Misc

Documentation Template

Version v8p5

December 1, 2023

Contents

1. Text and equations example and extra text to make this a very long chapter title that we would not want to appear in whole in the header

1.1 First standard section

1.1.1 Title of your first subsection

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1.1.2 Title of your second subsection

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Title of your first subsubsection

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Title of your second subsubsection

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1.2 This is a very long section title that we would not want to appear in whole in the header

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1.3 Example of equations

1.3.1 One line equation

Here is how you should write your equations:

$$A = B + C \tag{1.1}$$

Here is how you should refer to the equation; i.e. see equation 1.1. However if you want you can also refer to them as eqn. (1.1), just be consistent.

Always compile twice to have the links appear in the PDF.

1.3.2 Multiple line equation

Here is how you should write very long equations:

$$\begin{aligned} FirstLongArgument = {} & Onelongvariable \\ & + Anotherlongvariable \end{aligned} \tag{1.2}$$

Here is how you should write connected equations:

$$a = b + c \tag{1.3a}$$
$$d = e + f + g \tag{1.3b}$$

Or if you want to give them labels:

$$\text{first equation:} \quad a = b + c \tag{1.4a}$$
$$\text{second equation:} \quad d = e + f + g \tag{1.4b}$$

To reference them it is easier to refer to them as: see equations 1.3 or see eqn. (1.4b).

1.3.3 Equations using the TELEMAC SYSTEM format

The vectors need to be defined using `\vec{}`, which gives:

$$\boldsymbol{A} = \boldsymbol{B} \tag{1.5}$$

For the operators, the appropriate commands need to be used as well (eg: `\Grad`, `\Div` or `\Lap`):

$$\mathbf{Grad}(A_b) = \text{Gradient} \tag{1.6}$$
$$\text{Div}(A_b) = \text{Divergence} \tag{1.7}$$
$$\text{Lap}(A_b) = \text{Laplacian} \tag{1.8}$$

1.4 Formatting the `*.tex` file

It is recommended to have a `*.tex` file per chapter, and to keep them in a separate folder. In the `*.tex` file, it is recommended to put commented lines to above and below section and subscetion names, i.e.:

```
%-------------------------------------------------------------------------------
\chapter{Text and equations example}
%-------------------------------------------------------------------------------

%-------------------------------------------------------------------------------
\section{First standard section}
%-------------------------------------------------------------------------------

%.....................................................................
\subsection{Title of your first subsection}
%.....................................................................
```

Also the text in the file should be justified to 80 characters.

1.4.1 Naming Convention

Names of files, or variables should be written in CamelCase; i.e. without spaces, underscore or dash, and a capital at the start of each word.

1.4.2 Referenced pointers

When referencing pointers the label should have the type of object referenced in the name, and the following naming convention is suggested:

- Chapters: `\label{ch:ChapterLabel}`
- Sections or subsections: `\label{se:SectionLabel}`
- Equations: `\label{eq:EquationLabel}`
- Figures: `\label{fig:EquationLabel}`
- Tables: `\label{tab:EquationLabel}`

1.5 TELEMAC SYSTEM specific commands

Shortcuts are given for all the modules, i.e. TELEMAC SYSTEM, ARTEMIS, BIEF, TELEMAC-2D, TELEMAC-3D, TOMAWAC, KHIONE and GAIA. As a reminder, when using the commands, brackets should be used afterwards to ensure that the spacing is correctly defined; i.e. `\telemacsystem{}`.

2. Example of indexed values

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.
This is a keyword.
Then a lot of letters that are indexed
A, B, C, D, E, F and G

3. Adding figures

3.1 Adding a figure in your text so that it will not move

It is recommended to store your figures in a separate "Figures" folder that will contain all the figures of the manual. Furthermore PDFLaTex or XeLaTex allow you to use .png, .jpg or .pdf figures. If you want to use .ps or .eps figures you are going to need to use LaTeX or XeTeX, but it is not recommended for the TELEMAC SYSTEM documentation.
We distinguish two type of figures the one generated by the validation and the others. For the one generated by the validation they should not be added to svn repository and when including then use the following syntax (mainly the same as other figure just use `\includegraphicsmaybe` instead of `\includegraphics`):

```
%
\includegraphicsmaybe{[width=0.7\textwidth]}{./FigExample/generatedFigure}
%
```

Warning:
That function only works for LaTeXfile that are inside the doc folder in the validation examples.

