Title

Subtitle

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January 2, 2022

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1 Basic functions

1.1 Itemize

- Run 'prd_thesis' to compile the whole document.
- Run a component file (e.g. 'c_1_section1.tex') to only compile that component which can save a lot of compile time. Do not forget to include `\environment[]` in your components to get the right document formatting.

1.2 Referencing

Here I am citing [1], and here [2].
This document is not an MWE but it might represent the BP.

2 Math

2.1 Formulas

The formula notation is the same as in LaTeX, but alignment and label assignment is done 'The ConTeXt way'.

This is a normal formula with the usual ConTeXt-like referencing scheme: equation 1

$$F = m \cdot a \tag{1}$$

These are aligned equations. Note that if we use aligned math, the label of each formula needs to be set as an argument of `\NR` ('New Row'). This is a reference to equation 2.b.

$$\frac{dX}{dt} = k \cdot (X_{eq} - X) \tag{2.a}$$

$$\frac{dc}{dt} = -\frac{v_0}{\varepsilon} \cdot \frac{dc}{dx} + \frac{1}{\varepsilon} \cdot \frac{dX}{dt} \tag{2.b}$$

We can also align seperately numbered formulas. Note that you need to set a label on every equation to be numbered:

$$\frac{dX}{dt} = k \cdot (X_{eq} - X) \tag{3}$$

$$\frac{dc}{dt} = -\frac{v_0}{\varepsilon} \cdot \frac{dc}{dx} + \frac{1}{\varepsilon} \cdot \frac{dX}{dt} \tag{4}$$

You could also number and reference the whole group (equation 5) instead of individual formulas:

$$\begin{aligned} \frac{dX}{dt} &= k \cdot (X_{eq} - X) \\ \frac{dc}{dt} &= -\frac{v_0}{\varepsilon} \cdot \frac{dc}{dx} + \frac{1}{\varepsilon} \cdot \frac{dX}{dt} \end{aligned} \tag{5}$$

2.2 Units

Do you need to pretty-print units? No problem: $v_0 = 0.5\,\mathrm{m/s}$. Please always use `\unit{}` to print value-unit pairs as the neccessary space is automatically filled inbetween. And more importantly, the unit letters are printed upright to be easily destinguished from the italicized formula symbols.

2.3 Theorems

For the definition of the following enumerations see the env_thesis.tex.

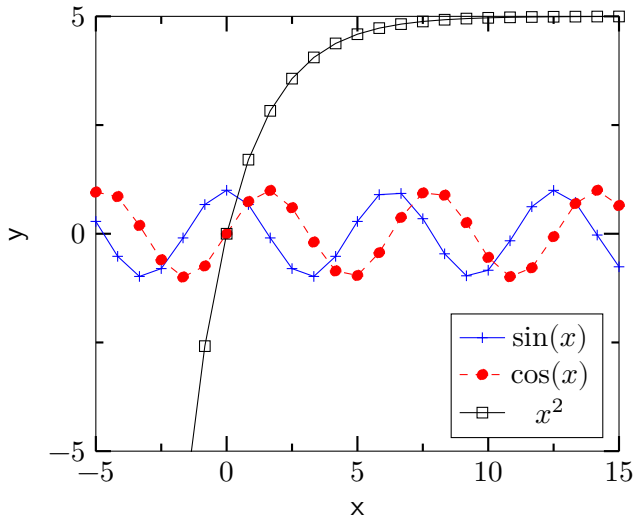
Definition 2.1. *This is a definition.*

Theorem 2.1. *This is a theorem.*

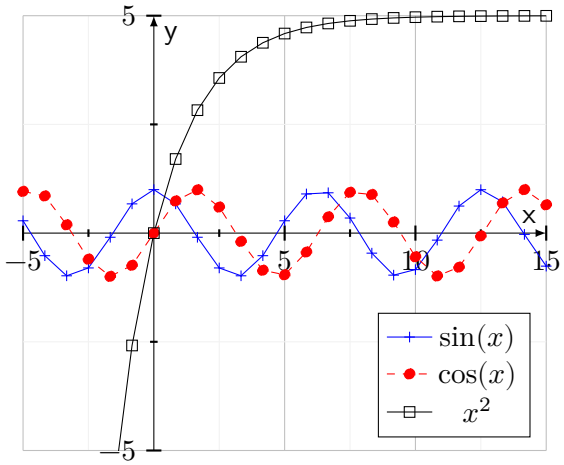
Remark 2.1. This is a remark.

2.4 TikZ Graphics

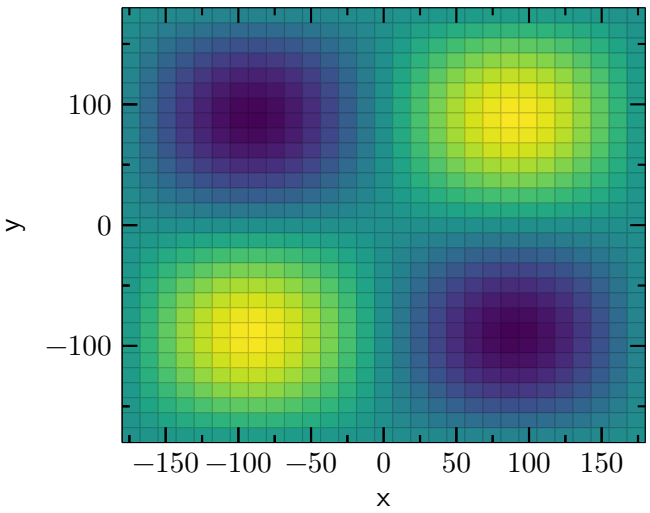
This is a controvertial topic because ConTEXt users usually use MetaPost to draw graphics. But in physics, engineering and related disciplines we need the power of tikz/pgfplots if we want to present data directly compiled in TEX. But be aware that compile time increases dramatically! This is why I defined a draft mode in env_thesis.tex where the tikz pictures are not getting rendered.



