

# Slides of a beautiful presentation



TECHNISCHE  
UNIVERSITÄT  
DARMSTADT

## Subtitle

**First Name Last name**

Computational Electromagnetics Group



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# Outline of the Talk

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## Section 1

### Subsection 1.1

### Subsection 1.2

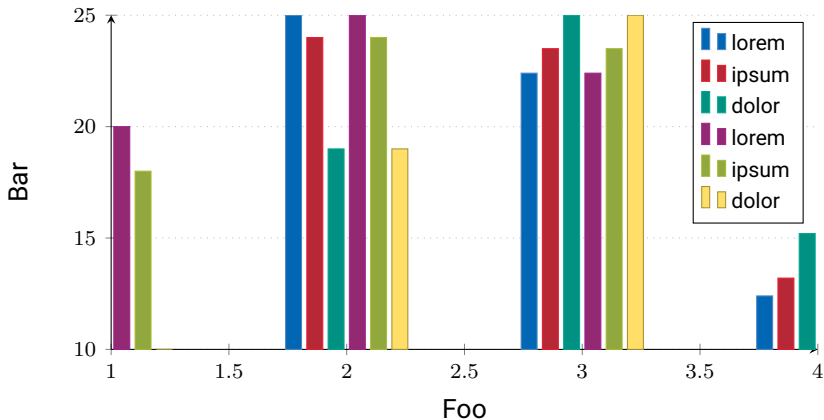
## Section 2

### Subsection 2.1

## Section 3

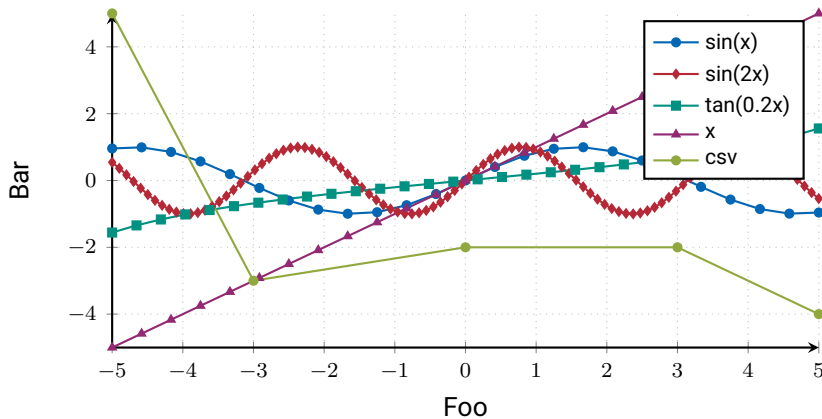
## Section 4: Typical errors

## Bar charts: tudabarplot

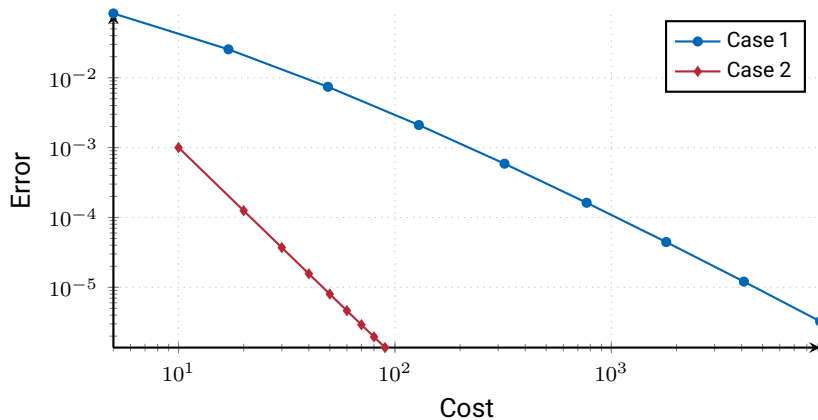


tudabarplot uses automatically the TU colors, e.g. \TUDa-1a, \TUDa-1b, from the corporate guide,  
[https://www.tu-darmstadt.de/media/medien\\_stabsstelle\\_km/services/medien\\_cd/das\\_bild\\_der\\_tu\\_darmstadt.pdf](https://www.tu-darmstadt.de/media/medien_stabsstelle_km/services/medien_cd/das_bild_der_tu_darmstadt.pdf)

# Line plots

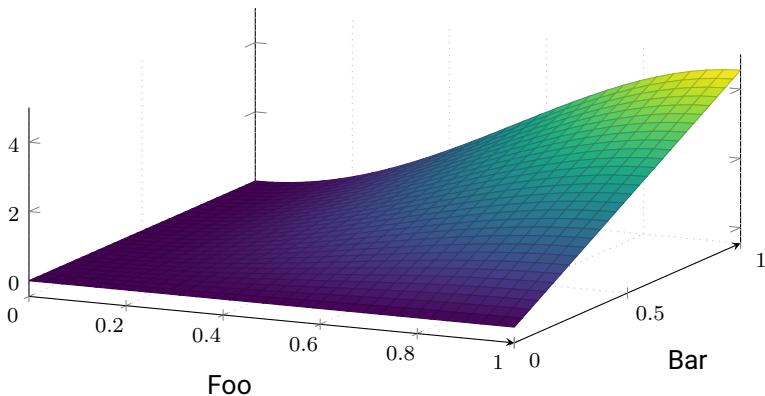


# Log plots



## More plots

### 3d plots



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# Video

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Include videos: media9 is the successor of movie15

# Animation

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- use `animate` package for animations based on separate images
- seems to work better then `media9`



# Animation

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- or include videos just as a link

data/bunny.mp4

# Test

- Test 1
- Test 2
  - ▣ Test 1:  $\vec{B} = \mu \vec{H}$
  - ▣ Test 2:  $(a + b)^2 = a^2 + 2ab + b^2$

## A block

Lorem ipsum dolor sit amet, consectetur adipiscing 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.

