

Drawing examples in L^AT_EX

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Contents

Introduction	i
The aim of document	i
1 Block Diagram	1
1.1 Example 1	1
1.2 Example 2	1
1.3 Example 3	2
1.4 Example 4	2
1.5 Example 5	3
1.6 Example 6	3
1.7 Example 7	3
1.8 Example 8	4
1.9 Example 9	4
1.10 Example 10	5
1.11 Example 11	5
1.12 Example 12	6
1.13 Example 13	6
1.14 Example 14	7
1.15 Example 15	7
1.16 Example 16	7
1.17 Example 17	8
1.18 Example 18	8
1.19 Example 19	9
1.20 Example 20	9
1.21 Example 21	10
1.22 Example 22	10
1.23 Example 23	11
1.24 Example 24	11
1.25 Example 25	12
1.26 Example 26	12
1.27 Example 27	13
1.28 Example 28	13
1.29 Example 29	14
1.30 Example 30	14
1.31 Example 31	15

1.32	Example 32	15
1.33	Example 33	16
1.34	Example 34	16
1.35	Example 35	17
1.36	Example 36	17
1.37	Example 37	17
2	Matlab Plots	19
2.1	Example 1	19
2.2	Example 2	20
2.3	Example 3	20
2.4	Example 4	21
3	Drawing on Images	22
3.1	Example 1	22
3.2	Example 2	23
3.3	Example 3	23
3.4	Example 4	24
3.5	Example 5	24
3.6	Example 6	25
3.7	Example 7	25
3.8	Example 8	26
3.9	Example 9	26
3.10	Example 10	27
4	Various	28
4.1	Example 1	28
4.2	Example 2	28
4.3	Example 3	29
4.4	Example 4	29
4.5	Example 5	30
4.6	Example 6	30
4.7	Example 7	30
4.8	Example 8	31
4.9	Example 9	31
4.10	Example 10	32
4.11	Example 11	32
4.12	Example 12	32
4.13	Example 13	33
4.14	Example 14	33
4.15	Example 15	34
4.16	Example 16	34
4.17	Example 17	34
4.18	Example 18	35
4.19	Example 19	35
4.20	Example 20	36

CONTENTS

4.21 Example 21 36

4.22 Example 22 37

4.23 Example 23 37

4.24 Example 24 38

4.25 Example 25 38

4.26 Example 26 39

4.27 Example 27 39

4.28 Example 28 40

4.29 Example 29 40

4.30 Example 30 41

4.31 Example 38 41

4.32 Example 39 41

Introduction

The aim of document

The aim of this file is to help people interested in learning how to use L^AT_EX for drawing. In particular, already structured examples will help to develop one's own through the source code provided. The draws have been made during my research activity as PhD candidate.

The file is divided into four main chapters (parts):

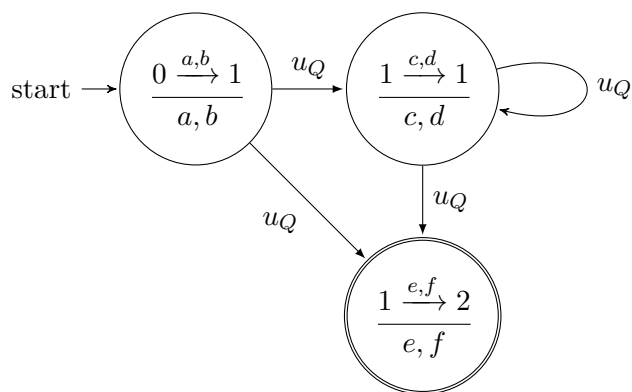
- *Block Diagrams* (see Ch. 1): this part contains block diagrams;
- *Matlab Plots* (see Ch. 2): this part contains MATLAB[®] and the MATLAB package *matlab2tikz*¹.
- *Drawing on Images* (see Ch. 3): this part contains draws made on image files;
- *Various* (see Ch. 4): this part contains several drawings that do not belong to the sections listed above.

¹It is available at the link <https://github.com/matlab2tikz/matlab2tikz>

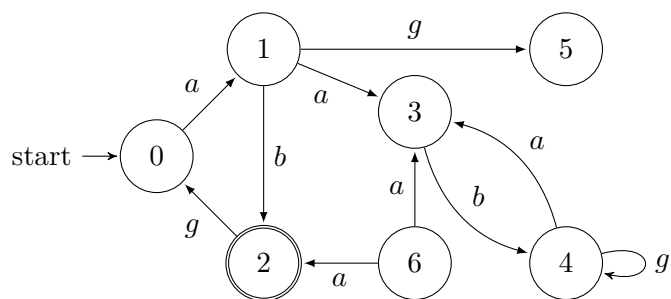
Chapter 1

Block Diagram

1.1 Example 1



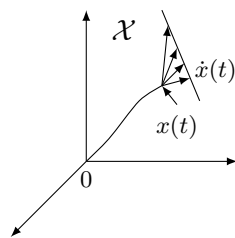
1.2 Example 2



1.3 Example 3

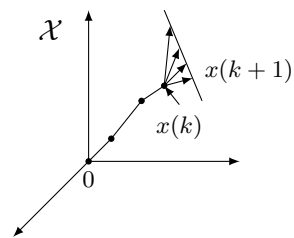
Continuous-time:

$$\begin{aligned}\dot{x}(t) &= Ax(t) + Bu(t) \\ y(t) &= Cx(t)\end{aligned}$$

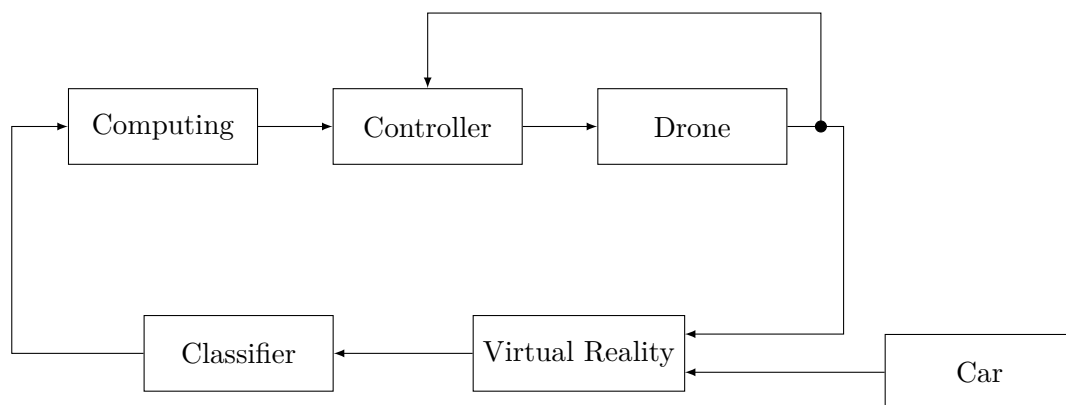


Discrete-time:

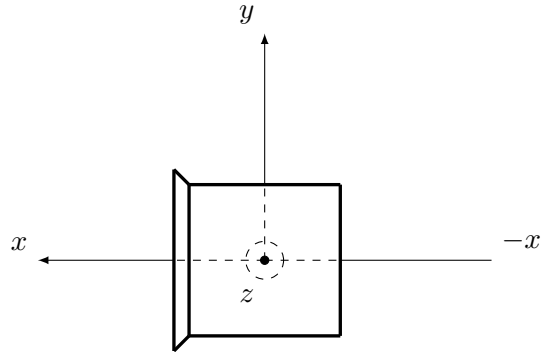
$$\begin{aligned}x(k+1) &= Ax(k) + Bu(k) \\ y(k) &= Cx(k)\end{aligned}$$



