



Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

*Signal and Information  
Processing Laboratory*

*Institut für Signal- und  
Informationsverarbeitung*



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Prof. H.-A. Loeliger

Semester Thesis

# Phase-Locked Loops

Daniel Gilgen

and

Fabio Marti

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Advisor: Nour Zalmay

Co-Advisor: Lukas Bruderer



(Here the project description may be put in ...page 1)

(Here the project description may be put in ... page 2)

# Abstract

Here comes the abstract ...

(The abstract is better included by the command `\include{file}`.)

# Zusammenfassung

Das ist die Zusammenfassung ...

(Die Zusammenfassung sollte besser mittels des Befehls `\include{file}` eingebunden werden.)

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## Chapter 1

# Principles of Phase-Locked Loops

## 1.1 Introduction

## 1.2 Blabla

## Chapter 2

# Tracking of a Sinusoidal Signal

## 2.1 Introduction

## 2.2 Blabla

## Chapter 3

# PLL for Harmonic Signals

## **3.1 Introduction**

## **3.2 Blabla**



## Chapter 4

BlaBlaBla

# Appendix A

## Fancy factor graphs

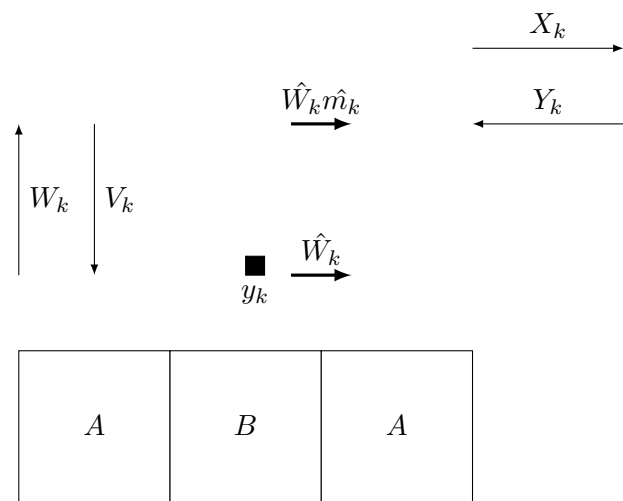


Figure A.1: All elements from the file factorGraph.sty.

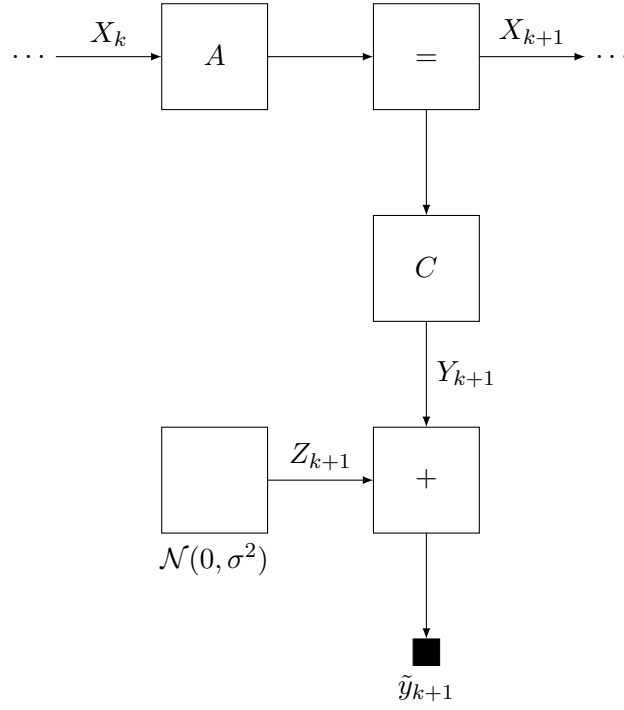


Figure A.2: This factor graph has been constructed with custom-built TikZ macros.

