

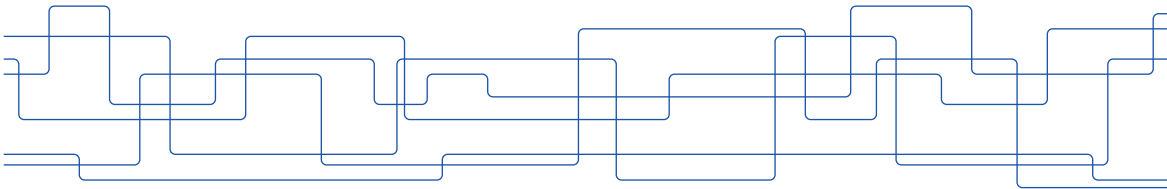


# FLOW

Using beamer

Josilio

KTH Mechanics  
January 11, 2023





# Overview

- ① General
  - Random stuff
  - Transitions
  - Blocks
- ② Colors and symbols
- ③ Adding videos
- ④ Frames backgrounds
- ⑤ TIKZ it!

- ▶ You can highlight text with `\hl{}`. But I generally save the highlighting for `\texttt{}`
- ▶ You can also `\alert{}` some text
- ▶ If you want to use the `verbatim` or `listings` environment in beamer, you have to add the `fragile` option to the frame. But this could mess up some beamer features.
- ▶ If you have big images or videos, in `Overleaf` you can speed up the compilation by clicking the arrow next to `Recompile` and selecting the `Fast[draft]` option.
- ▶ To compile without transitions add `handout` in your document class options.
- ▶ You can cite, for instance, THE BOOK: [Schmid et al., 2002]
- ▶ I don't really like footnotes<sup>1</sup>

<sup>1</sup>but sometimes they can help

► Here are some commands for transitions

- `\pause`
- `\only<1|handout:0>{}`
- `\onslide<2-|handout:2>{}`

► For environments you can use, for instance,

```
\item<1-> Some item
```

```
\alert<1>{text}   \textcolor<2>{color}{text}   \textbf<2>{text}
```

```
\begin{block}{}<3->  
A block  
\end{block}
```



## Normal block

And its body

$$Re = 1e6$$

Let's pause



## Normal block

And its body

$$Re = 1e6$$

Let's pause

## Example block

And its body

## Normal block

And its body

$$Re = 1e6$$

Let's pause

## Example block

And its body

## Alert block

And its body



# Colors and symbols

## KTH colors

- ▶ kthcolor
- ▶ kthcolor\_light
- ▶ kthcolor\_green
- ▶ kthcolor\_pink
- ▶ kthcolor\_gray

## Matlab colors

- ▶ matlabcolor1
- ▶ matlabcolor2
- ▶ matlabcolor3
- ▶ matlabcolor4
- ▶ matlabcolor5
- ▶ matlabcolor6
- ▶ matlabcolor7

## Python colors

- ▶ tab\_blue
- ▶ tab\_orange
- ▶ tab\_green
- ▶ tab\_red
- ▶ tab\_purple
- ▶ tab\_brown
- ▶ tab\_pink
- ▶ tab\_gray
- ▶ tab\_olive
- ▶ tab\_cyan



These two packages have icons and symbols that can be used as text. In the links you can find a complete list.

Font Awesome [Link]



manfnt [Link]



## Adding videos

- ▶ Load the package: (see documentation)

```
\usepackage{animate}
```

- ▶ One needs a bunch of images (not the video).
- ▶ The pdf gets quite big and remember there is a max limit of files in `Overleaf`.
- ▶ For zero padding, one can add the following: (see stackexchange post)

```
\makeatletter  
\let\zeropad\@anim@pad  
\makeatother
```

- ▶ For me, the visualisation has only worked on `Adobe Reader`. It also works on `Okular`, but not always in `Presentation mode`. Using `Full Screen Mode` should work okay; just missing the annotation tools available in `Presentation Mode`. Remember to tick the `Show form` box (> Edit)



## Adding videos

- ▶ We can have a dark background using:

```
\darkpageline
```

- ▶ There is even a

```
\startpagedark
```

- ▶ Code looks cool:

```
1 import numpy as np
2 a = 3 #comment
3 for i in range(a):
4     print(i)
```