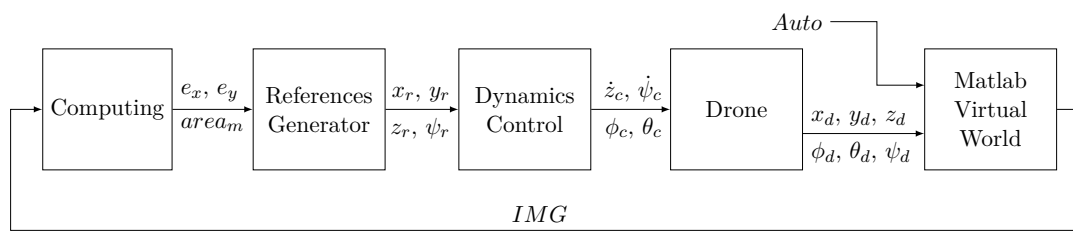
1.4 Example 4



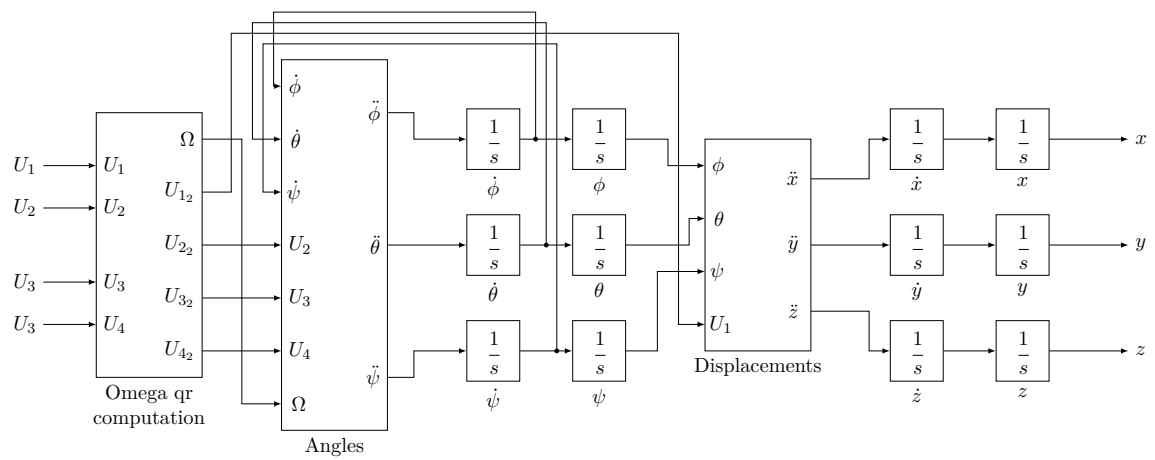
1.5 Example 5



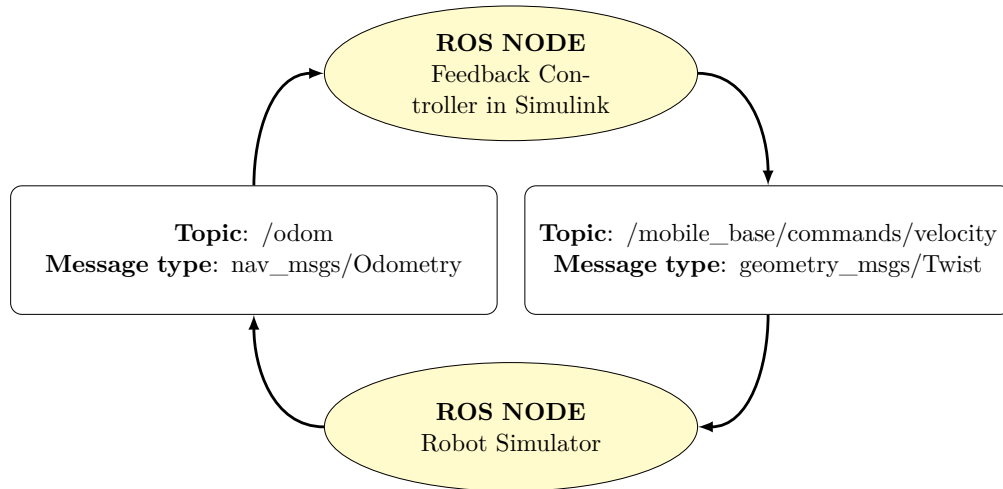
1.6 Example 6



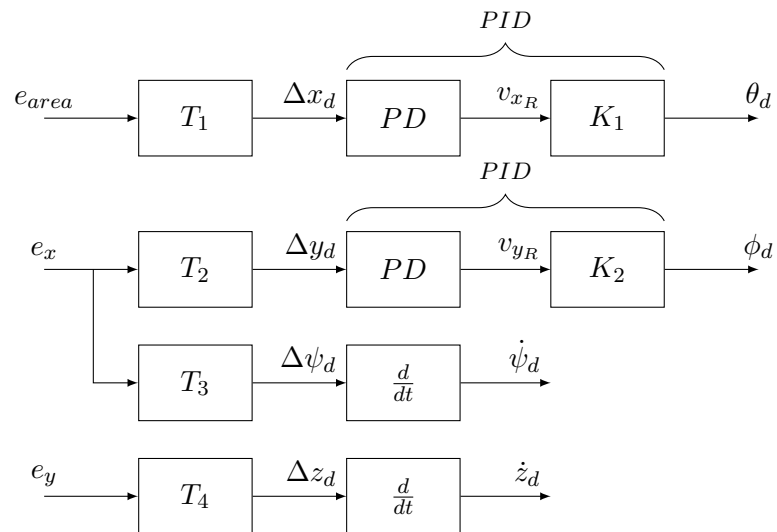
1.7 Example 7



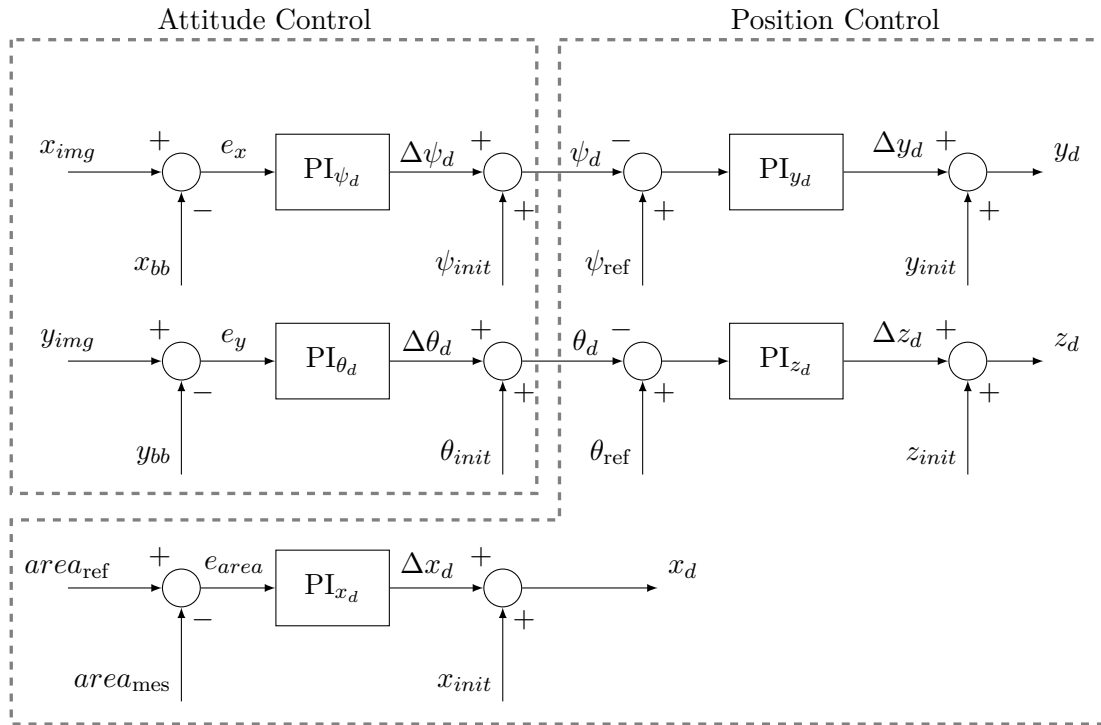
1.8 Example 8



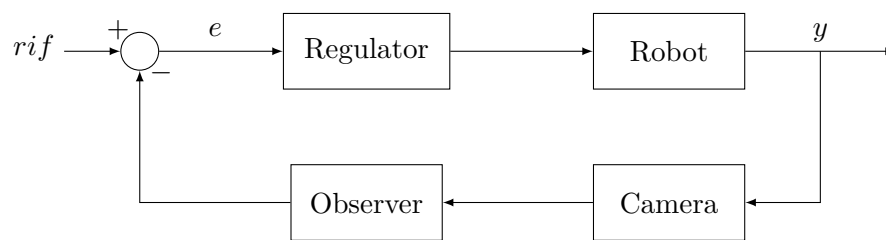
1.9 Example 9



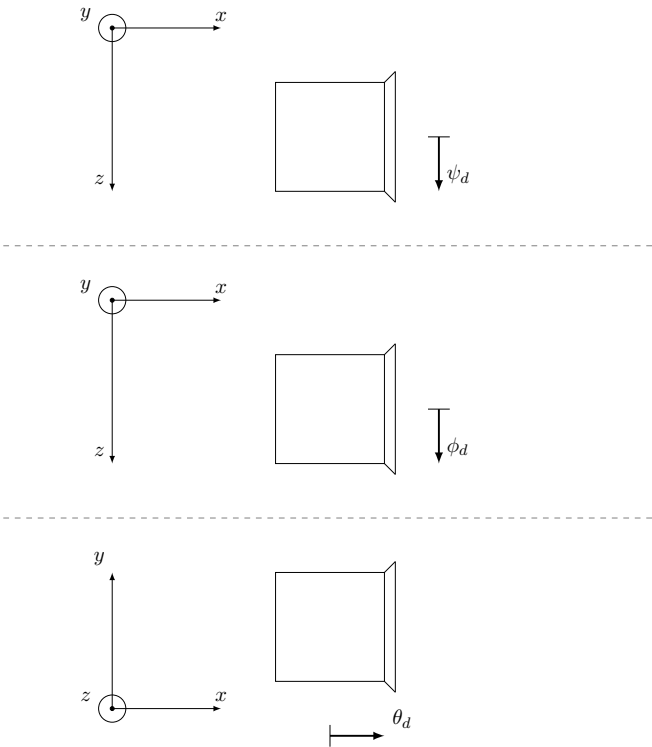
1.10 Example 10



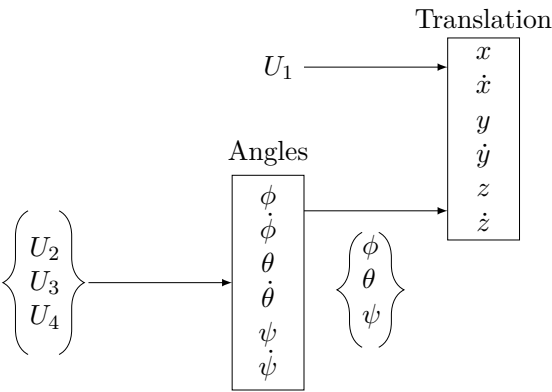
1.11 Example 11



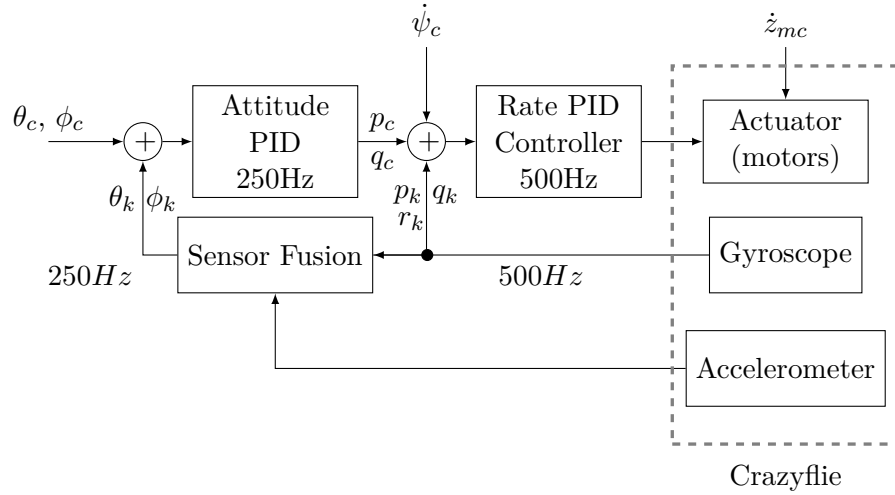
1.12 Example 12



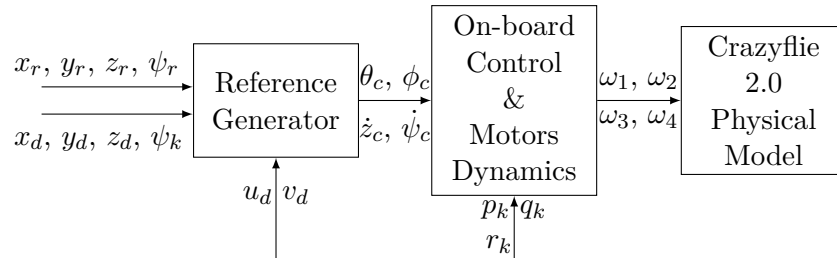
1.13 Example 13



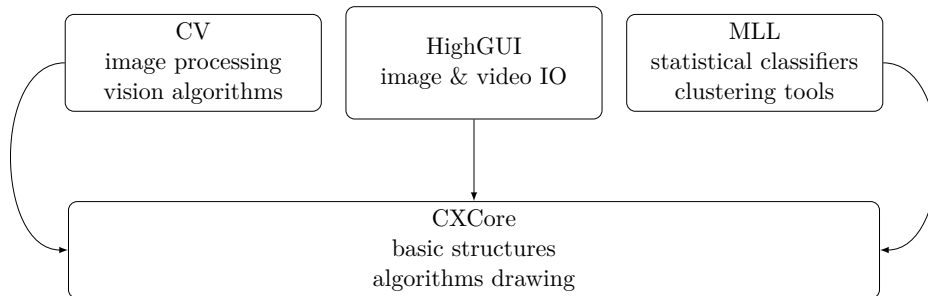
