



High Performance FOV Switching Mechanism Design for an Infrared Zoom Lens

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Received

Accepted

Published on line

Abstract:

Keywords:

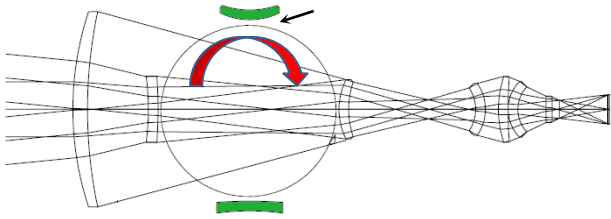
1. Introduction

Optical Compensation

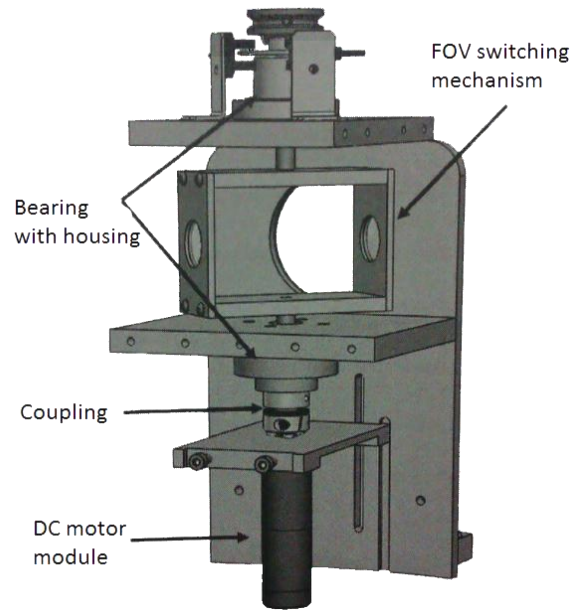
Mechanical Compensation

Optical compensation





Mechanical compensation



2. Design of Infrared Zoom Lens System

2.1 Design of FOV switching mechanism

Chun-Ju Huang

Cheng-Shi Tsai

Bo-Ru Chen

Jia-Yush Yen

Jyh-Fa Lee

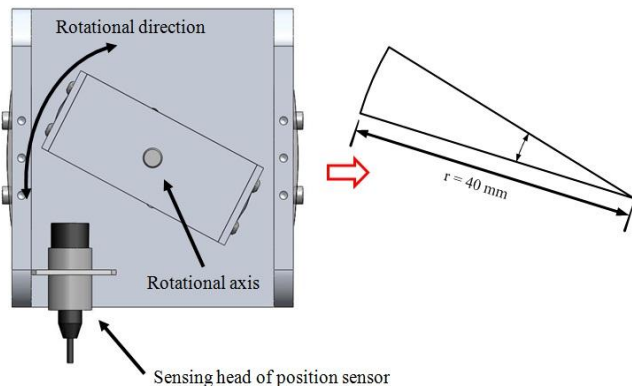
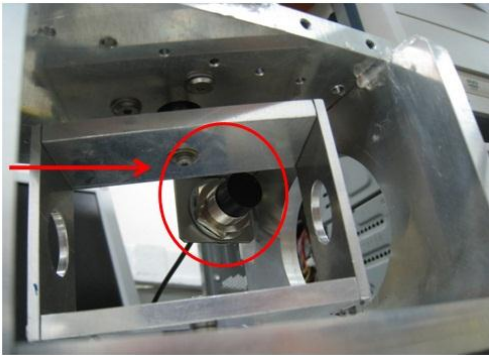
Liu-Hus Lin

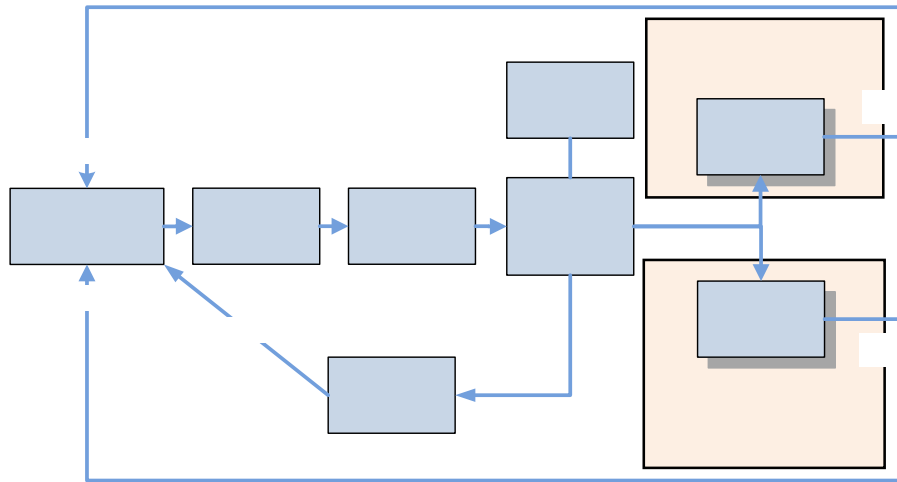
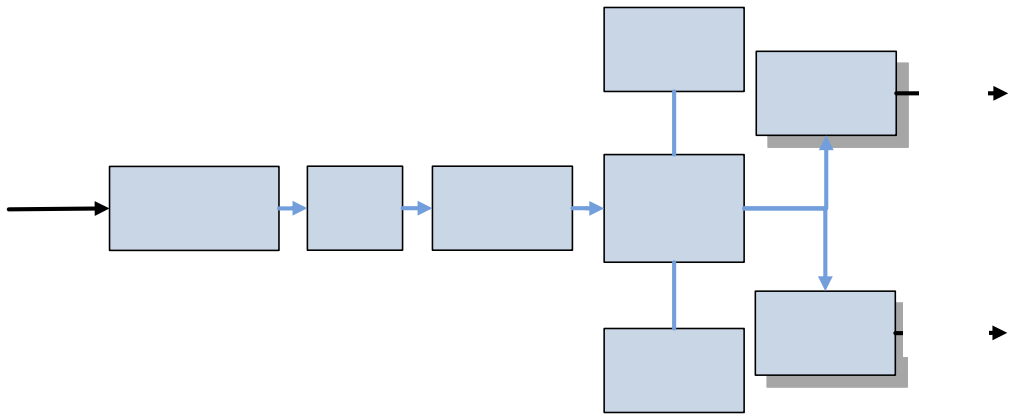
Min-Shin Chen



