stmglossaries package description

v 20191104

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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). You can use all the acronyms defined in Appendix A. 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	

2. Requirements

`Perl` is required to use the `arara` `makeglossaries` rule. Either install `Perl` or include a path to a binary to the system `PATH` variable. E.g. a `Perl` binary is shipped with `Git` under `GITINSTALLPATH\usr\bin\`.

3. Contents

There are multiple packages included:

- `stmglossaries.sty`
- `stmglossariesbase.sty`
- `stmglossariesacronyms.sty`
- `stmglossariesacronymsitems.sty`
- `stmglossariesacronymsstyles.sty`
- `stmglossariessymbols.sty`
- `stmglossariessymbolsitems.sty`
- `stmglossariessymbolsstyles.sty`
- `stmglossariessymbolscommands.sty`

`stmglossaries.sty` is a wrapper around the definitions for `acronyms` and `symbols` and has options to load both.

`stmglossariesbase.sty` loads the underlying base package.

3.1. Acronyms

`stmglossariesacronyms.sty` is the control package for acronyms. It can be used to control the acronym package modules.

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

`stmglossariesacronymsstyles.sty` contains implementations for the `style` option in a call to `\printglossary[type=\acronymtype,style=STYLENAME]`. See subsection 6.1 for details.

3.2. Symbols

`stmglossariessymbols.sty` is the control package for symbols. It can be used to control the symbol package modules.

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

`stmglossariessymbolsstyles.sty` contains implementations for the `style` option in a call to `\printglossary[type=scalarlist,style=STYLENAME]`. See subsection 6.2 for details.

`stmglossariessymbolscommands.sty` contains utility commands to facilitate the use of symbols and operators.

4. 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.

4.1. Base package

`stmglossariesbase` loads the underlying base package. It must not be loaded explicitly by the user. All other packages check if the package was already loaded with

```
\usepackage{stmglossariesbase}
```

In case you or another package have not loaded *stmglossariesbase* with own options beforehand, the package will load the underlying base package with the options `acronym`, `nomain` and `toc`.

4.2. 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.

4.2.1. Options

Option *acronyms* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the acronym definitions.

```
\usepackage[acronyms=true]{stmglossaries}
```

`acronyms=true` is the default and loads the acronyms. It is used in case `acronyms=false` is not set explicitly.

Option *symbols* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the symbol definitions.

```
\usepackage[symbols=true]{stmglossaries}
```

`symbols=true` is the default and loads the symbols. It is used in case `symbols=false` is not set explicitly.

Option *items* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the item definitions.

```
\usepackage[items=true]{stmglossaries}
```

`items=true` is the default and loads the styles. It is used in case `items=false` is not set explicitly.

Option *styles* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the style definitions.

```
\usepackage[styles=true]{stmglossaries}
```

`styles=true` is the default and loads the styles. It is used in case `styles=false` is not set explicitly.

Option *commands* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the additional command definitions.

```
\usepackage[commands=true]{stmglossaries}
```

`styles=true` is the default and loads the styles. It is used in case `styles=false` is not set explicitly.

Option *morewrites* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the morewrites package.

```
\usepackage[morewrites=true]{stmglossaries}
```

`morewrites=true` is the default. It is used in case `nomorewrites` is not set explicitly.

4.3. Load the acronyms package

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

```
\usepackage{stmglossariesacronymitems}
```

to your preamble.

4.3.1. Options

Option *items* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the item definitions from `stmglossariesacronymsitems`.

```
\usepackage[items=true]{stmglossariesacronyms}
```

`items=true` is the default. It is used in case `items=false` is not set explicitly.

Option *styles* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the style definitions from `stmglossariesacronymsstyles`.

```
\usepackage[styles=true]{stmglossariesacronyms}
```

`styles=true` is the default. It is used in case `styles=false` is not set explicitly.

4.4. Load the symbols package

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

```
\usepackage{stmglossariessymbols}
```

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`.

4.4.1. Options

Option *items* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the item definitions from `stmglossariessymbolsitems`.

```
\usepackage[items=true]{stmglossariessymbols}
```

`styles=true` is the default. It is used in case `styles=false` is not set explicitly.