1.14 Example 14



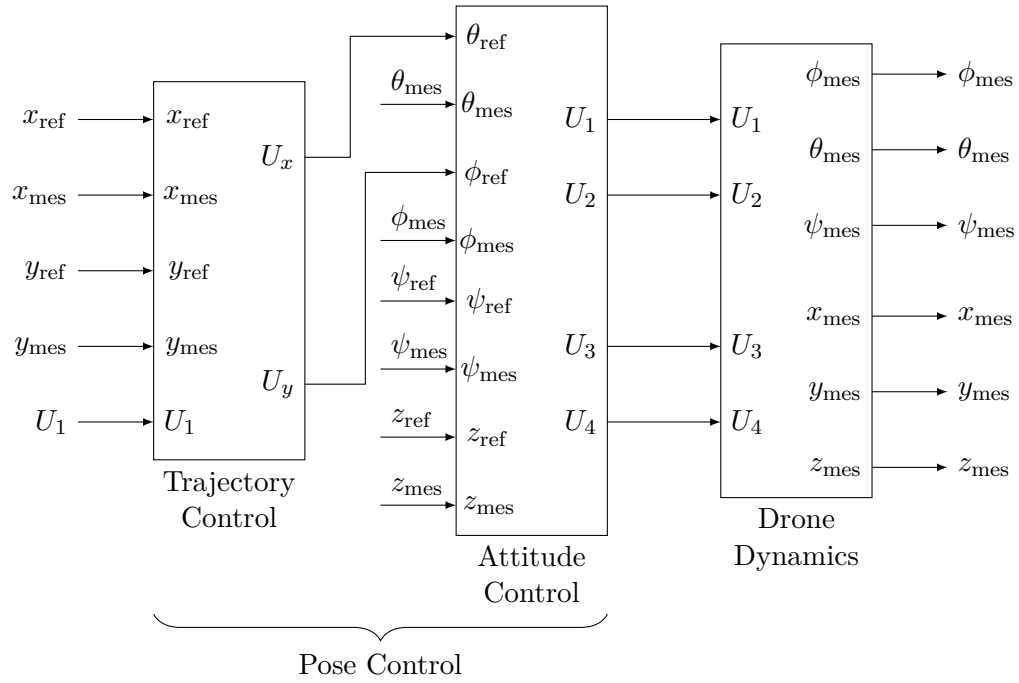
1.15 Example 15



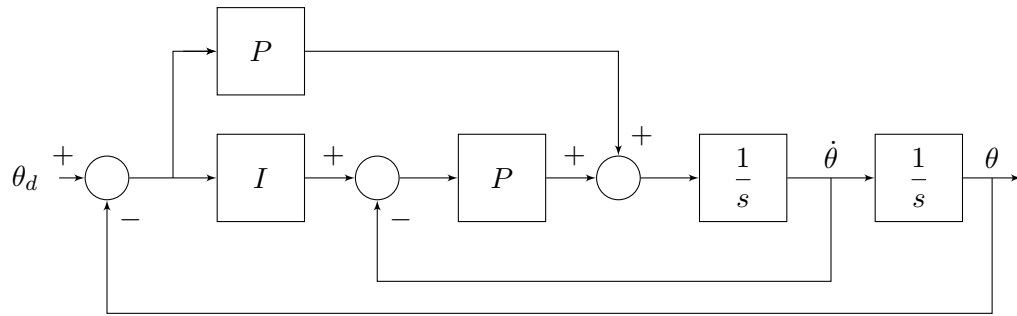
1.16 Example 16



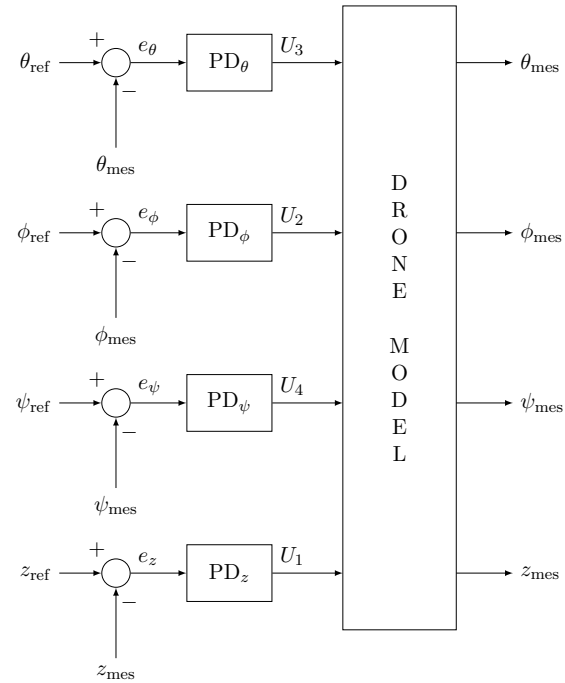
1.17 Example 17



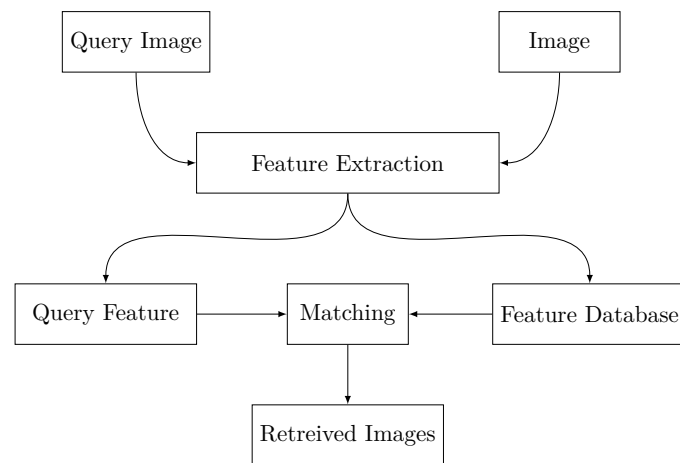
1.18 Example 18



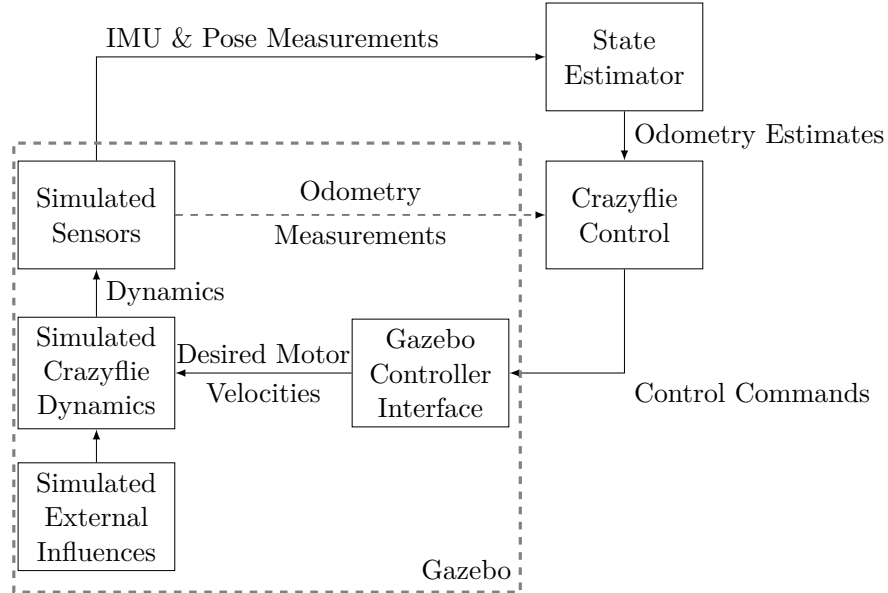
1.19 Example 19



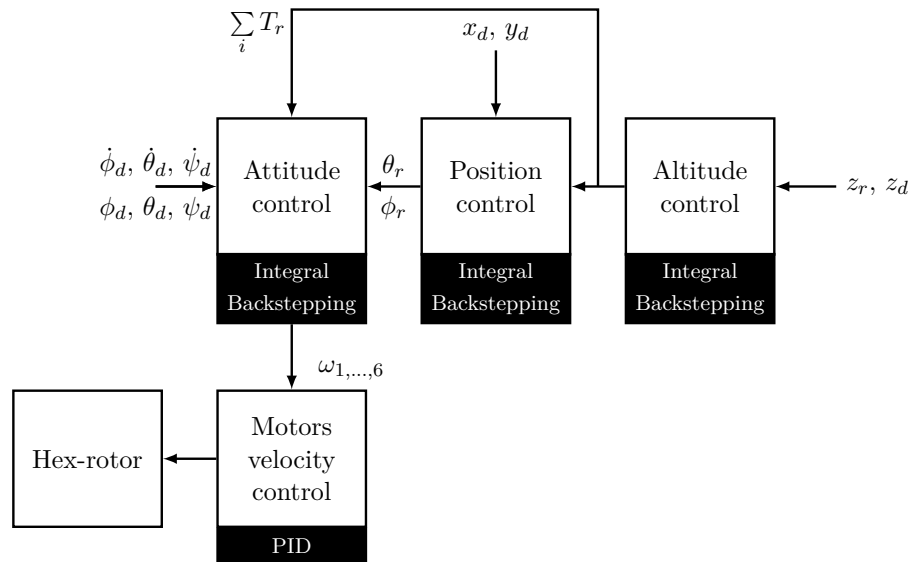
1.20 Example 20



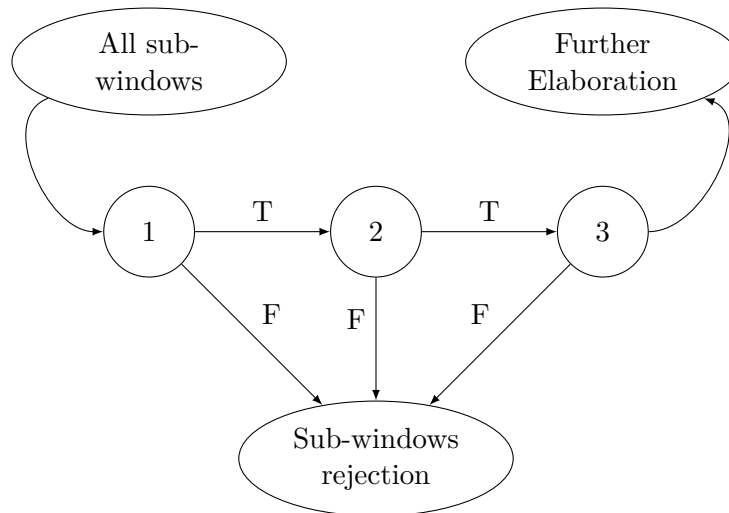
1.21 Example 21



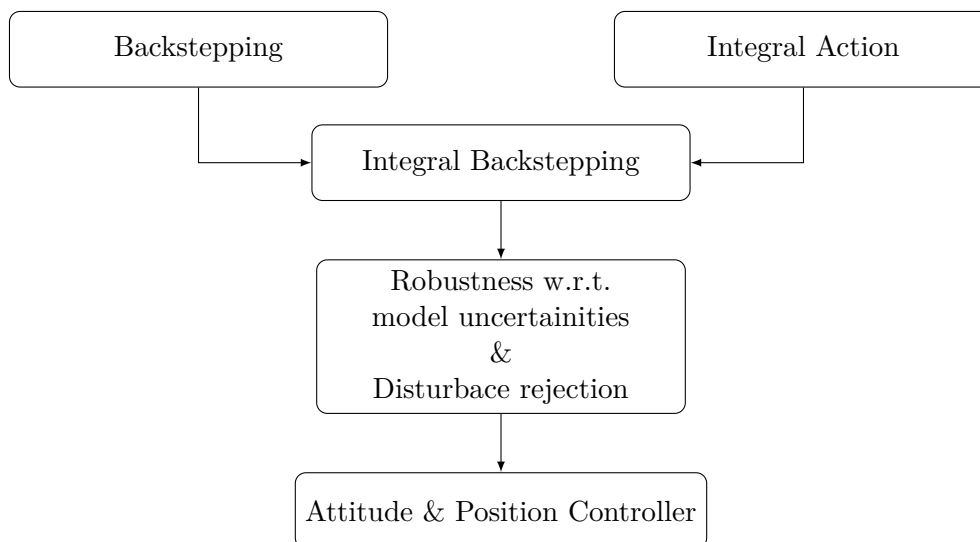
1.22 Example 22



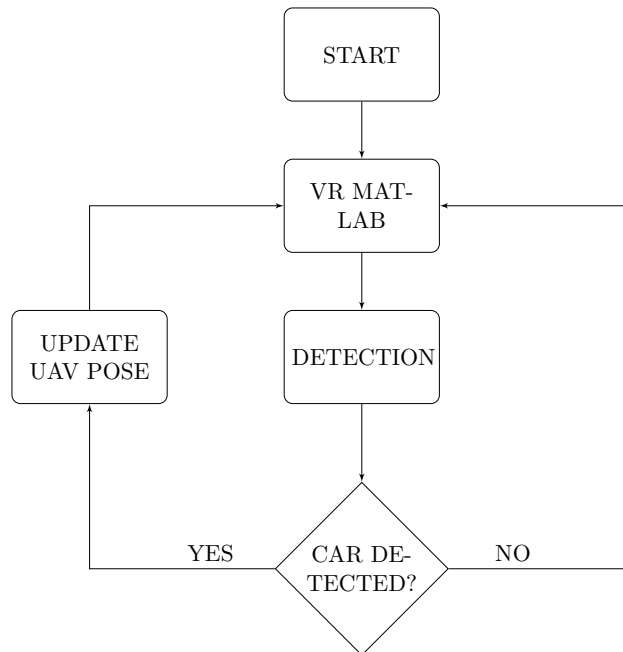
1.23 Example 23



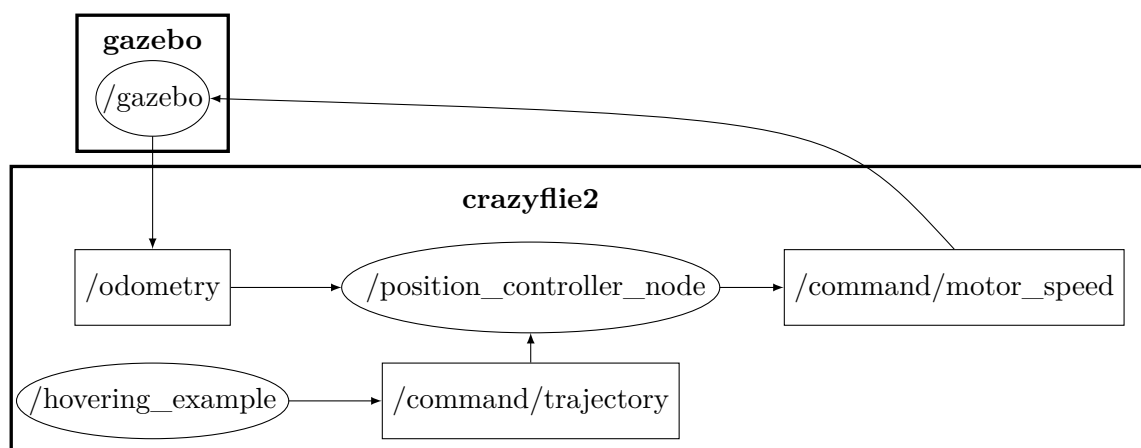
1.24 Example 24



