



# FLOW

Using beamer

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KTH Mechanics  
June 9, 2024



# Overview

## 1 General

Random stuff

Transitions

Blocks

## 2 Colors and symbols

## 3 Adding videos

## 4 Frames backgrounds

## 5 TIKZ it!

# General



# General

## Some subtitle

- ▶ 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



## General

- ▶ 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}
```



## General Blocks

### Normal block

And its body

$$Re = 1e6$$

Let's pause



## General Blocks

### Normal block

And its body

$$Re = 1e6$$

Let's pause

### Example block

And its body



## General Blocks

### Normal block

And its body

$$Re = 1e6$$

Let's pause

### Example block

And its body

### Alert block

And its body

# Colors and symbols



# Colors and symbols

## KTH colors

### Primary

- ▶ `kthcolor`
- ▶ `kthcolor_navy`
- ▶ `kthcolor_sand`
- ▶ `kthcolor_skyblue`
- ▶ `kthcolor_lightblue`
- ▶ `kthcolor_digitalblue`

### Functional Dark

- ▶ `kth_darkgreen`
- ▶ `kth_darkturquoise`
- ▶ `kth_darkbrick`
- ▶ `kth_darkyellow`
- ▶ `kth_darkgray`

### Functional

- ▶ `kth_green`
- ▶ `kth_turquoise`
- ▶ `kth_brick`
- ▶ `kth_yellow`
- ▶ `kth_gray`

### Functional light

- ▶ `kth_lightgreen`
- ▶ `kth_ligheturquoise`
- ▶ `kth_lightbrick`
- ▶ `kth_lightyellow`
- ▶ `kth_lightgray`



# Colors and symbols

## 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

## Qual. colors [Link]

(Color-blind safe)

- ▶ BqualBlue
- ▶ BqualCyan
- ▶ BqualGreen
- ▶ BqualYellow
- ▶ BqualRed
- ▶ BqualPurple
- ▶ BqualGray

## Others

- ▶ wheat
- ▶ orangepeel
- ▶ UniBlue
- ▶ DarkGray
- ▶ LightGray
- ▶ oldTextGreen
- ▶ oldOcean
- ▶ BG
- ▶ darkred

# Colors and symbols

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



## 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) ~~beamer stuff~~



# Adding videos

# Frames backgrounds

# Frames backgrounds

- ▶ 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

subtitle

Images with transparent background look cool too



# Frames backgrounds

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

```
\normalpageline
```



# Frames backgrounds

## subtitle

- ▶ Or using:

```
\normalpagewaves
```

If you want some waves at the bottom



# Frames backgrounds

## subtitle

- ▶ Or using:

```
\normalpagewaves
```

If you want some waves at the bottom

<sup>2</sup>test footnote height



# Frames backgrounds

- ▶ Or the navy version:

```
\normalpagelinenavy
```



# Frames backgrounds

- ▶ Or the navy version of waves:

```
\normalpage{waves}{navy}
```



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# Frames backgrounds

## Consistent colors for TOC and block

### 1 General

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**different block**

text

## Frames backgrounds

- ▶ Or a totally blank page:

```
\whitepage
```

## Frames backgrounds

- ▶ Or a totally dark page:

```
\darkpage
```

# another transition slide

**and another one**

and another one



TIKZ it!

# 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





# Frame coordinate system

Absolute positioning of images and sketches

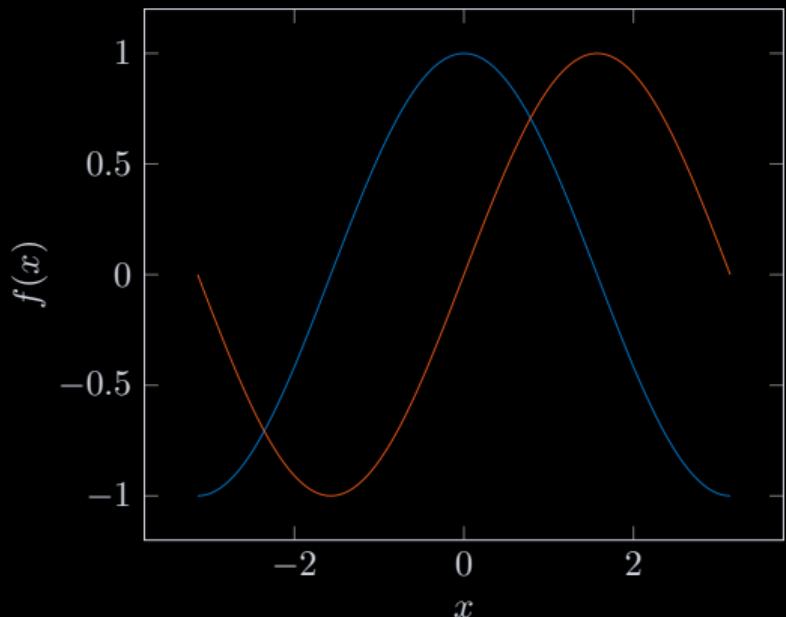
In case you want to draw over the slide



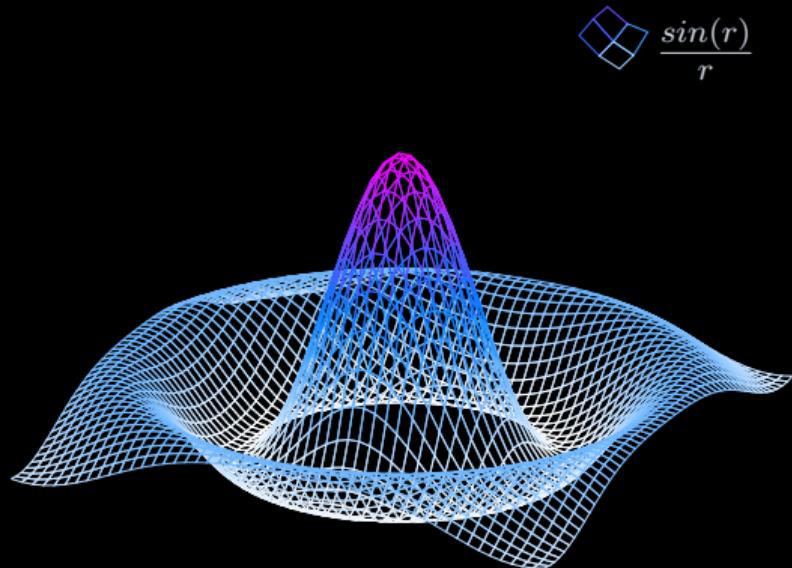
# TIKZ it!

pgfplots

Plot from Equation



Example using the mesh parameter





Thank you for your attention!



**NAISSL**

**VINNOVA**



Thank you for your attention!

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## References |



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.