

# My new beamer template

It is much cooler than the old one

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# Overview

- ▶ Part 1: *Examples*
- ▶ Part 2: *Plots*

## **Part 1: Examples**

# Hello!

About the template

This is another try at a more subtle beamer template.

An itemized list looks as follows:

- ▶ Item 1
- ▶ Item 2

The continuous-time Fourier Transform of a signal  $x(t)$  is defined as


$$X(\omega) = \int_{-\infty}^{\infty} x(t) e^{-j\omega t} dt \quad (1)$$

# A Theorem in a Box

## Theorem

*The Bessel functions of the first kind  $J_v(x)$  are the solutions to the Bessel differential equation*

$$x^2 \frac{d^2 y}{dx^2} + x \frac{dy}{dx} + (x^2 - v^2) y = 0. \quad (2)$$

*Proof:* Omitted.<sup>1</sup> 

I am sure Shannon did not use this fact<sup>2</sup>

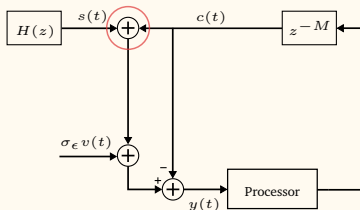
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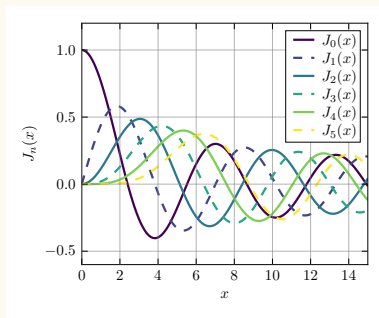
<sup>1</sup>This is a footnote explaining why the proof was omitted.

<sup>2</sup>C. E. Shannon, "A mathematical theory of communication," *The Bell System Technical Journal*, vol. 27, no. 3, pp. 379–423, Jul. 1948, ISSN: 0005-8580. DOI: 10.1002/j.1538-7305.1948.tb01338.x.

# Figures

We can include graphics just like we are used to, for example this block diagram of an noise-canceling system:





## Part 2: Plots

# Plotting is fun!

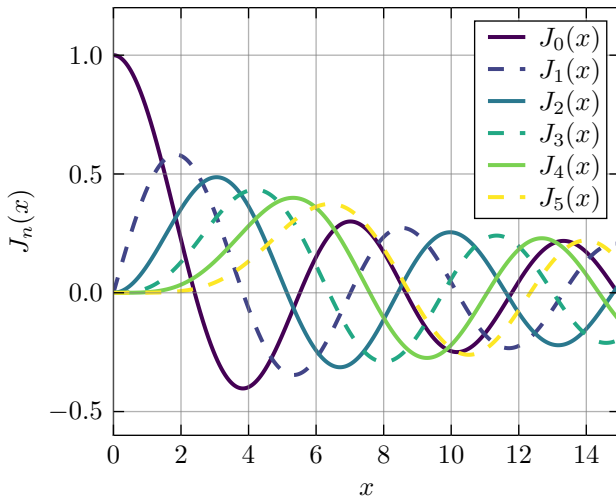
On the following pages, we include two examples on how to include plots:

1. A PDF plot
2. A PGF/TikZ plot

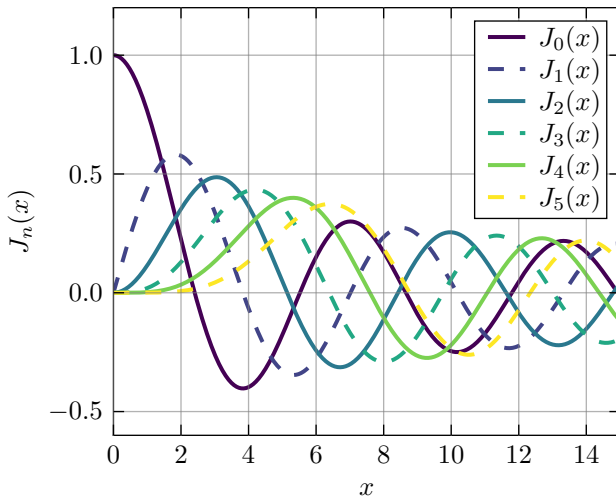
PDF plots are nice, but nothing beats the native look of PGF/TikZ. The source code to generate both plots can be found in `extra/plot_bessel.py`



# A PDF Plot



# A PGF/TikZ Plot



# References I

- [1] C. E. Shannon, “A mathematical theory of communication,” *The Bell System Technical Journal*, vol. 27, no. 3, pp. 379–423, Jul. 1948, ISSN: 0005-8580. DOI: 10.1002/j.1538-7305.1948.tb01338.x.