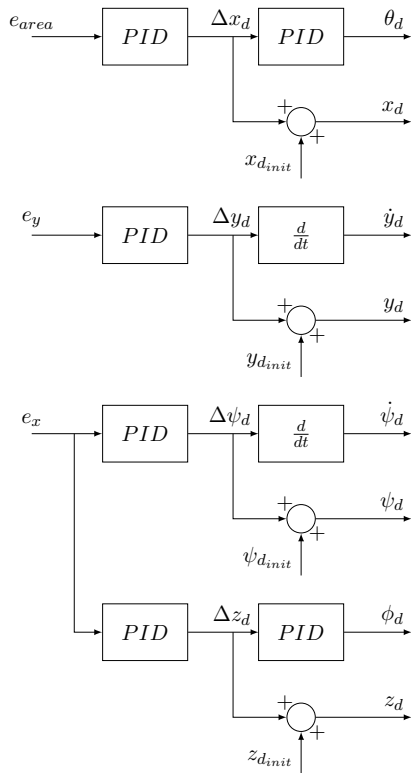
1.25 Example 25



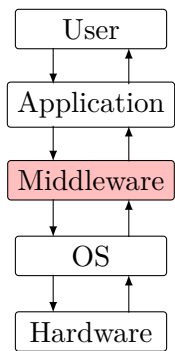
1.26 Example 26



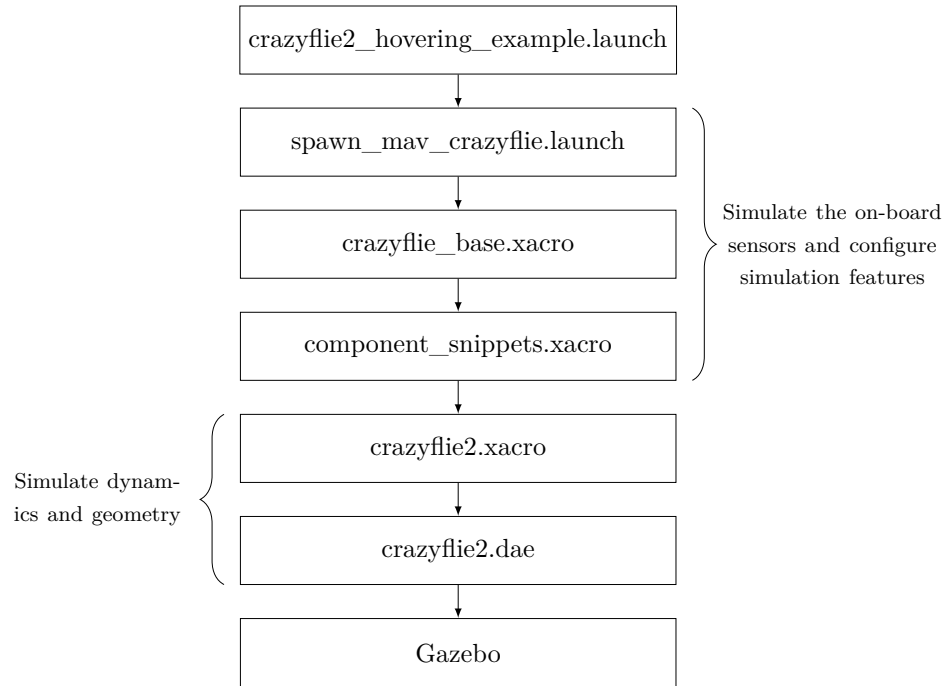
1.27 Example 27



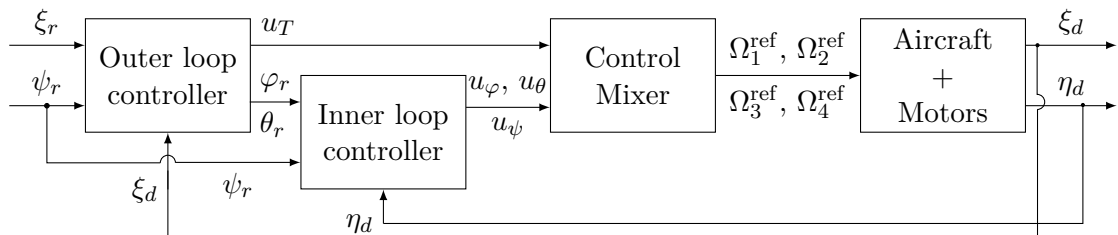
1.28 Example 28



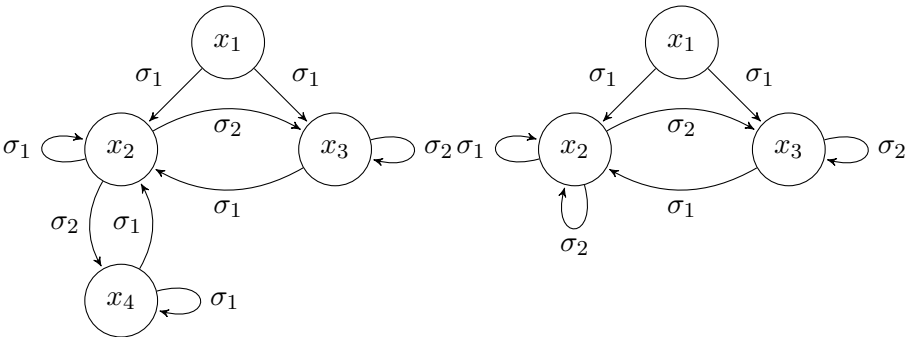
1.29 Example 29



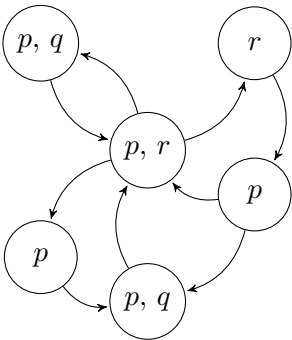
1.30 Example 30



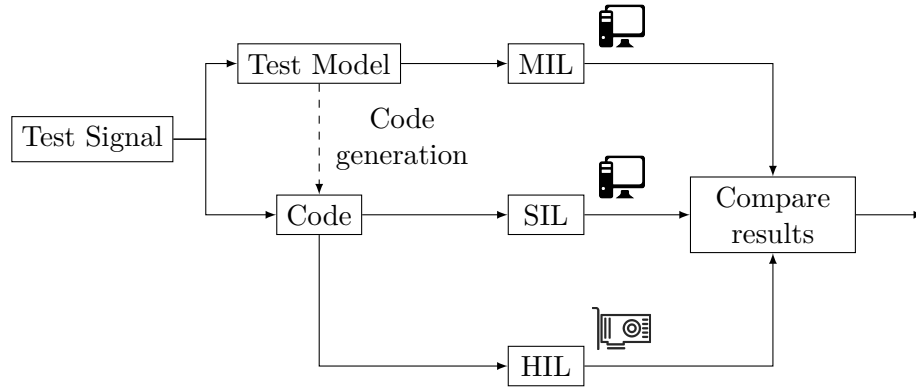
1.31 Example 31



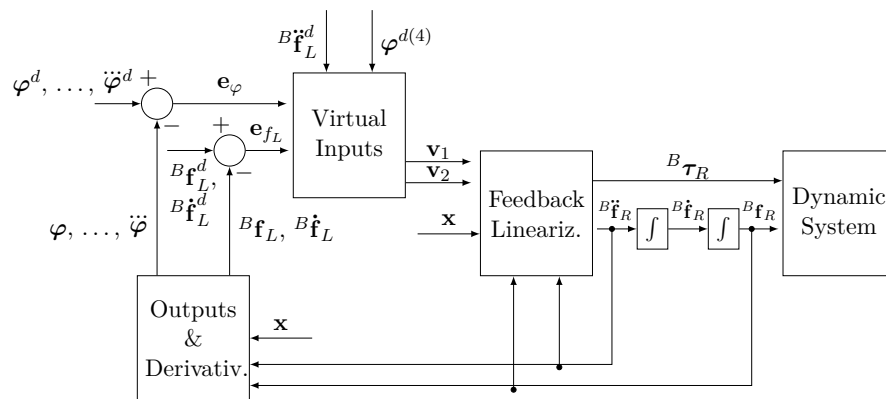
1.32 Example 32



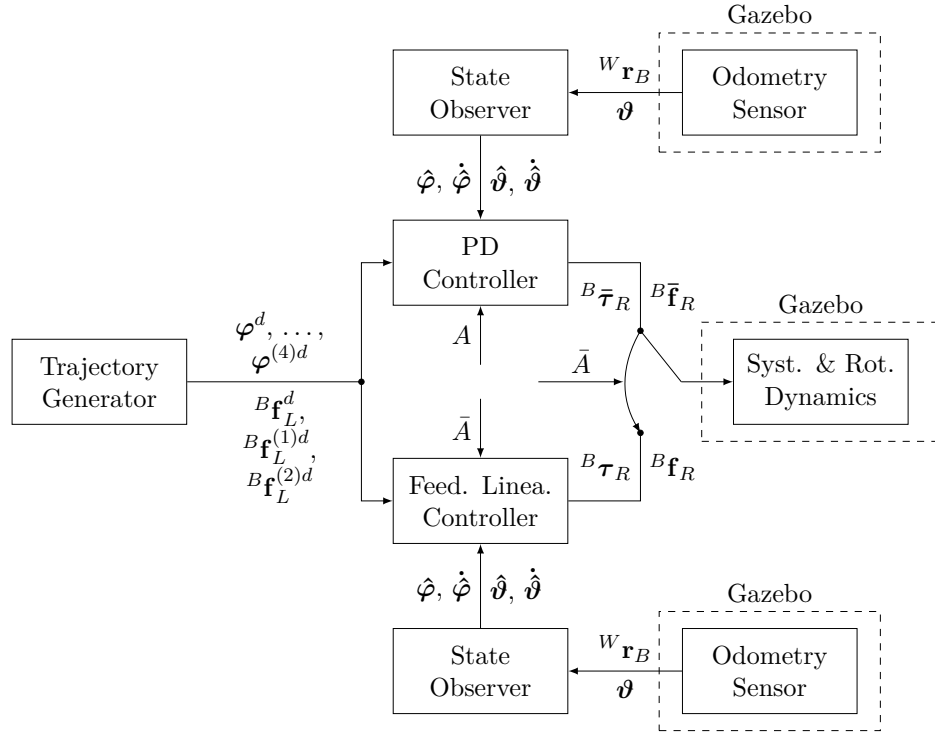
1.33 Example 33



1.34 Example 34

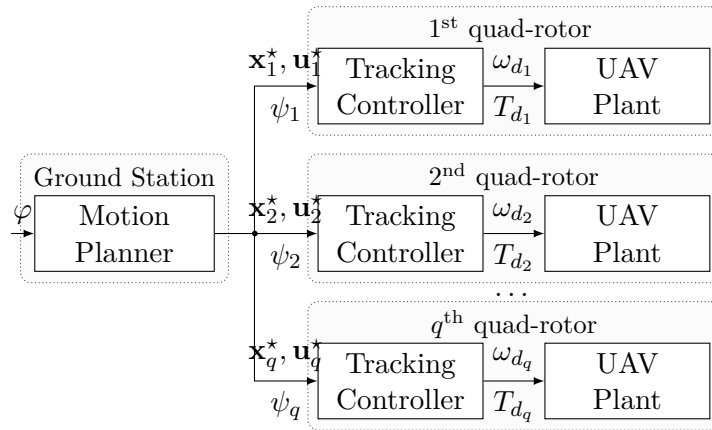
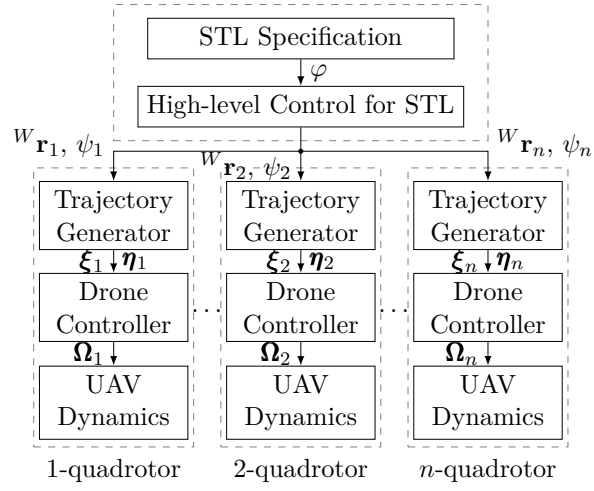