For the others follow the indication below
Here is example of a non-floating figure:

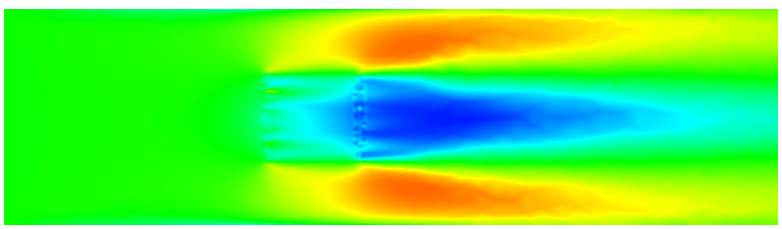


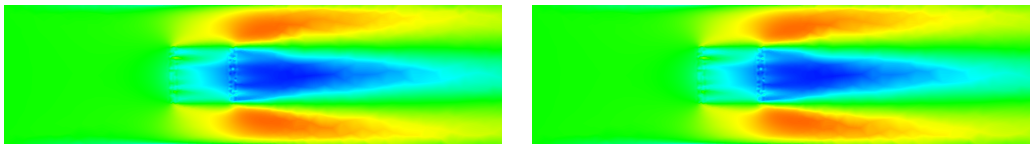
Figure 3.1: Long caption of a figure consisting of Saint-Venant Laboratory in french and saved as a png[1].

[1] Here is how to add a footnote within a caption.

The figure is referenced as figure 3.1. If you want your figures to float use the options “[ht!]” or “[htb!]” after your `\begin{figure}`, but it is recommended to use the option “[H]” for the TELEMAC SYSTEM documentation.

3.2 Having multiple figures

It is possible to have multiple figures with captions, see figure 3.2.



(a) Logo in french (b) Logo in english

Figure 3.2: Different Logos for LHSV.

3.3 Plotting more complicated graphics

Some powerful packages exist to plot high quality vectorial graphics in LaTeX. It is recommended to use the packages TiKZ and pgfplots, and to have one *.tex file per image.

4. Building tables

4.1 Building tables

You should build tables following the same method as table 4.1. This means 2 lines on top, and two lines on the bottom, one line in between. You can then use bold fonts or italics within the table.

Table 4.1: Table with contents ranging over several cells horizontally and vertically.

		First name ranging over 2 cells		**Second name ranging over 2 cells**	
		A	**B**	**C**	**D**
2 Lines ranging over 3 cells	O1	0.0	1.0	2.0	3.0
	O2	1.0	2.0	3.0	4.0
	O3	2.0	3.0	4.0	5.0
Other long option	O1	0.0	1.0	2.0	3.0
	O2	1.0	2.0	3.0	4.0
	O3	2.0	3.0	4.0	5.0

Another example of tables an be found in 4.2.

Table 4.2: Second example for tables.

AAAA	**BBBB**	**CCCCC**
	Configuration 1	
e	0	1
f	2	3
g	4	5
	Configuration 2	
e	6	7
f	8	9
g	10	11

4.2 Long tables

Here is how you can create a long table that will be placed vertically (see table 4.3).

Table 4.3: Example of a long table

	AAAA	**BBBB**	**CCCC**	**DDDD**	**EEEE**	**FFFF**	**GGGG**
AAAA	1	0	0	1	0	0	1
BBBB	0	1	1	0	0	1	1
CCCC	1	0	0	1	0	0	0
DDDD	1	1	0	0	1	1	0
EEEE	0	0	1	1	0	0	1
FFFF	1	0	0	1	0	1	0
GGGG	0	1	0	1	0	0	1

It is also possible to have a table ranging over several pages, see table 4.4.

Table 4.4: Table ranging over several pages

This part appears at the top of the table			
	AAAA	**BBBB**	**CCCC**
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
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Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0

Table 4.4: (continued)

This part appears at the top of the table			
	AAAA	**BBBB**	**CCCC**
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
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Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0
Lots of lines	0	0	0

It is also possible to used the `longtable` environment with the `lscape` environment to have a vertical table range over several pages.