Option *styles* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the style definitions from `stmglossariessymbolsstyles`.

```
\usepackage[styles=true]{stmglossariessymbols}
```

`styles=true` is the default. It is used in case `styles=false` is not set explicitly.

Option *commands* This is a boolean option. Expected values are either `true` or `false`. It controls whether to load the command definitions from `stmglossariessymbolscommands`.

```
\usepackage[commands=true]{stmglossariessymbols}
```

`styles=true` is the default. It is used in case `styles=false` is not set explicitly.

5. Usage - in the document

5.1. 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 6.1.

5.2. Symbols

5.2.1. 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

5.2.2. 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.

5.2.3. Commands

Styling 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, `stmglossariessymbolscommands` 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

Utility `stmglossariessymbolscommands` defines a couple of useful utility commands to facilitate access to symbols and operators. These automatically add the operator symbol to the respective list.

6. Styles

6.1. Acronym styles

6.1.1. `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.

`\csyslocal {a}`		$\hat{a}$
`\csysmaterial {a}`		$\bar{a}$
`\difference {a}`		Δa
`\mean {a}`		$\overline{a}$
`\norm {a}`	2-norm	$\|a\|$
`\transpose {a}`		a^T
`\inverse {a}`		a^{-1}
`\timederivativeshort {a}`		$\dot{a}$
`\timederivativeshorttwo {a}`		$\ddot{a}$
`\partialderivativeshort {a}{b}`		$a_{,b}$

6.2. Symbol styles

6.2.1. `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	

6.2.2. `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

6.2.3. `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		

6.2.4. `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

6.2.5. `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

6.2.6. `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

Acronyms

Acronym	Description
ACARE	advisory council for aviation research and innovation in europe
AFP	automated fibre placement
APU	auxiliary power unit
BB	bond-based
BB-PD	bond-based peridynamics
BOM	bill of material
BSD	Berkeley software distribution
CA	consortium agreement
CAGR	compound annual growth rate
CAI	compression after impact
CDR	critical design review
CE	constraint equation
CER	composite engineering requirements
CFRP	carbon fibre reinforced plastic
CLT	classical laminate theory
CM	continuum mechanic
CT	computed tomography
CTT	compact tension test
CZM	cohesive zone model
DCB	double cantilever beam
DELiS	design environment for lightweight structures
DFP	dry fibre placement
DKT	discrete Kirchhoff theory
DMA	dynamic mechanical analysis
DOA	design organization approval
DOE	design of experiments
DOF	degree of freedom
DSC	differential scanning calorimeter
E2E	end to end
FBG	fibre bragg grating

Acronym	Description
FDM	finite difference method
FE	finite element
FEM	finite element method
FRP	fiber reinforced plastic
FSDT	first-order shear deformation theory
FTE	full time equivalent
FVC	fibre volume content
FVM	finite volume method
GFEM	global finite element model
GPL	GNU General Public License
IAB	industrial advisory board
IDE	integrated development environment
jCoMoT	Java computational mechanics format translator
jMeS	Java mechanics suite
KPI	key performance indicator
LCA	life cycle assessment
LPS	linear peridynamic solid
MBSE	model-based systems engineering
MDO	multi-disciplinary optimization
MPC	multi-point constraint
MRL	manufacturing readiness level
MRO	maintenance, repair and overhaul
NDA	non-disclosure agreement
NDI	non-destructive inspection
NSB	non-ordinary state-based
NSB-PD	non-ordinary state-based peridynamics
ODE	ordinary differential equation
OHC	open hole compression
OHT	open hole tension
OSB	ordinary state-based
OSB-PD	ordinary state-based peridynamics
PD	peridynamic
PDE	partial differential equation

Acronym	Description
PMC	project management committee
POJO	plain old Java object
RMS	risk mitigation structure
RVE	representative volume element
SAI	shear after impact
SB-PD	state-based peridynamics
SC	steering committee
SEM	scanning electron microscopy
SHM	structural health monitoring
TAI	tension after impact
TGA	thermogravimetric analysis
TMA	thermomechanical analysis
TRL	technology readiness level
WORA	write once, run anywhere
WP	work package
XFEM	extended finite element method