1.35 Example 35



1.36 Example 36

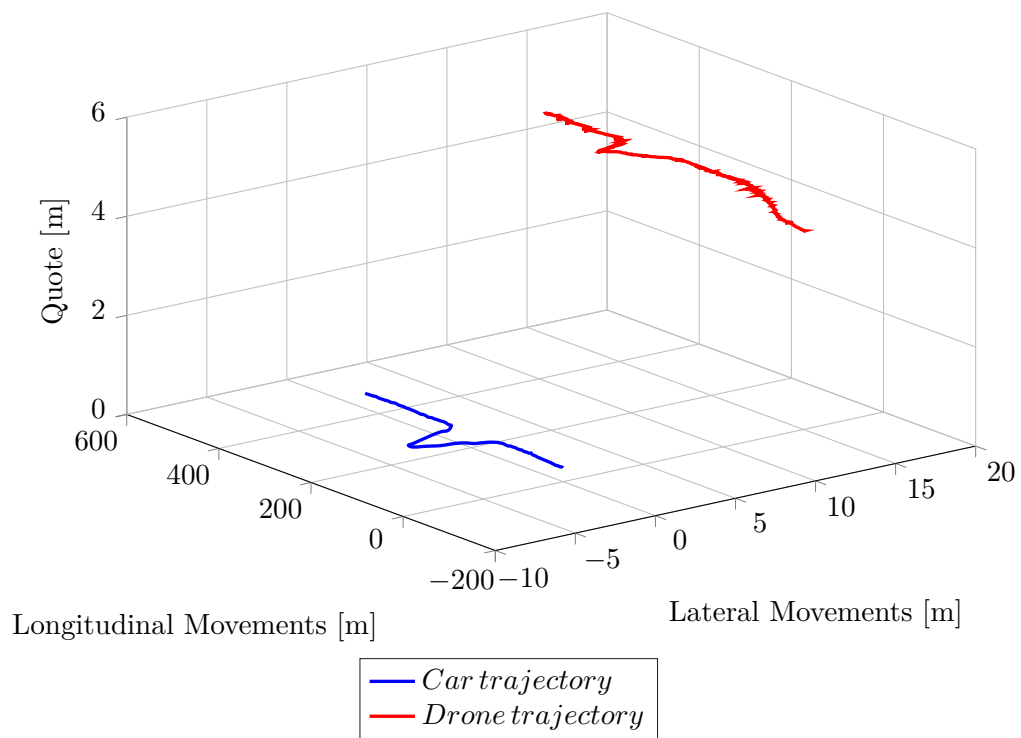
1.37 Example 37



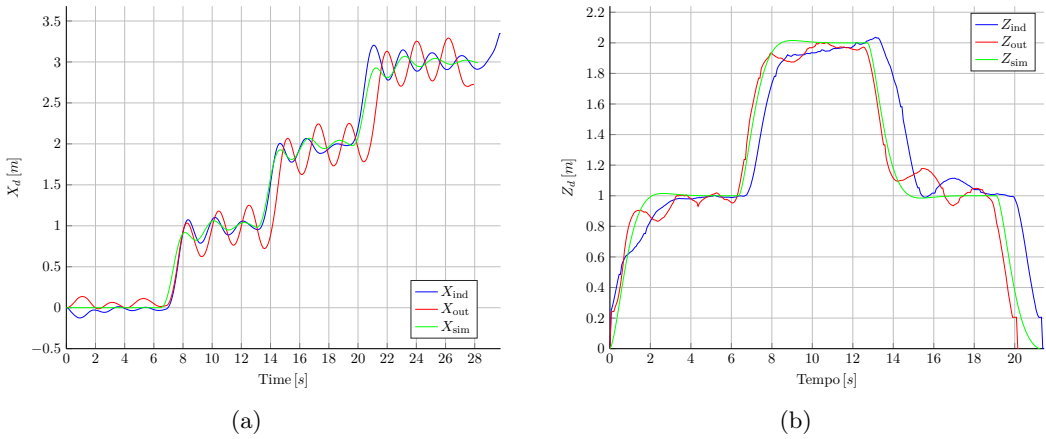
Chapter 2

Matlab Plots

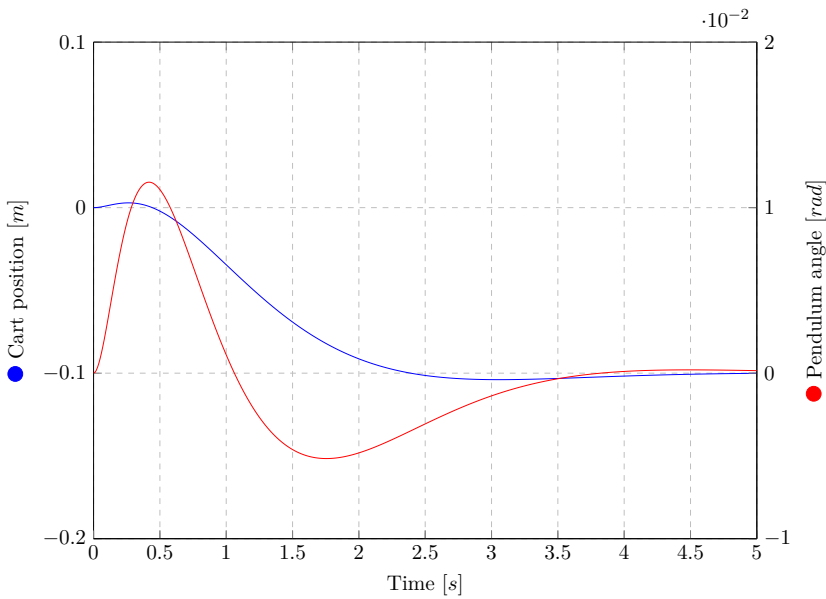
2.1 Example 1



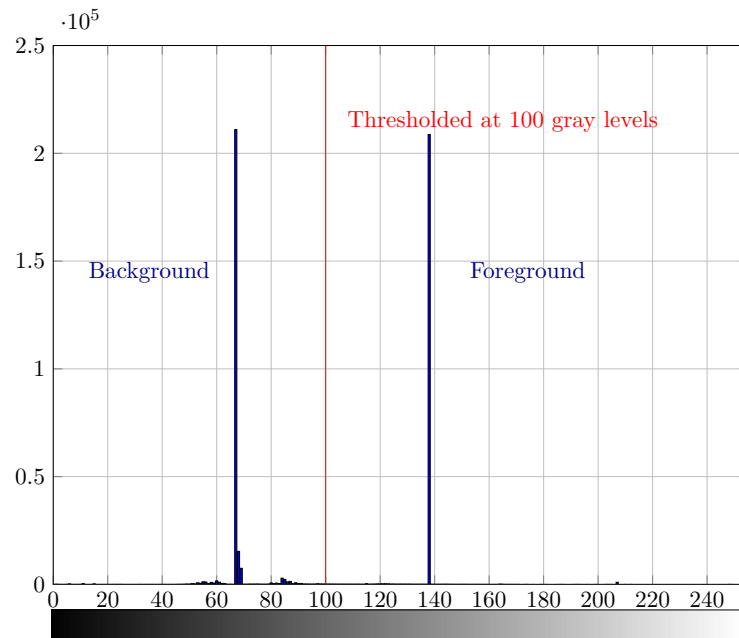
2.2 Example 2



2.3 Example 3



2.4 Example 4

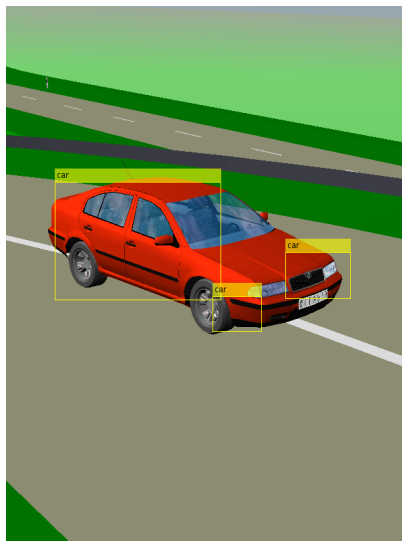


Chapter 3

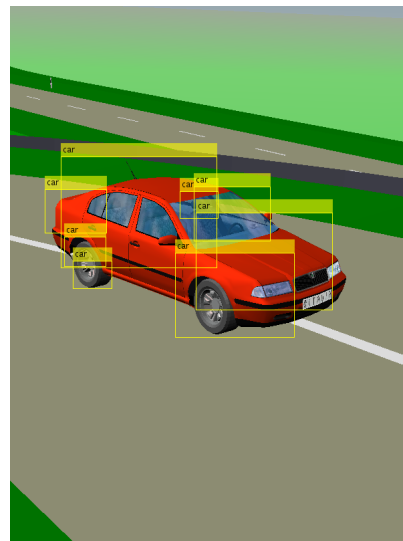
Drawing on Images

3.1 Example 1

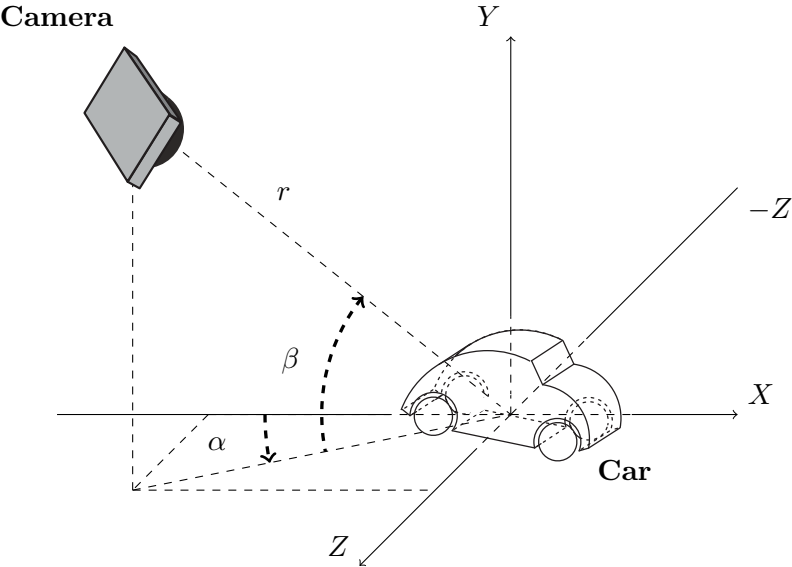
Haar cascade



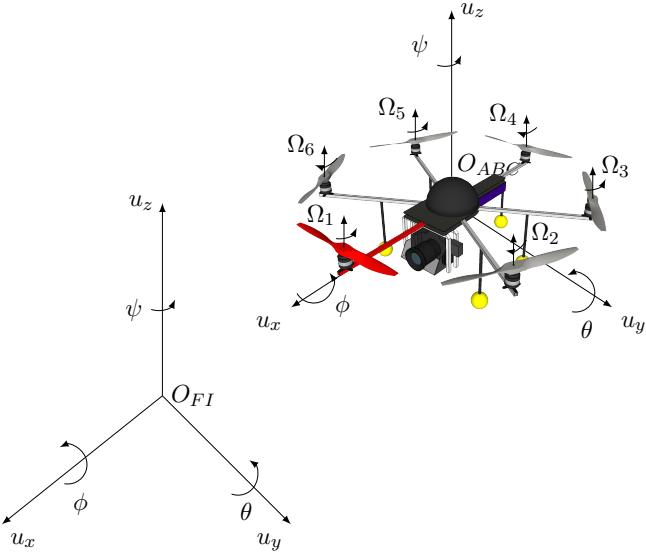
HOG



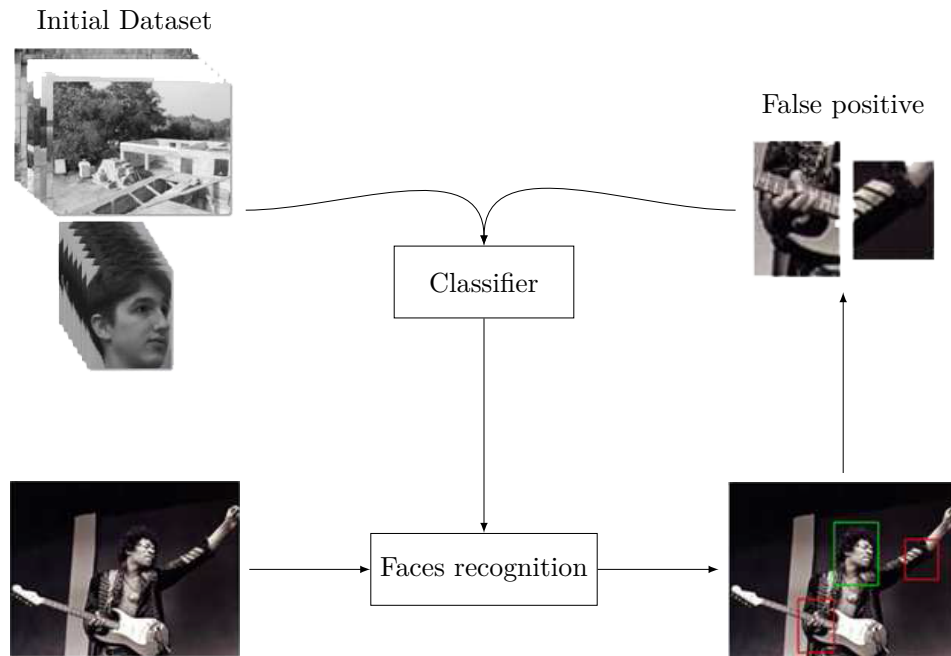
3.2 Example 2



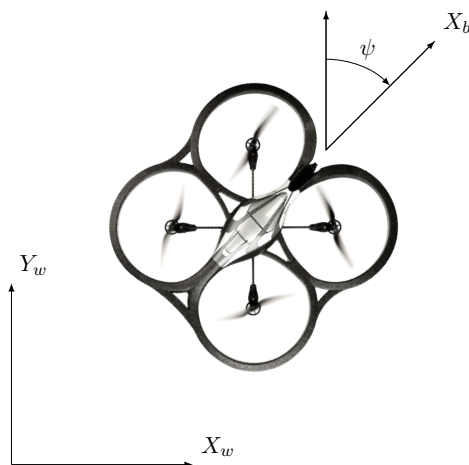
3.3 Example 3



3.4 Example 4



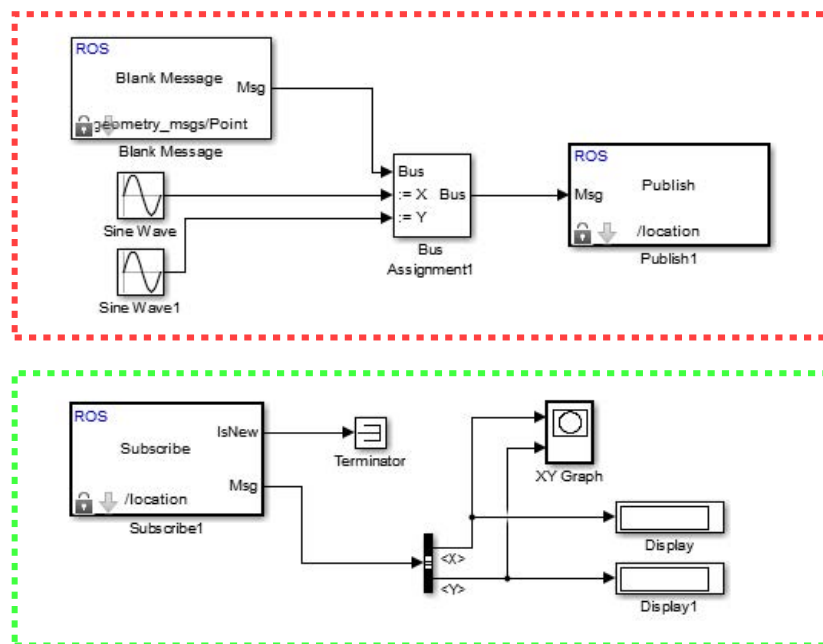
3.5 Example 5



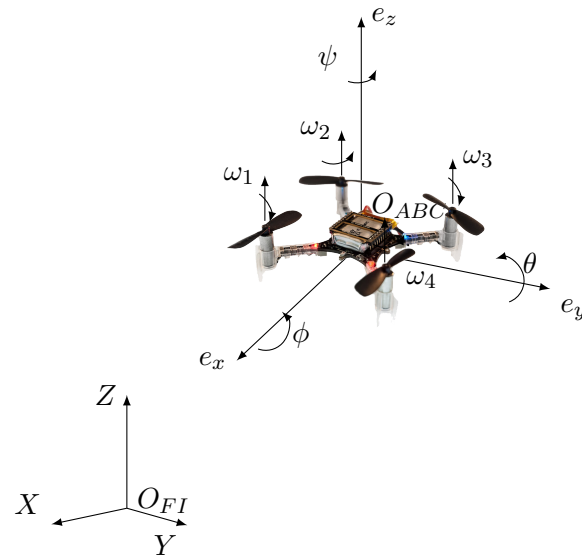
3.6 Example 6