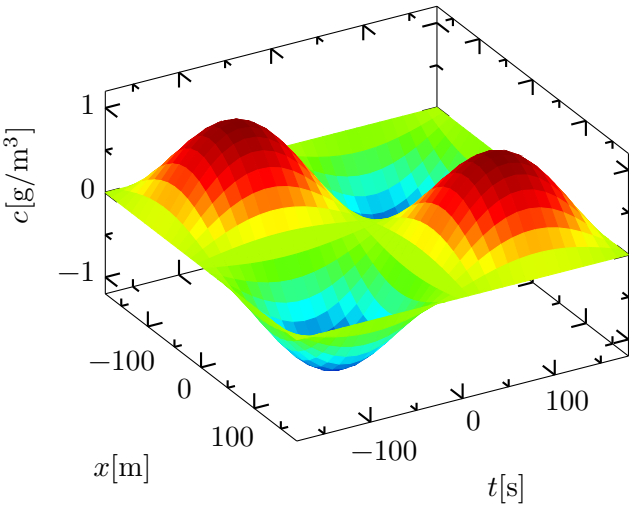
a 2D, axes build a frame



b 2D, axes go through the origin



c 3D, but rotated to show the 2D heatmap



d 3D

Figure 1 Crazy stuff you can do with pgfplots

For a huge list of example plots see `http://pgfplots.sourceforge.net/gallery.html`.

For the full reference, see `http://mirrors.ctan.org/graphics/pgf/contrib/pgfplots/doc/pgfplots.pdf`.

3 Floats

3.1 Tables

There are two table mechanisms in ConTEXt:

Table 1 Tabulate (starttabulate - stoptabulate)

Centered column	Left aligned column
One	Two
Three	Four

and

Table 2 TABLE (bTABLE - eTABLE)

Centered column	Left aligned column
One	Two
Three	Four

Its clear that table1 uses less lines of code and is more LATEXy, where with table2 you get full global control on how all the rows and columns of the table are formatted.
There is also a mixture available where the code gets a little cleaner:

Table 3 TABLE (startTABLE - stopTABLE)

Centered column	Left aligned column
One	Two
Three	Four

Please note, that with the last flavour, the only usable 'old' table commands are `\NC` and `\NR`. You cannot use other 'old' table commands (like `\FL`, `\VL`) because formatting is still done with `\setupTABLE`.

3.2 Figures

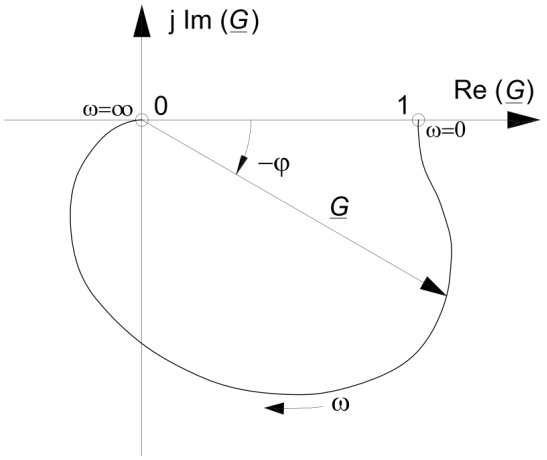
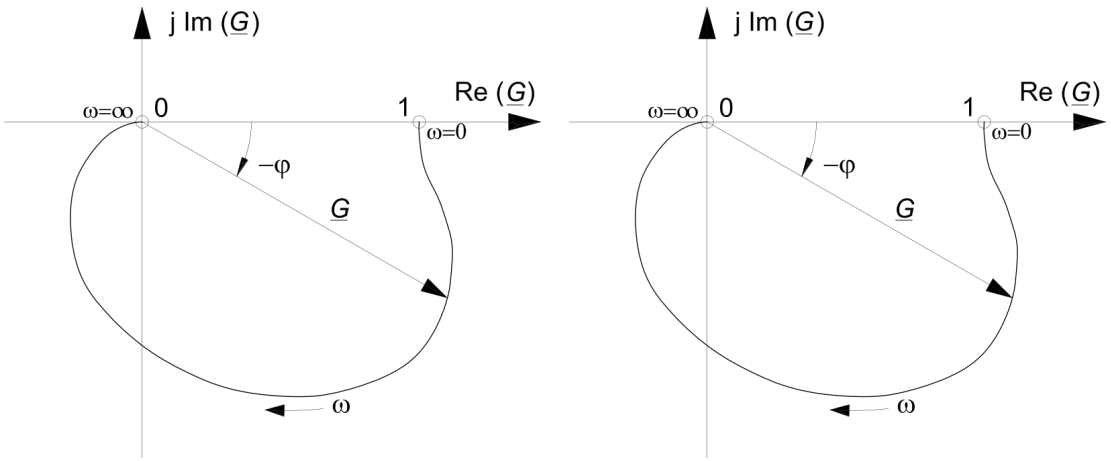


Figure 2 Example Figure

This is a reference to figure 2.



a Test **b** Test

Figure 3 Subfigures

Appendix A Bibliography

[1] H. Hagen, Who knows nothing?, *MyJournal* **1** 123–126 (2013).

[2] H. Hagen2, Who knows nothing?, *MyJournal* **1** 123–126 (2013).

Appendix B Glossary

b

BP BEST PRACTICE 1

m

MWE MINIMAL WORKING EXAMPLE 1

The Backmatter

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