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
symb:scalar:mat:modulus:shear	G
symb:scalar:mat:energyreleaserate	G_0

Label	Symbol
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

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

Label	Symbol

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
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:differential:Newton	$\dot{(\ )}$
symb:operator:differential:Newton:2	$\ddot{(\ )}$
symb:operator:differential:partial:short	$(\ )_{,x}$
symb:operator:differential:Euler	$\mathrm{D}(\ )$
symb:operator:differential:Lagrange	$(\ )'$
symb:operator:differential:Leibnitz	$\mathrm{d}(\ )$
symb:operator:differential:partial	$\partial(\ )$
symb:operator:divergence	$\mathrm{div}(\ )$
symb:operator:product:dot	$\cdot$
symb:operator:kroneckerdelta	δ_{ij}
symb:operator:matrix:inverse	$(\ )^{-1}$
symb:operator:matrix:transpose	$(\ )^{T}$
symb:operator:mean	$\overline{(\ )}$
symb:operator:derivative:frechet	$\nabla(\ )$

Label	Symbol
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
% Based upon the glossaries package:
%   https://ctan.org/pkg/glossaries
%
% 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
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%                                  __/|__
%                                 /_/_/_/
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%
% 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}[2019/11/03 STMs custom LaTeX
   glossaries definitions]

% If not loaded in advance, load the glossaries package with
   some default options
\@ifpackageloaded{stmglossariesbase}{}{\RequirePackage{
   stmglossariesbase}}%

% For options
\@ifpackageloaded{kvoptions}{}{\RequirePackage{kvoptions}}%

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

\SetupKeyvalOptions{%
  family=stmglossaries,%
  prefix=stmglossaries@,%
  setkeys=\kvsetkeys,%
}

% Acronyms
\DeclareBoolOption[true]{acronyms}

% Symbols
\DeclareBoolOption[true]{symbols}

% Load items
\DeclareBoolOption[true]{items}

% Load styles
\DeclareBoolOption[true]{styles}

% Load commands
\DeclareBoolOption[true]{commands}

% Load morewrites
\DeclareBoolOption[true]{morewrites}
```

```
77
78 % Process options
79 \ProcessKeyvalOptions{stmglossaries}
80
81 % ---------------------------
82 % Modules
83 % ---------------------------
84
85 % Load morewrites
86 \@ifpackageloaded{morewrites}{}{%
87   \ifstmglossaries@morewrites
88     \RequirePackage{morewrites}
89   \fi
90 }%
91
92
93 % Load the acronyms
94 \ifstmglossaries@acronyms
95   \@ifpackageloaded{stmglossariesacronyms}{}{%
96     \RequirePackage[%
97       items={\ifstmglossaries@items true\else false\fi},%
98       styles={\ifstmglossaries@styles true\else false\fi},%
99     ]{stmglossariesacronyms}
100  }%
101 \fi
102
103 % Load the symbols
104 \ifstmglossaries@symbols
105   \@ifpackageloaded{stmglossariessymbols}{}{%
106     \RequirePackage[%
107       items={\ifstmglossaries@items true\else false\fi},%
108       styles={\ifstmglossaries@styles true\else false\fi},%
109       commands={\ifstmglossaries@commands true\else false\fi
            },%
110     ]{stmglossariessymbols}
111   }%
112 \fi
113
114 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
115 % That's it                          %
116 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
117
118 % Finally, we'll use \endinput to indicate that LaTeX can
      stop reading this file. LaTeX will ignore anything after
```