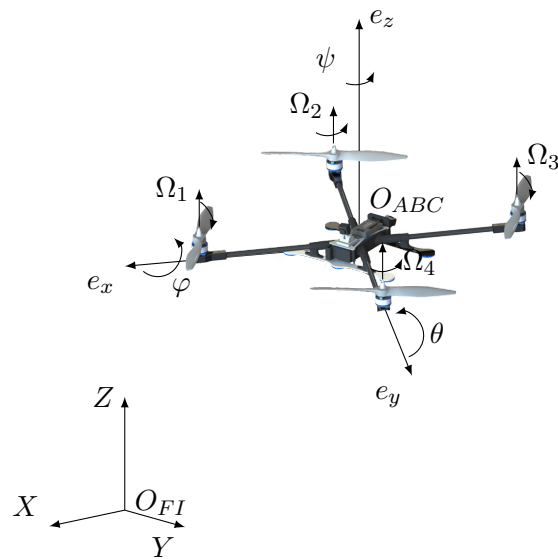
3.7 Example 7



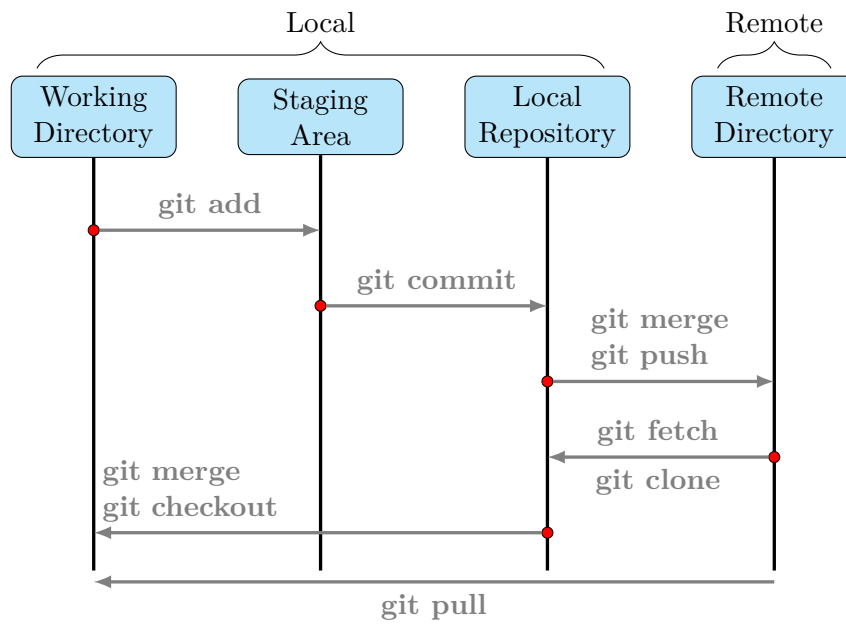
3.8 Example 8



3.9 Example 9



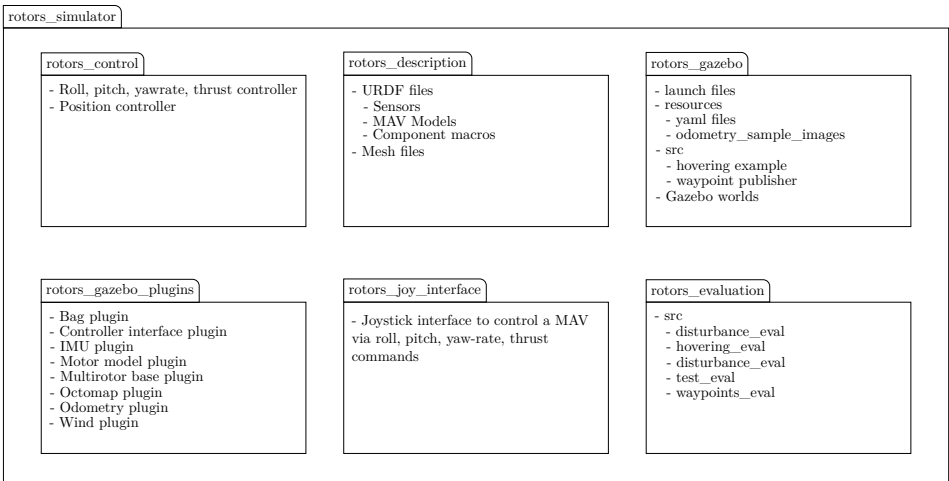
3.10 Example 10



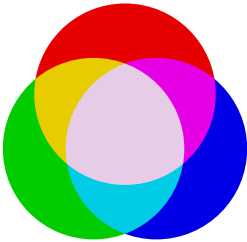
Chapter 4

Various

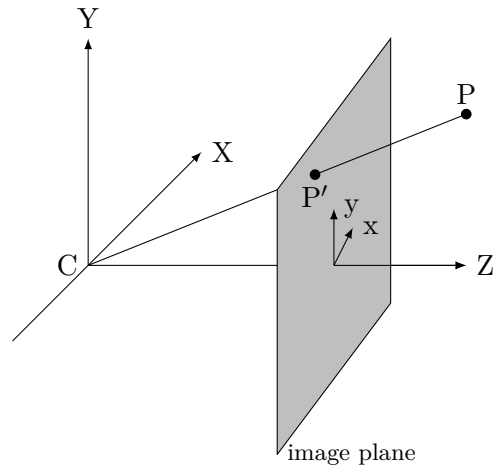
4.1 Example 1



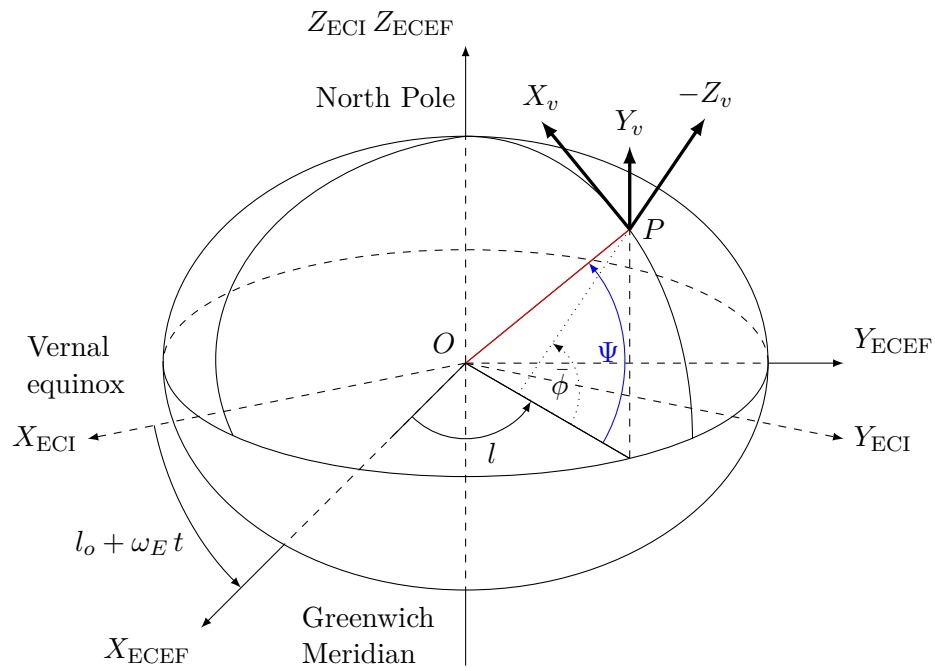
4.2 Example 2



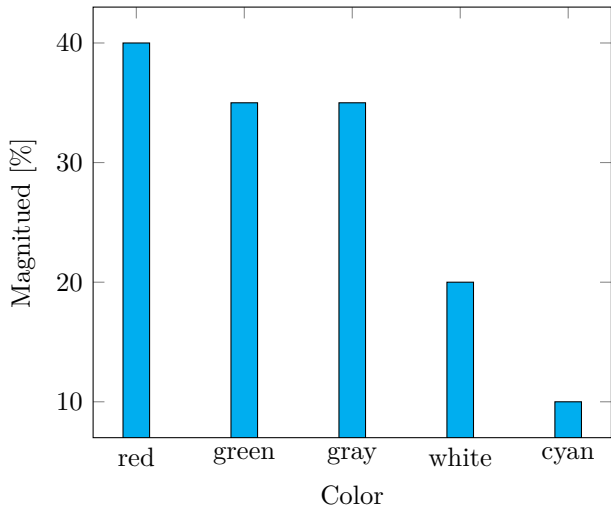
4.3 Example 3



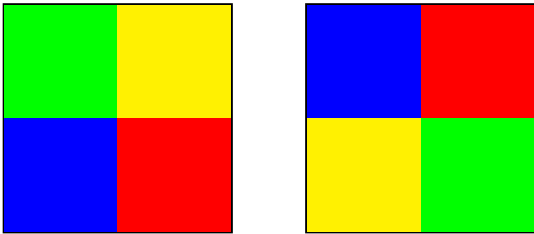
4.4 Example 4



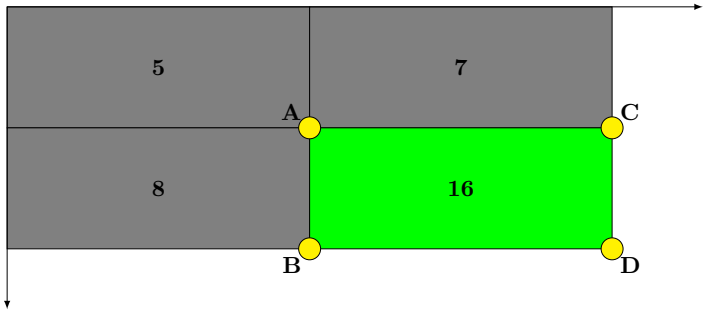
4.5 Example 5



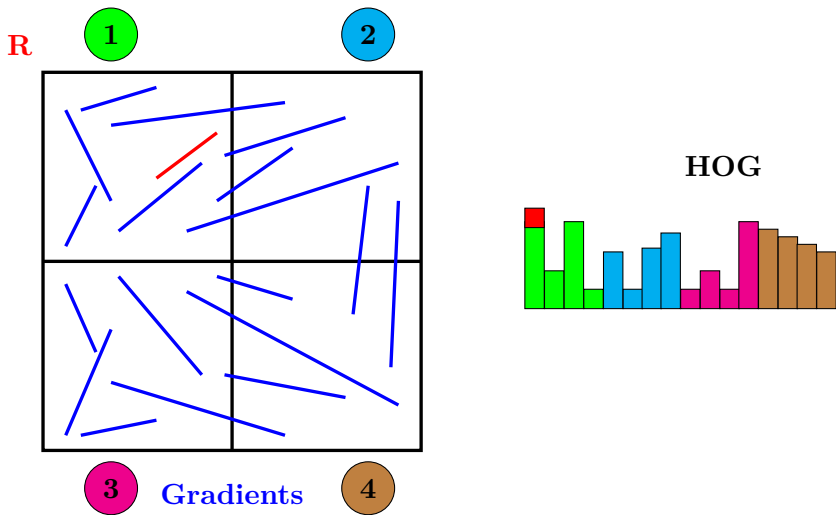
4.6 Example 6



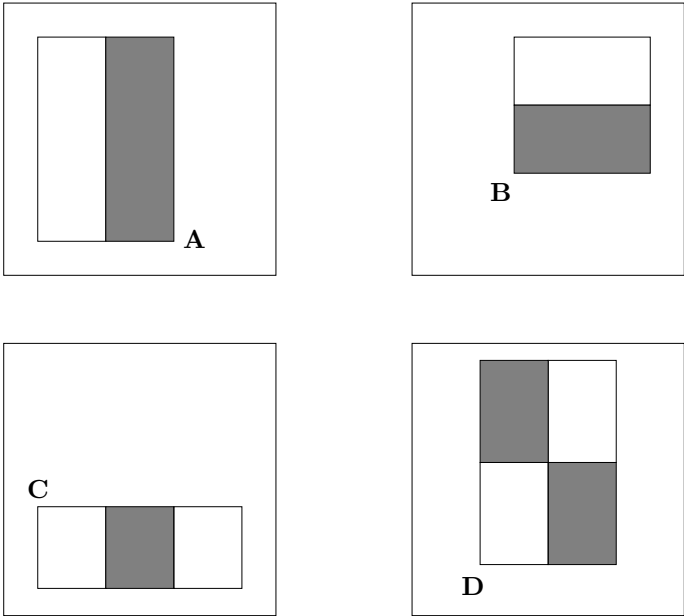
4.7 Example 7



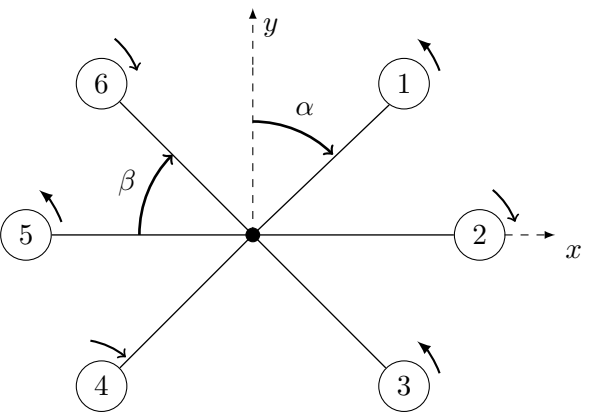
4.8 Example 8



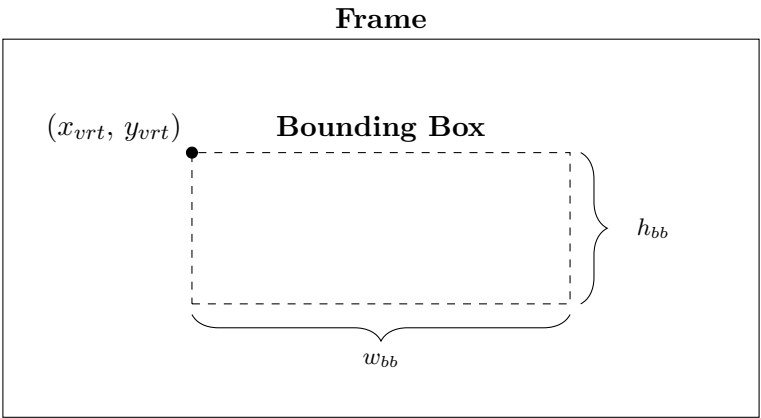
4.9 Example 9



