

\LaTeX /Beamer slides template
for the course
CFD with OpenSource Software

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Get the files and unpack

Download the file named `beamerSlidesTemplate.tgz`

Do:

```
tar xzf beamerSlidesTemplate.tgz  
rm beamerSlidesTemplate.tgz  
cd beamerSlidesTemplate
```

About \LaTeX

A \LaTeX document is created by editing a text file with \LaTeX commands. To transform it to a nice graphical representation it must be compiled, using:

```
pdflatex slides
```

(where your text file is named `slides.tex`)

View the result using Acroread or Evince:

```
acroread slides.pdf&
```

```
evince slides.pdf&
```

Have a look inside `slides.tex` to see how things are coded.

If you do modifications and re-compile, type CTRL-r in Acroread or Evince.

Re-compile twice to make references update (page numbers etc.)

Sections and subsections

The slides are organized in sections, which are shown at the top of the slide. This section is named 'Section'. It is valid until the next `\section` command.

The sections are organized in subsections, which are shown at the top of the slide. This subsections is named 'Subsection'. It is valid until the next `\subsection` command.

Have a look inside `slides.tex` to see where the next section and subsection are located.

How to make a list

- This is the first point
- This is the second point

How to write verbatim

I typically use verbatim for computer code and Linux commands

Everything within `begin{verbatim}` and `end{verbatim}` is written as it is written in the tex-file, without reformatting.

There is a way to do this also with in-line text. Here I have used `+` signs to start and end the verbatim, but you can use other markers.

How to change font size etc.

tiny

scriptsize

footnotesize

small

normalsize

large

Large

LARGE

huge

Huge

Bold face

emphasized text

How to write in two columns using minipages

Column 1, 39% of the textwidth, top-aligned

Column 2, 59% of the textwidth, top-aligned

Some text

Column 1, 39% of the textwidth, center-aligned

Column 2, 59% of the textwidth, center-aligned

Some text

Column 1, 39% of the textwidth, bottom-aligned

Column 2, 59% of the textwidth, bottom-aligned

How to write in two columns using columns

4cm column

6cm column

How to comment out parts of the \LaTeX code

Parts of the \LaTeX code can be commented by:

```
\begin{comment}  
commented LaTeX code  
\end{comment}
```

This requires that the frame is defined as `[fragile]`, as in our case.

How to write a centered table

Rank	Common name	Basic name	Access function
0	Scalar	scalar	
1	Vector	vector	$x()$, $y()$, $z()$
2	Tensor	tensor	$xx()$, $xy()$, $xz()$, ...

How to write equations

Write equations as eqnarray without numbering:

$$\nu_t = \frac{a_1 k}{\max(a_1 \omega, SF_2)}$$

or:

$$\nu_t = \frac{a_1 k}{\max(a_1 \omega, SF_2)}$$

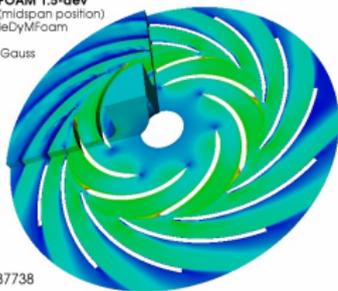
Or write $\nu_t = \frac{a_1 k}{\max(a_1 \omega, SF_2)}$ in line with text.

How to add figures

http://openfoamwiki.net/index.php/Sig_Turbomachinery

S.Xie, O.Petit, H.Nilsson, Chalmers
OpenFOAM 1.5-dev
3D unsteady (midspan position)
transientSimpleDyMFoam
backward
linearUpwind Gauss
maxCo 0.5

U Magnitude
46
34.5
23
11.5
0
Time: 0.287738



Centrifugal Pump (ECP)

O.Bergman, O.Pettit, H.Nilsson, Chalmers
OpenFOAM 1.5-dev
3D unsteady
turbDyMFoam
backward
linear Upwind Gauss
Max Co:3

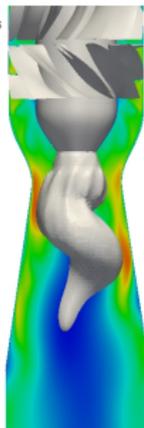
Rotational speed: 920 rpm

Time: 0.273000 s

E



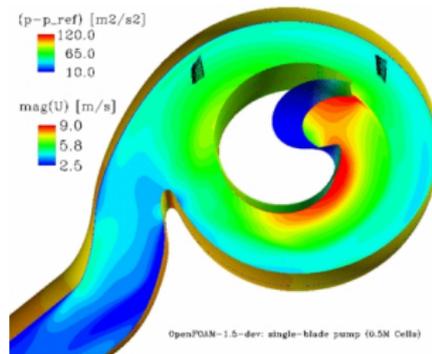
Uz (m/s)
5.85
4
2
0
-1.02



Swirl Generator (TSG)

(p-p_ref) [m2/s2]
120.0
65.0
10.0

mag(U) [m/s]
9.0
5.8
2.5



OpenFOAM-1.5-dev: single-blade pump (0.5M Cells)

Timisoara Channel Pump

How to add a gif movie (can be tricky!)

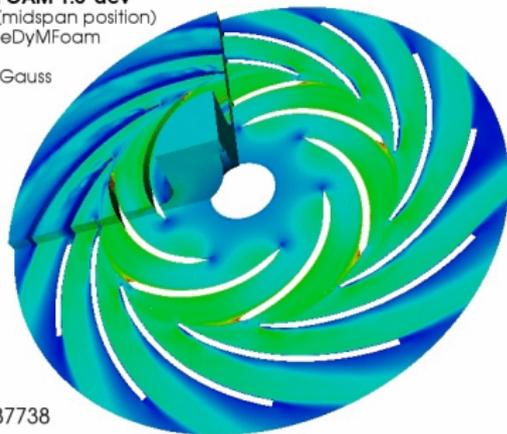
S.Xie, O.Petit, H.Nilsson, Chalmers
OpenFOAM 1.5-dev

3D unsteady (midspan position)
transientSimpleDyMFoam
backward
linearUpwind Gauss
maxCo 0.5

U Magnitude



Time: 0.287738



Click to open in web browser
Works in Acroread and Evince

How to add a flip movie (can be tricky!)

Plays automatically in Acroread, but not Evince

That's it

Please give me feedback on what to modify or add!

Good luck!