## Normal block

And its body

## Example block

And its body

## Alert block

And its body

$$c^2 = a^2 + b^2 \quad (1)$$

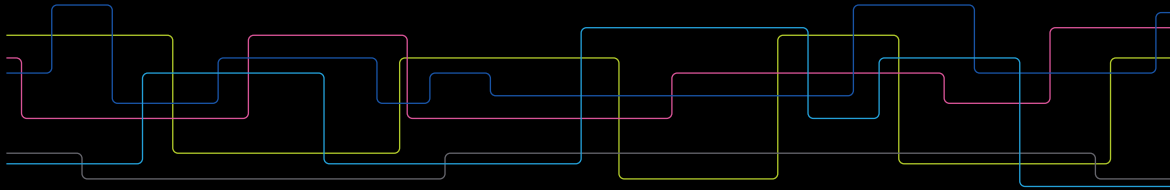


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## Frames backgrounds

Images with transparent background look cool too



## Frames backgrounds

- ▶ We can go back to a normal page by:

```
\normalpageline
```



## Frames backgrounds

- ▶ Or using:

```
\normalpagewaves
```

If you want some waves at the bottom



## Frames backgrounds

- ▶ Or a totally blank page:

```
\whitepage
```

## Frames backgrounds

- ▶ Or a totally dark page:

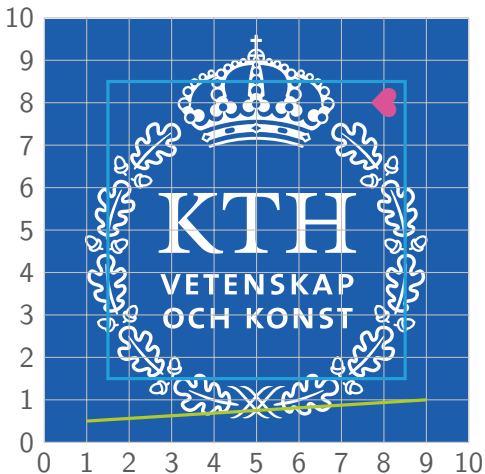
```
\darkpage
```



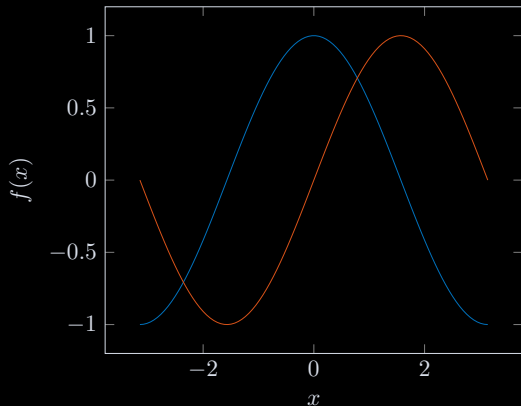
## TIKZ it!

- ▶ Generate a grid on top of your image so you can see the local coordinates
- ▶ You have to add :  

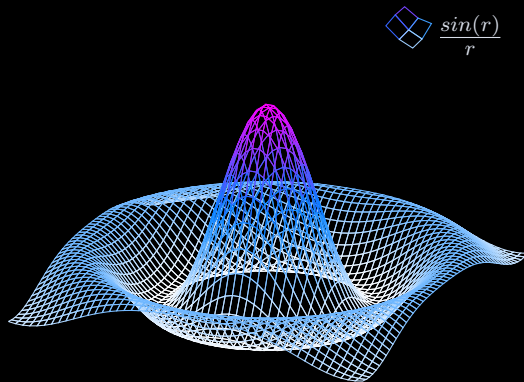
```
\usetikzlibrary{calc}
```
- ▶ Once you are done drawing, you just have to comment the grid and axis labels



Plot from Equation



Example using the mesh parameter



# References I



Schmid, P. J., Henningson, D. S., and Jankowski, D. (2002).

Stability and transition in shear flows. applied mathematical sciences, vol. 142.

*Appl. Mech. Rev.*, 55(3):B57–B59.