```
   this line.
\endinput
```

C.2. stmglossariesbase.sty

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Header                              %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% This file includes the common LaTeX
% symbol definitions
% for structural mechanics
%
% It can be used independently if only
% symbols are necessary or bundled in
% stmglossaries.sty
%
% 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
%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Usage                               %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% Symbols-Glossary
%
% Compilation:
%
%   %S - main tex source file name
%
% without any helpers:
%
%   pdflatex %S.tex
%   makeindex -s %S.ist -t %S.slg1 -o %S.syi1 %S.syg1
```

```
%   makeindex -s %S.ist -t %S.slg2 -o %S.syi2 %S.syg2
%   ...
%   pdflatex %S.tex
%   pdflatex %S.tex
%
% with perl interpreter installation
%
%   pdflatex %S.tex
%   makeglossaries %S
%   pdflatex %S
%   pdflatex %S
%
% with LuaLaTeX
%
%   makeglossaries-lite doc
%
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Requirements                      %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%

% 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{stmglossariesbase}[2019/10/27 STMs custom
    LaTeX base 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}%
}%

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

```

\endinput
```

C.3. stmglossariesacronyms.sty

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Header                                  %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% This file includes the common LaTeX
% acronyms definitions
% (acronyms, glossaries, acronyms)
% for structural mechanics
% Based upon the glossaries package:
%   https://ctan.org/pkg/glossaries
%
% Usage
%  - Premble:
%    - \usepackage{stmglossariesacronyms}
%    - \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{stmglossariesacronyms}[2019/11/03 STMs
   custom LaTeX acronym definitions]

% If not loaded in advance, load the glossaries package with
   some default options
\@ifpackageloaded{stmglossariesbase}{}{\RequirePackage{
   stmglossariesbase}}%

% For options
\@ifpackageloaded{kvoptions}{}{\RequirePackage{kvoptions}}%

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

\SetupKeyvalOptions{%
  family=stmglossariesacronyms,%
  prefix=stmglossariesacronyms@,%
  setkeys=\kvsetkeys,%
}

% Load styles
\DeclareBoolOption[true]{items}

% Load styles
\DeclareBoolOption[true]{styles}

% Process options
\ProcessKeyvalOptions{stmglossariesacronyms}

% ----------------------------
% Modules
% ----------------------------

% Load the items
\ifstmglossariesacronyms@items
  \@ifpackageloaded{stmglossariesacronymsitems}{}{\
     RequirePackage{stmglossariesacronymsitems}}
```

```
\fi

% Load the styles
\ifstmglossariesacronyms@styles
  \@ifpackageloaded{stmglossariesacronymsstyles}{}{\
     RequirePackage{stmglossariesacronymsstyles}}
\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.4. stmglossariesacronymsstyles.sty

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Header                               %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% This file includes the common LaTeX
% acronym 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                              %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
```

```
25
26 % Declare that this style file requires at least LaTeX
      version 2e.
27 \NeedsTeXFormat{LaTeX2e}
28
29 % Provide the name of your page, the date it was last updated
      , and a comment about what it's used for
30 \ProvidesPackage{stmglossariesacronymstyles}[2019/10/27 STMs
      custom LaTeX acronyms style definitions]
31
32 % If not loaded in advance, load the glossaries package with
      some default options
33 \@ifpackageloaded{stmglossariesbase}{}{\RequirePackage{
      stmglossariesbase}}%
34
35 %
36 \@ifpackageloaded{longtable}{}{\RequirePackage{longtable}}%
37 \@ifpackageloaded{tabu}{}{\RequirePackage{tabu}}%
38
39 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
40 % Functionality                       %
41 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
42
43 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
44 % Redefine package options            %
45 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
46
47 %Den Punkt am Ende jeder Beschreibung deaktivieren
48 \renewcommand*{\glspostdescription}{}
49 % \renewcommand*{\glspostdescription}{\dotfill}
50
51 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
52 % Own styles                         %
53 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
54
55 % -----------------
56 % Acronym-styles
57 % -----------------
58
59 \newglossarystyle{stmacronymstyle}{%
60   \renewenvironment{theglossary}%
61     {\begin{longtabu} to \linewidth {lX}}%
62     {\end{longtabu}}%
63   % Header line
```

```
  \renewcommand*{\glossaryheader}{%
    %\textbf{Label} & \textbf{Symbol}
    \tabularnewline%
    \tabularnewline%
    \endhead%
    \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*{\glossaryentryfield}[5]{%
    \glsentryitem{##1}\glstarget{##1}{##2}
      & ##3\glspostdescription ##5% Description
    \tabularnewline%
  }
}

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

\newglossarystyle{stmacronymlabelstyle}{%
  \renewenvironment{theglossary}%
    {\begin{longtabu} to \linewidth {lX}}%
    {\end{longtabu}}%
  % Header line
  \renewcommand*{\glossaryheader}{%
    \textbf{Acronym} & \textbf{Description}
    \tabularnewline%
    \tabularnewline%
    \endhead%
    \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*{\glossaryentryfield}[5]{%
    \glsentrycounterlabel{##1} &%
    %\glsentryitem{##1}\glstarget{##1}{##2} %&%
    ##3\glspostdescription ##5% Description
```

```
    \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
```