5. Including Code

5.1 Typing code in line

When typying code in line you can either use the command `\verb+...+` or the command `\texttt{...}`. Note that in the first case, the "+" symbols can be replaced by other special symbols, eg. " ' ". Furthermore, in the second case you will need to use the latex commands for all the special symbols. Whenever more complicated code needs to be used, the `lstlistings` (or `lstlistings`) environment should be used. There are different languages that have been defined.

5.2 Typing bash code

It is possible to type bash code.

```
[bash:] cp /gpfs/home/HCT00020/dxp60/shared/Tutorials/04_TELEMAC_V7P0.pdf .
```

5.3 Typing steering file code

For the Telemac-Mascaret System steering file a special language has been defined:

```
/------------------------------------------------/
/        OPTION FOR BED FLUXES
/------------------------------------------------/
OPEN BOUNDARY CONDITIONS ON THE BED = YES
PRESCRIBED FLOWRATES ON THE BED = <Enter Flowrates>
```

It is also possible to escape the listings command and add latex typsets:

```
/------------------------------------------------/
/        OPTION FOR BED FLUXES
/------------------------------------------------/
OPEN BOUNDARY CONDITIONS ON THE BED = YES
PRESCRIBED FLOWRATES ON THE BED = <Enter Flowrates>
```

And to reference to a keyword outside a listing use the following command `MY KEYWORD`.
And to reference to a file use the following command **file.f**.

5.4 Typing Fortran code

The language for the Fortran code has also been defined:

```
...
!      BOUNDARY CONDITIONS ON VELOCITIES
!      *********************************
!
!      BOTTOM
!      ======
!
!      DEFAULT: IMPERMEABILITY AND LOG LAW
!
       IF(BC_BOTTOM.EQ.1) THEN
!
         DO IPOIN2 = 1,NPOIN2
           LIUBOF%I(IPOIN2) = KLOG
           LIVBOF%I(IPOIN2) = KLOG
           LIWBOF%I(IPOIN2) = KLOG
!          USEFUL ? SHOULD NOT BE USED ANYWAY
           UBORF%R(IPOIN2)  = 0.D0
           VBORF%R(IPOIN2)  = 0.D0
           WBORF%R(IPOIN2)  = 0.D0
           <Add a condition to set LIQBED%I(IPOIN2)>
         ENDDO
!
...
```

5.5 Typing Python code

At the moment the python code environment has not been defined.

5.6 Adding Blocks

It is also possible to use blocks to emphasize certain aspects, for example:

Comment:

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

These blocks can be used to emphasize key words:

Keywords:

Here are the new Keywords:

```
/------------------------------------------------/
/        OPTION FOR BED FLUXES
/------------------------------------------------/
OPEN BOUNDARY CONDITIONS ON THE BED = YES
PRESCRIBED FLOWRATES ON THE BED = <Enter Flowrates>
```

They can also be used to issue warnings:

Warning:

Do not forget to add the Keywords:

```
/-------------------------------------------------/
/        OPTION FOR BED FLUXES
/-------------------------------------------------/
OPEN BOUNDARY CONDITIONS ON THE BED = YES
PRESCRIBED FLOWRATES ON THE BED = <Enter Flowrates>
```

6. Citing documents

6.1 Citing authors in text

To cite authors there are two methods. The first method should be used if you want to cite your reference within your sentence; e.g. see Author [1]. The other method should be used if stating a fact, but without making explicit mention of the source [2].
There are different ways to cite different documents. One can cite books [1], articles [2], proceedings [3], PhD thesis [4], etc.

[1] A.N. Author. *Book title*. Publisher, Paris, 1986.

[2] F. Author, S. Author, and T. Author. Article title. *International Journal*, 1:1–10, 2013.

[3] A. Confauthor and A.N. Otherauthor. Article title. In *Proceedings of a Conference*, Paris, 2012. Publisher.

[4] P.H.D. Student. *PhD Title*. PhD thesis, Université Paris-Est, Marne-la-Vallée, Franc, 2011.