4.10 Example 10



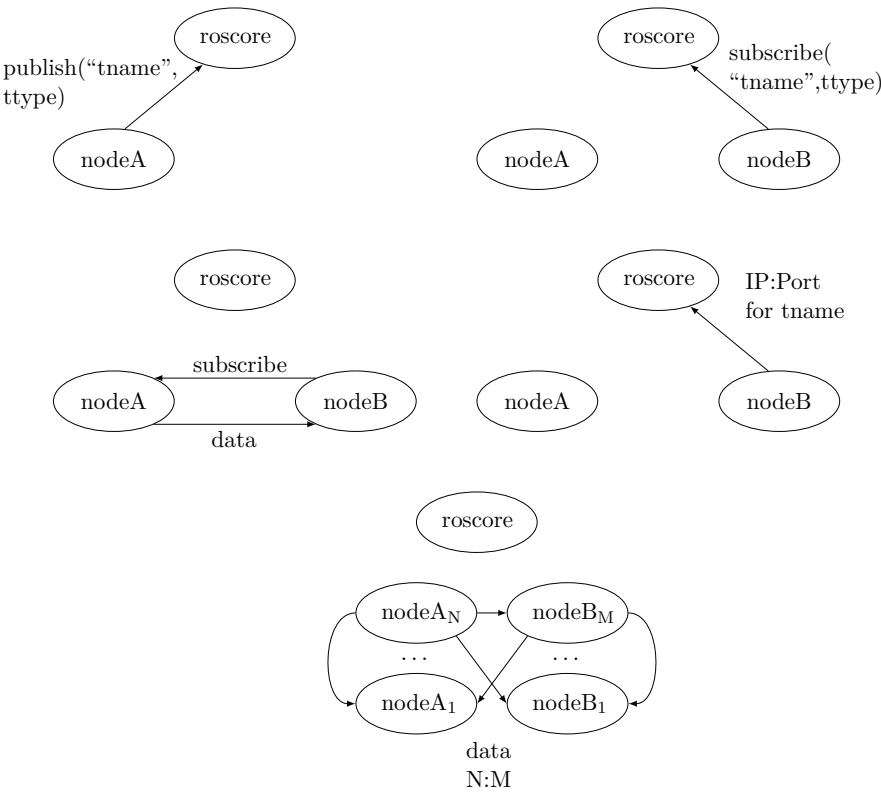
4.11 Example 11



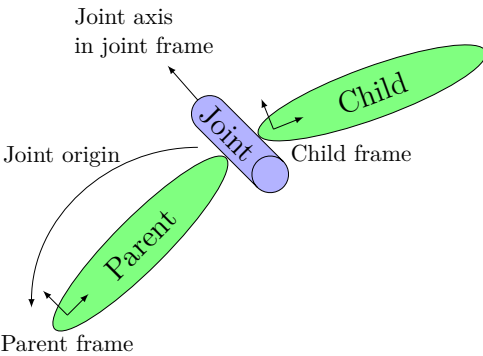
4.12 Example 12

0	1	2	3	4	5	6 to n+6	n+7	n+8
str	lgt	seq	cmp	sys	msg	dat	cks	cks

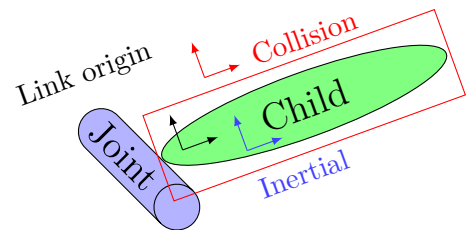
4.13 Example 13



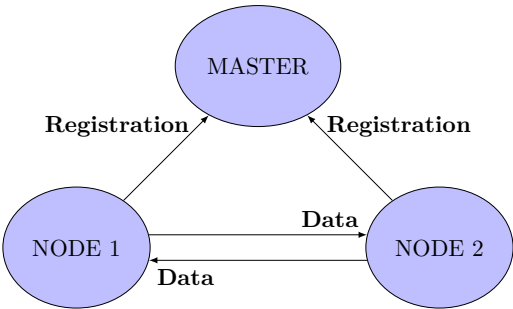
4.14 Example 14



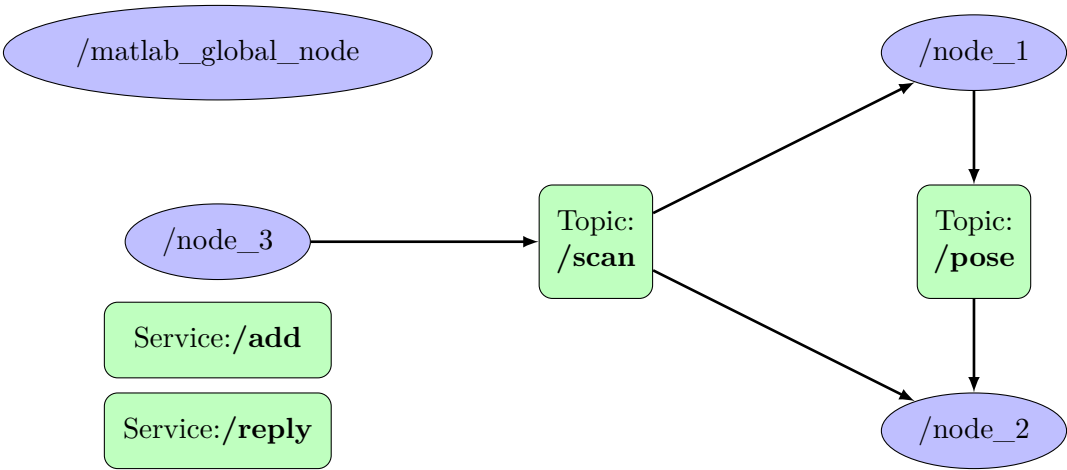
4.15 Example 15



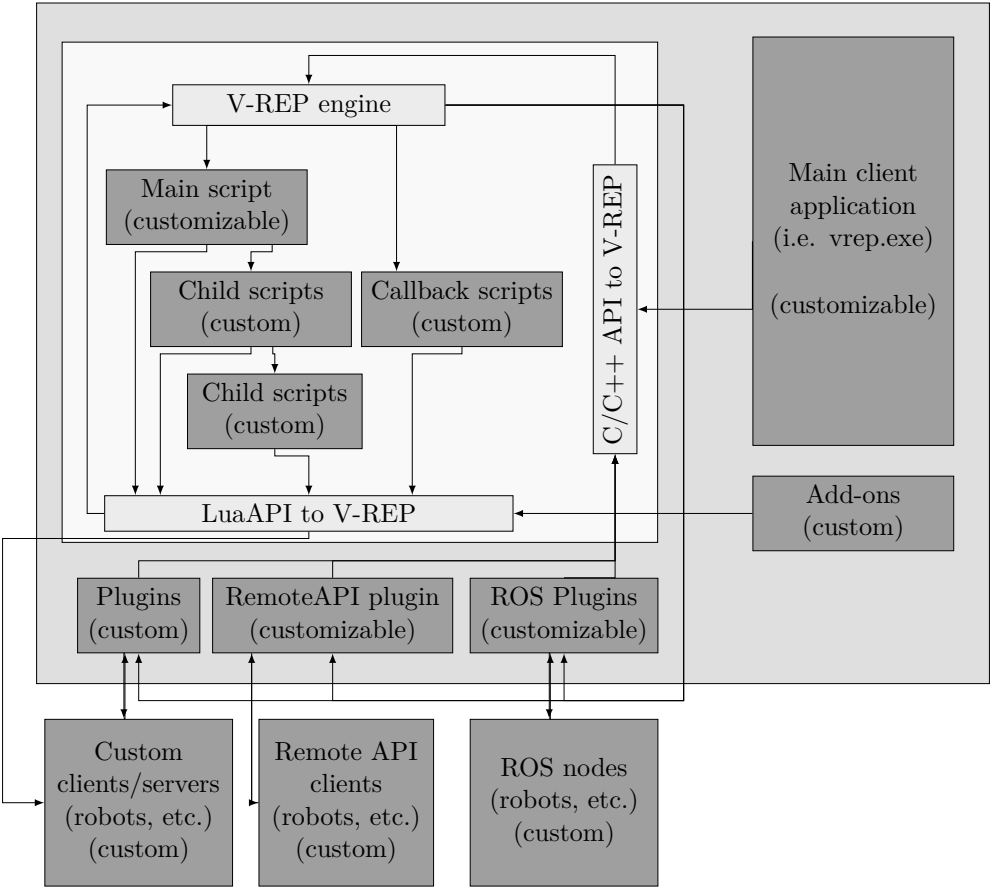
4.16 Example 16



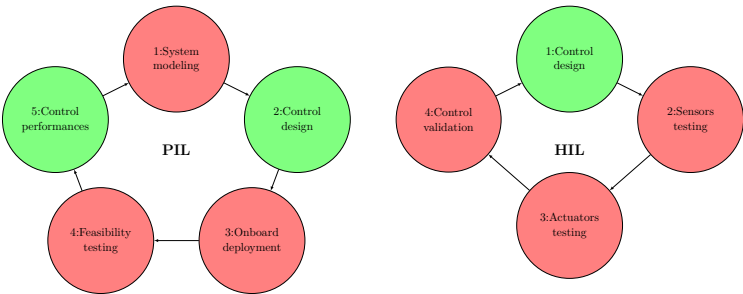
4.17 Example 17



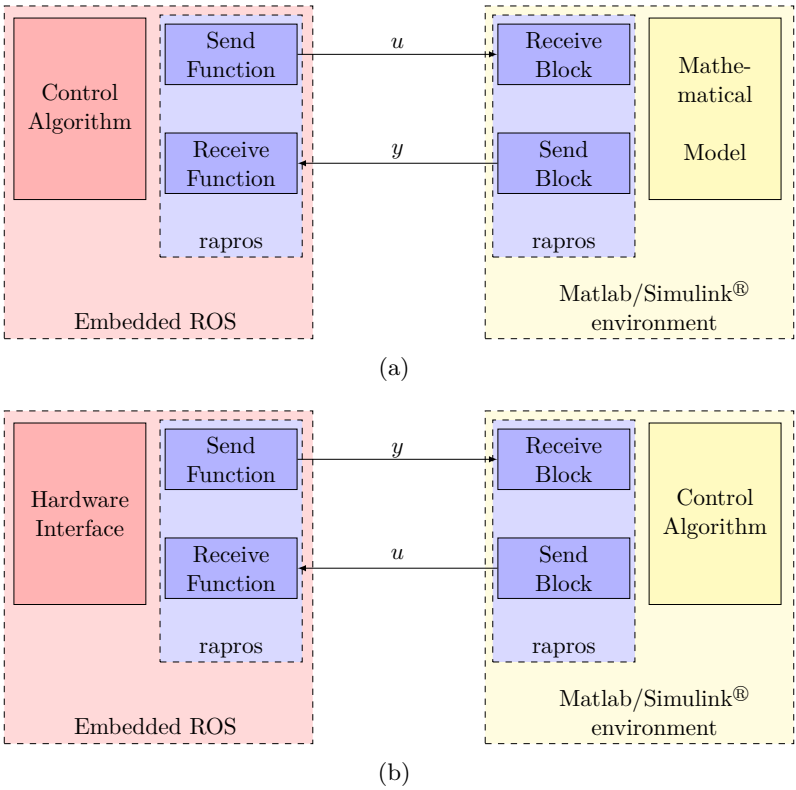
4.18 Example 18



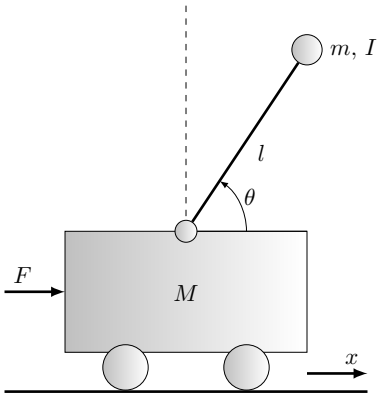
4.19 Example 19



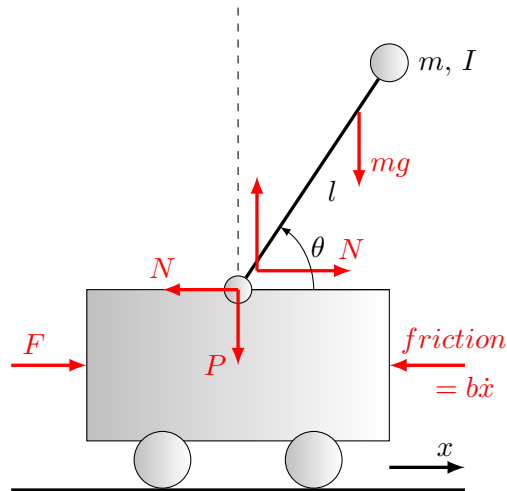
4.20 Example 20



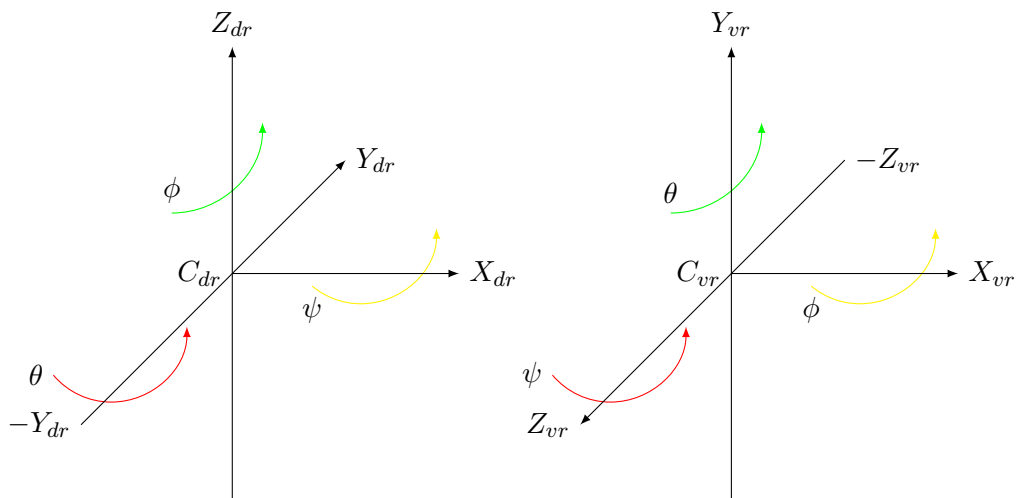
4.21 Example 21



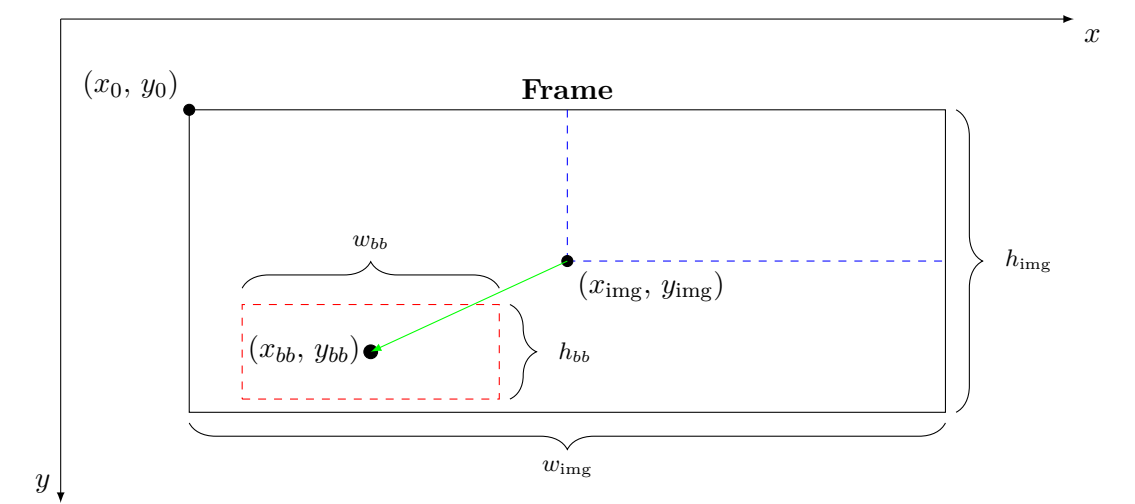