C.5. stmglossariessymbols.sty

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Header                             %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% This file includes the common LaTeX
% symbols definitions
% (acronyms, glossaries, symbols)
% for structural mechanics
% Based upon the glossaries package:
%   https://ctan.org/pkg/glossaries
%
% 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{stmglossariessymbols}[2019/11/03 STMs custom
    LaTeX symbol definitions]

% If not loaded in advance, load the glossaries package with
   some default options
\@ifpackageloaded{stmglossariesbase}{}{\RequirePackage{
   stmglossariesbase}}%

% For options
\@ifpackageloaded{kvoptions}{}{\RequirePackage{kvoptions}}%

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

\SetupKeyvalOptions{%
  family=stmglossariessymbols,%
  prefix=stmglossariessymbols@,%
  setkeys=\kvsetkeys,%
}

% Load styles
\DeclareBoolOption[true]{items}

% Load styles
\DeclareBoolOption[true]{styles}

% Load commands
```

```
\DeclareBoolOption[true]{commands}

% Process options
\ProcessKeyvalOptions{stmglossariessymbols}

% ----------------------------
% Modules
% ----------------------------

% Load the items
\ifstmglossariessymbols@items
  \@ifpackageloaded{stmglossariessymbolsitems}{}{\
     RequirePackage{stmglossariessymbolsitems}}
\fi

% Load the styles
\ifstmglossariessymbols@styles
  \@ifpackageloaded{stmglossariessymbolsstyles}{}{\
     RequirePackage{stmglossariessymbolsstyles}}
\fi

% Load the commands
\ifstmglossariessymbols@commands
  \@ifpackageloaded{stmglossariessymbolscommands}{}{\
     RequirePackage{stmglossariessymbolscommands}}
\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.6. stmglossariessymbolscommands.sty

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Header                             %
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
%
% This file includes the common LaTeX
% symbol commands definitions
```

```
7  % for structural mechanics
8  %
9  % It can be used independently if only
10 % symbols are necessary or bundled in
11 % stmglossaries.sty
12 %
13 % Revisions: 2019-10-27 Martin Raedel <martin.raedel@dlr.de>
14 %                        Initial draft
15 %
16 % Contact:   Martin Raedel,  martin.raedel@dlr.de
17 %            DLR Composite Structures and Adaptive Systems
18 %
19 %                                  __/|__
20 %                                 /_/_/_/
21 %            www.dlr.de/fa/en       |/ DLR
22 %
23 % Copyright (C) 2019-... DLR Composite Structures and
      Adaptive Systems
24 %
25 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
26 % Usage                                  %
27 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
28
29 % Declare that this style file requires at least LaTeX
      version 2e.
30 \NeedsTeXFormat{LaTeX2e}
31
32 % Provide the name of your page, the date it was last updated
      , and a comment about what it's used for
33 \ProvidesPackage{stmglossariessymbolscommands}[2019/10/27
      STMs custom LaTeX symbol command definitions]
34
35 %
36 \@ifpackageloaded{stmglossariessymbolsitems}{}{\
      RequirePackage{stmglossariessymbolsitems}}%
37
38 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
39 % Commands                               %
40 %%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
41
42 \newcommand{\csyslocal}[1]{%
43   %The symbol
44   \ensuremath{\hat{#1}}%
45   %Add the operator to the list
```