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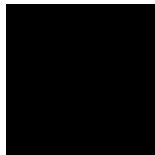
# On columns

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Without column

Columns are important...

- ... in beamer, for example
- to align text and images



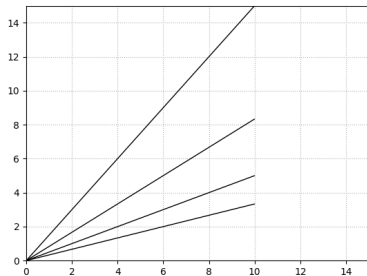
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## Section 4: Typical errors

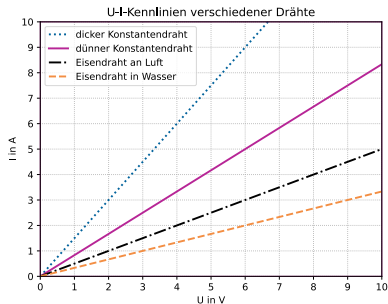
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On the following slides we will show some *good* and *bad* design examples.

# Graphen/Plots



- No axis label, legend and caption
- Graphs are all black
- Axis limits are too high



- Axis label with correct unit, legend and caption
- Different colors and linestyles

# Bilder

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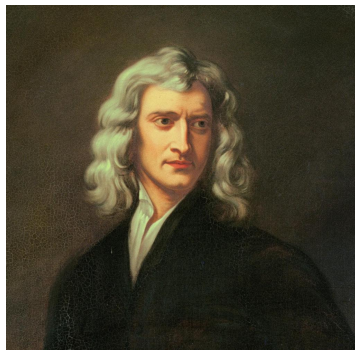
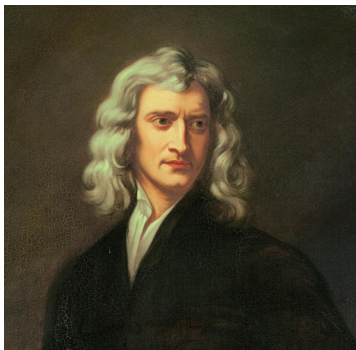


Figure: Isaac Newton, <https://www.welt.de/geschichte/kopf-des-tages/article223623798/Isaac-Newton-Das-Mathematik-Genie-und-die-Alchemie.html>

# Text

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- Too much text on a slide is a common mistake and results in the listener being overwhelmed. It quickly becomes very boring and tempts the presenter to simply read the text aloud
- Too much text on a slide
  - listener overwhelmed
  - becomes boring
  - presenter reads text aloud

# Conventions

## Avoid this

$$a = \begin{pmatrix} \sin\alpha & k * \cos(alpha) \\ \cos\alpha & k * \sin(alpha) \end{pmatrix}$$

## Good example

- Given:  $k \in \mathbb{R}, \alpha \in [0, 2\pi)$ .
- Calculate the solution matrix:

$$\mathbf{A} = \begin{pmatrix} \sin(\alpha) & k \cdot \cos(\alpha) \\ \cos(\alpha) & k \cdot \sin(\alpha) \end{pmatrix}$$

- Follow the same conventions that are expected for your written work (see: *Guidelines for written work*). Examples include:
- Matrices are always uppercase, bold and non-italic letters.
- Operators like  $\sin$  or  $\cos$  or not italic (Use commands: `\sin` and `\cos`).
- $a * b$  is the convolution of  $a$  and  $b$ , NOT their product.
- ...



## Code – Avoid this

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Avoid this:

```
public class testClass {  
public static void main(String args[]) {  
TestObject test1 = new TestObject(1, 5);  
if(test1.attribute1 > testparameter){  
test1.attribute2 = test1.attribute2 - 1;  
} else {  
test1.attribute2 = test1.attribute2 - 1;  
}  
}
```

- No indents for clarity
- Unnecessary information for a presentation
- Difficult to read and understand

## Code – Good example

Good code example:

### Simple cruise control

```
Car mycar = new Car(positon=1, velocity=5);  
IF mycar is too fast THEN  
    decrease mycar velocity  
ELSE  
    increase mycar velocity
```

- Use block to frame important code.
- Use pseudocode for better understanding.
- Only show important code bits that are essential for your presentation.

# Citation

## Avoid these

- To calculate the integral many methods can be used (see: [1])
- One method is numerical integration [1]
- The Newton-Cotes (as seen in <https://de.wikipedia.org/wiki/Newton-Cotes-Formeln>) equation is such an example.

## Good example

Newton-Cotes Equation [1, Schwarz]

- Different methods for numerical integration exist
- Newton-Cotes equation can be used to approximate an integral
- Lagrange-polynomes can be used

# Citation

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- Give the important source once per slide or chapter. Alternatively footnotes can be used.
- Use a coherent citation style like [1, Schwartz] that gives information about the source (e.g. name of the author)
- Be sure to add the complete list of sources at the end of your presentation.

