}}}} &
    %\glossentrysymbol{##1}      & % Symbol
    %\glossentryname{##1}        & % Name
    \glossentrydesc{##1}         %& % Description
    %\glsentryuseri{##1}%          % Unit in User1-Variable
    \tabularnewline%
  }%
}

% -----------------
% Index-styles
% -----------------

\newglossarystyle{stmindexstyle}{%
  %\renewcommand{\glossarysection}[2][]{}% no title
  \renewcommand*{\glsclearpage}{}% avoid page break before
```

```
    glossary
  \renewenvironment{theglossary}%
    {%
      \begingroup
      \renewcommand{\arraystretch}{1.4}
      \begin{longtabu} to \linewidth {@{\ \ }r@{}lX}
    }{%
      \end{longtabu}
      \endgroup
    }%
  % Header line
  \renewcommand*{\glossaryheader}{%
    \multicolumn{2}{@{}c@{}}{\textbf{Symbol}} & \textbf{
       Description}%
    \tabularnewline%
    \tabularnewline%
    \endhead%
    \endfoot%
  }%
  % indicate what to do at the start of each logical group
  %\renewcommand*{\glsgroupheading}[1]{}%
  % What to do between groups
  %\renewcommand*{\glsgroupskip}{}%
  % What to do between groups
  \renewcommand*{\glsgroupskip}{\tabularnewline}
  \renewcommand*{\glossentry}[1]{%
    \glsentryitem{##1}% Entry number if required
    \protect\ensuremath{\protect\left(\protect\phantom{a}\
       protect\right)} &
    %\glstarget{##1}{\glossentrysymbol{##1}} &
    \glstarget{##1}{\protect\ensuremath{\protect\vphantom{a
       }_{\glossentrysymbol{##1}}}} &
    %\glossentrysymbol{##1}      & % Symbol
    %\glossentryname{##1}        & % Name
    \glossentrydesc{##1}         %& % Description
    %\glsentryuseri{##1}%          % Unit in User1-Variable
    \tabularnewline%
  }%
}

% -----------------
% Operator style
% -----------------
```

```
\newglossarystyle{stmoperatorstyle}{%
  %\renewcommand{\glossarysection}[2][]{}% no title
  % avoid page break before glossary
  \renewcommand*{\glsclearpage}{}
  \renewenvironment{theglossary}%
    % \extrarowsep=1mm
    {%
      \begingroup%
      \renewcommand{\arraystretch}{1.4}%
      %\begin{longtabu} to \linewidth {cX}
      \begin{longtabu} to \linewidth {@{\ \;}r@{}c@{}lX}
    }%
    {%
      \end{longtabu}
      \endgroup
    }%
  % Header line
  \renewcommand*{\glossaryheader}{%
    \multicolumn{3}{@{}c@{}}{\textbf{Symbol}} & \textbf{
       Description}%
    \tabularnewline%
    \tabularnewline%
    \endhead%
    \endfoot%
  }%
  % indicate what to do at the start of each logical group
  %\renewcommand*{\glsgroupheading}[1]{}%
  % What to do between groups
  %\renewcommand*{\glsgroupskip}{}%
  % What to do between groups
  \renewcommand*{\glsgroupskip}{\tabularnewline}
  \renewcommand*{\glossentry}[1]{%
    \glsentryitem{##1}% Entry number if required
    %\glstarget{##1}{\glossentrysymbol{##1}} &
    %\glstarget{##1}{\glossentrysymbol{##1}}&
    \glsentryuseri{##1} &
    \glsentryuserii{##1} &
    \glsentryuseriii{##1} &
    %\glossentrysymbol{##1}      & % Symbol
    %\glossentryname{##1}        & % Name
    \glossentrydesc{##1}         %& % Description
    %\glsentryuseri{##1}%          % Unit in User1-Variable
    \tabularnewline%
  }%
```

```
}

% ------------------
% Style to show the keys
% ------------------

\newglossarystyle{stmsymbollabelstyle}{%
  \renewcommand*{\glsclearpage}{}% avoid page break before
     glossary
  \renewenvironment{theglossary}%
    {\begin{longtabu} to \linewidth {Xc}}%
    {\end{longtabu}}%
  % Header line
  \renewcommand*{\glossaryheader}{%
    \textbf{Label} & \textbf{Symbol}
    \tabularnewline%
    \tabularnewline%
    \endhead%
    \endfoot%
  }%
  % What to do between groups
  \renewcommand*{\glsgroupskip}{\tabularnewline}
  \renewcommand*{\glossentry}[1]{%
    \glsentryitem{##1}% Entry number if required
    \glsentrycounterlabel{##1} &
    \glstarget{##1}{\glossentrysymbol{##1}}% &
    \tabularnewline%
  }%
}



\newglossarystyle{stmoperatorlabelstyle}{%
  %\renewcommand{\glossarysection}[2][]{}% no title
  % avoid page break before glossary
  \renewcommand*{\glsclearpage}{}
  \renewenvironment{theglossary}%
    {%
      \begingroup%
      \renewcommand{\arraystretch}{1.4}%
      \begin{longtabu} to \linewidth {X@{\ \;}r@{}c@{}l}
    }%
    {%
      \end{longtabu}
```

```
      \endgroup
    }%
  % Header line
  \renewcommand*{\glossaryheader}{%
    \textbf{Label} & \multicolumn{3}{@{}c@{}}{\textbf{Symbol
       }}% & %
    \tabularnewline%
    \tabularnewline%
    \endhead%
    \endfoot%
  }%
  % indicate what to do at the start of each logical group
  %\renewcommand*{\glsgroupheading}[1]{}%
  % What to do between groups
  %\renewcommand*{\glsgroupskip}{}%
  % What to do between groups
  \renewcommand*{\glsgroupskip}{\tabularnewline}
  \renewcommand*{\glossentry}[1]{%
    \glsentryitem{##1}% Entry number if required
    \glsentrycounterlabel{##1} &
    \glsentryuseri{##1} &
    \glsentryuserii{##1} &
    \glsentryuseriii{##1}% &
    \tabularnewline%
  }%
}


%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% That's it                          %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% Finally, we'll use \endinput to indicate that LaTeX can
   stop reading this file. LaTeX will ignore anything after
   this line.
\endinput
```