```
  \glsadd{symb:operator:csys:local}%
}

\newcommand{\csysmaterial}[1]{%
  %The symbol
  \ensuremath{\bar{#1}}%
  %Add the operator to the list
  \glsadd{symb:operator:csys:material}%
}

\newcommand{\difference}[1]{%
  %The symbol
  \ensuremath{\glssymbol{symb:operator:Delta}#1}%
}

\newcommand{\derivative}[1]{%
  %The symbol
  \ensuremath{\glssymbol{symb:operator:dif}#1}%
  %Add the operator to the list
  \glsadd{symb:operator:dif}%
}

\newcommand{\timederivativeshort}[1]{%
  %The symbol
  \ensuremath{\dot{#1}}%
  %Add the operator to the list
  \glsadd{symb:operator:dif:short:time}%
}

\newcommand{\timederivativeshorttwo}[1]{%
  %The symbol
  \ensuremath{\ddot{#1}}%
  %Add the operator to the list
  \glsadd{symb:operator:dif:short:time:2}%
}

\newcommand{\mean}[1]{%
  %The symbol
  \ensuremath{\overline{#1}}%
  %Add the operator to the list
  \glsadd{symb:operator:mean}%
}

\newcommand{\norm}[1]{%
```

```
  %The symbol
  \ensuremath{\glssymbol{symb:operator:norm:left}#1\glssymbol
     {symb:operator:norm:right}}%
  %Add the operator to the list
  \glsadd{symb:operator:norm}%
}

\newcommand{\transpose}[1]{%
  \ensuremath{#1^{\glssymbol{symb:operator:matrix:transpose
     }}}%
}

\newcommand{\inverse}[1]{%
  \ensuremath{#1^{\glssymbol{symb:operator:matrix:inverse}}}%
}

\newcommand{\partialderivativeshort}[2]{%
  %The symbol
  \ensuremath{#1_{,#2}}%
  %Add the operator to the list
  \glsadd{symb:operator:differential:partial:short}%
}

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

\endinput
```

C.7. 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{stmglossariessymbolsstyles}[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{stmglossariesbase}{}{\RequirePackage{
   stmglossariesbase}}%

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

%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% 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%
  }%
}
```

```
94
95  % -----------------
96  % Symbols-styles
97  % -----------------
98
99  \newglossarystyle{stmsymbolstyle}{%
100   %\renewcommand{\glossarysection}[2][]{}% no title
101   \renewcommand*{\glsclearpage}{}% avoid page break before
        glossary
102   \renewenvironment{theglossary}%
103     {\begin{longtabu} to \linewidth {clX}}%c}}%
104     {\end{longtabu}}%
105   % Header line
106   \renewcommand*{\glossaryheader}{%
107     \textbf{Symbol} & \textbf{Name} & \textbf{Description}% &
          \textbf{Unit}%
108     \tabularnewline%
109     \tabularnewline%
110     \endhead%
111     \endfoot%
112   }%
113   % What to do between groups
114   \renewcommand*{\glsgroupskip}{\tabularnewline}
115   \renewcommand*{\glossentry}[1]{%
116     \glsentryitem{##1}% Entry number if required
117     \glstarget{##1}{\glossentrysymbol{##1}} &
118     %\glossentrysymbol{##1}      & % Symbol
119     \glossentryname{##1}        & % Name
120     \glossentrydesc{##1}        %& % Description
121     %\glsentryuseri{##1}%          % Unit in User1-Variable
122     \tabularnewline%
123   }%
124 }
125
126 % -----------------
127 % Symbols-styles for papers
128 % -----------------
129
130 \newglossarystyle{stmonecolpapersymbolstyle}{%
131   %\renewcommand{\glossarysection}[2][]{}% no title
132   \renewcommand*{\glsclearpage}{}% avoid page break before
        glossary
133   \renewenvironment{theglossary}%
134     {\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
```