4.22 Example 22



4.23 Example 23

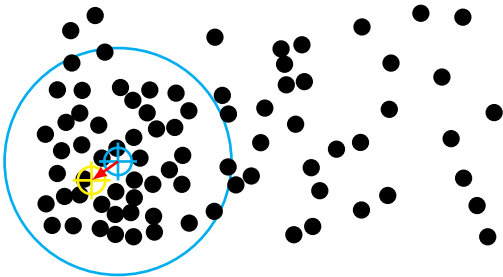


4.24 Example 24

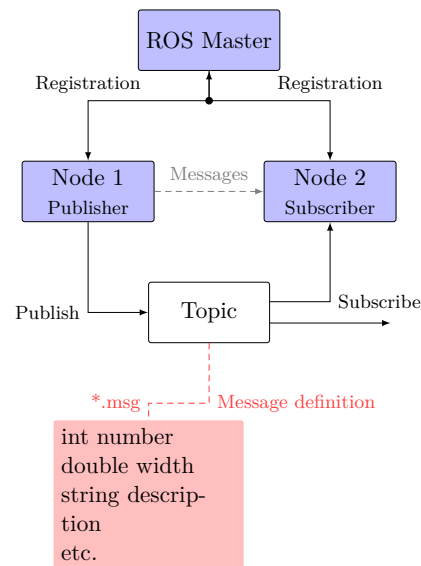


4.25 Example 25

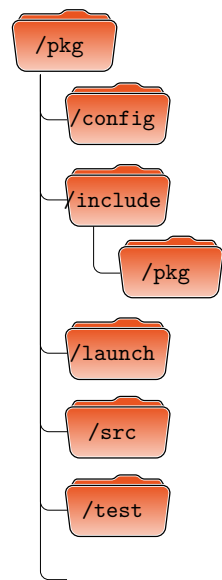
- Region of interest
- Center of mass
- CAMShift vector



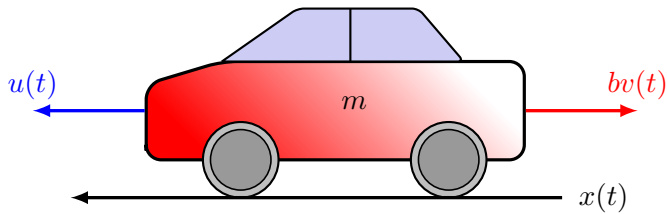
4.26 Example 26



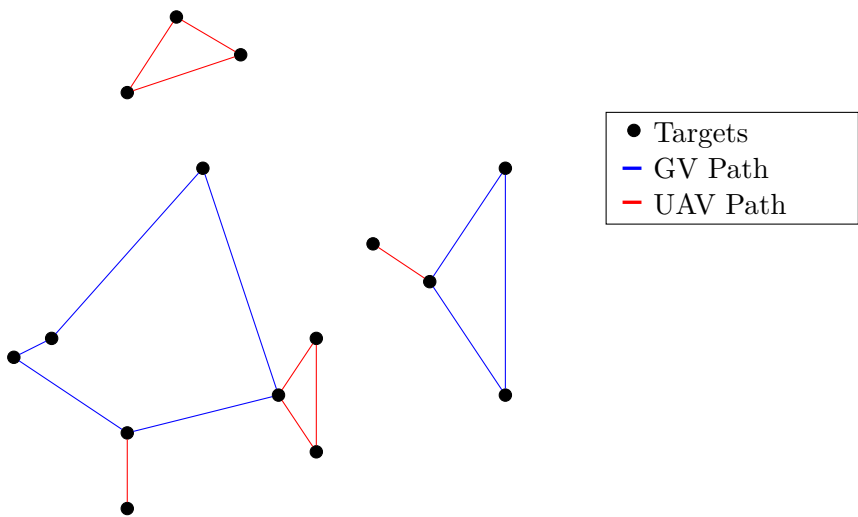
4.27 Example 27



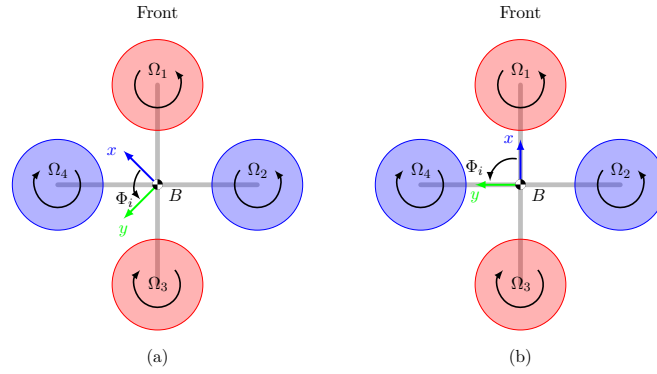
4.28 Example 28



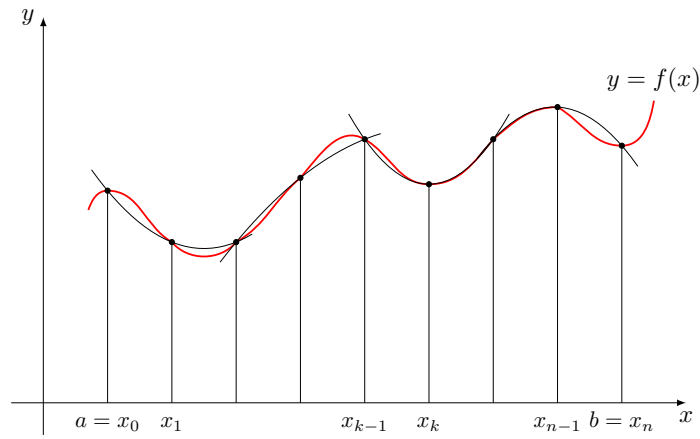
4.29 Example 29



4.30 Example 30



4.31 Example 38



4.32 Example 39

- L1: Problem definition ends. MATLAB final simulations results are coming.
- L2: Gazebo simulations ends. The experimental setup can be discussed.
- L3: Experiments campaign ends.
- L4: Deadline (tentative) for the XX + XX submission.