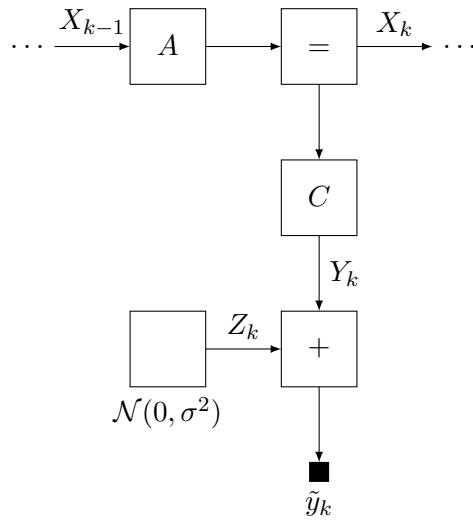


Figure A.3: This factor graph has been constructed with the factor graph macro from factorGraphs.sty.

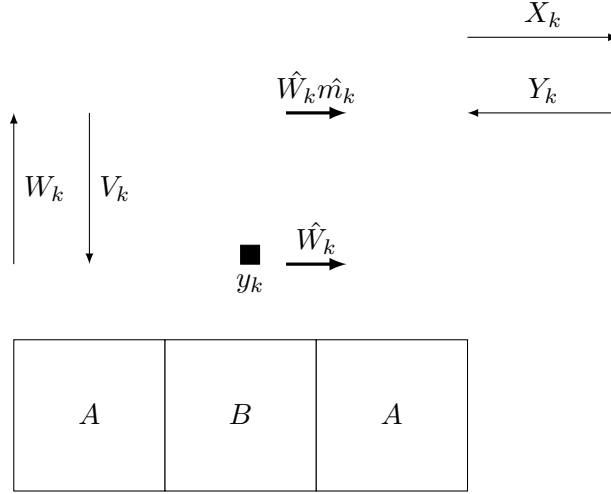
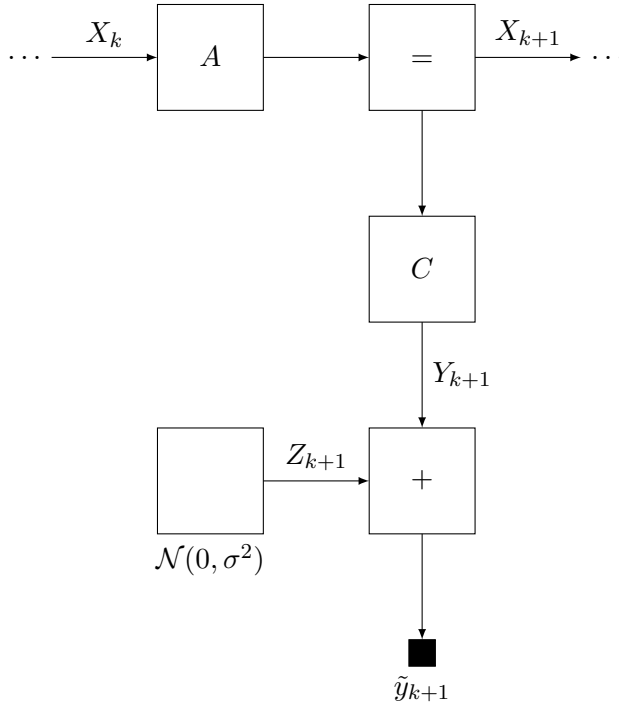
Figure A.4: All elements from the file `factorGraph.sty`.

Figure A.5: This factor graph has been constructed with custom-built TikZ macros.

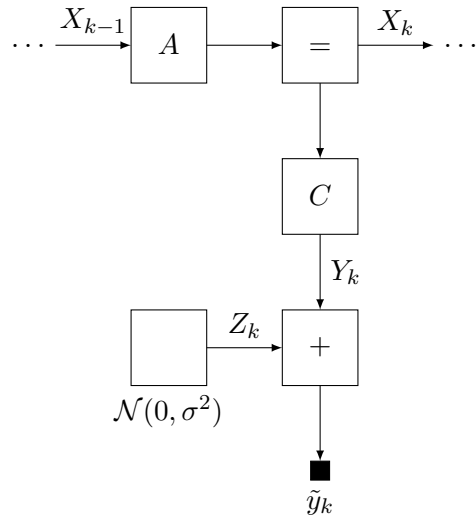


Figure A.6: This factor graph has been constructed with the factor graph macro from factorGraphs.sty.

# Bibliography