2.2 System identification

Sensing head
of Omron
ZX-E series





3. Controller Design

3.1 Overview of infrared zoom lens

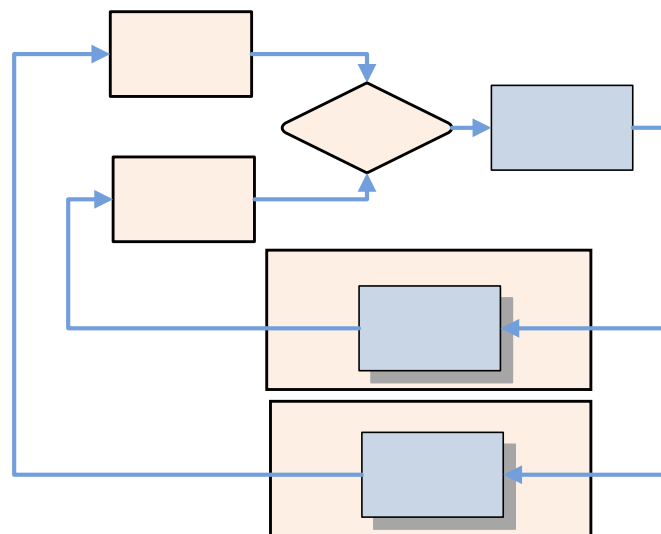


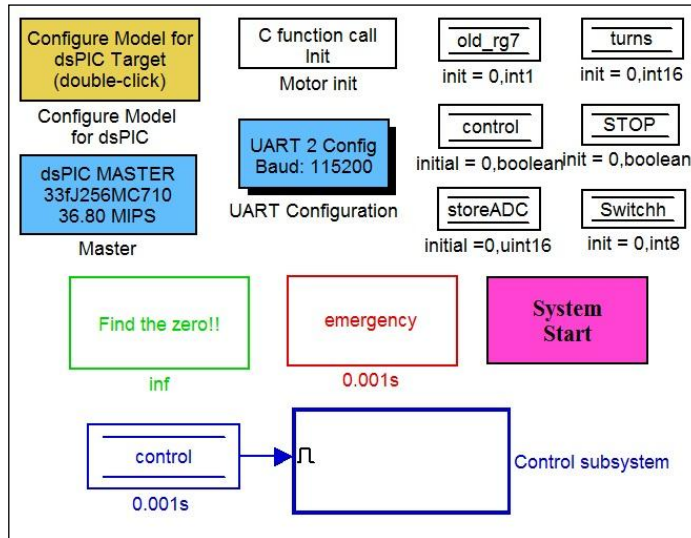
3.2 Control strategies

4. Experimental Results

4.1 Simulink implementation setup

3.3 PID controller



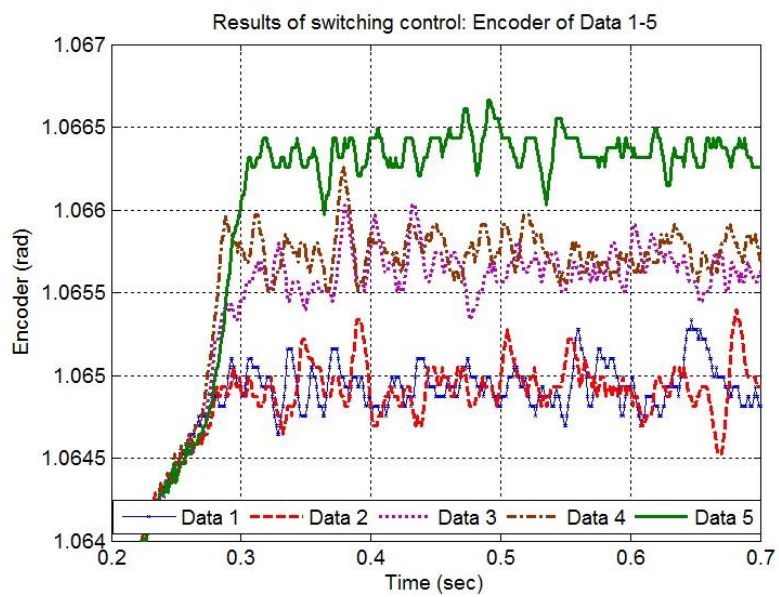
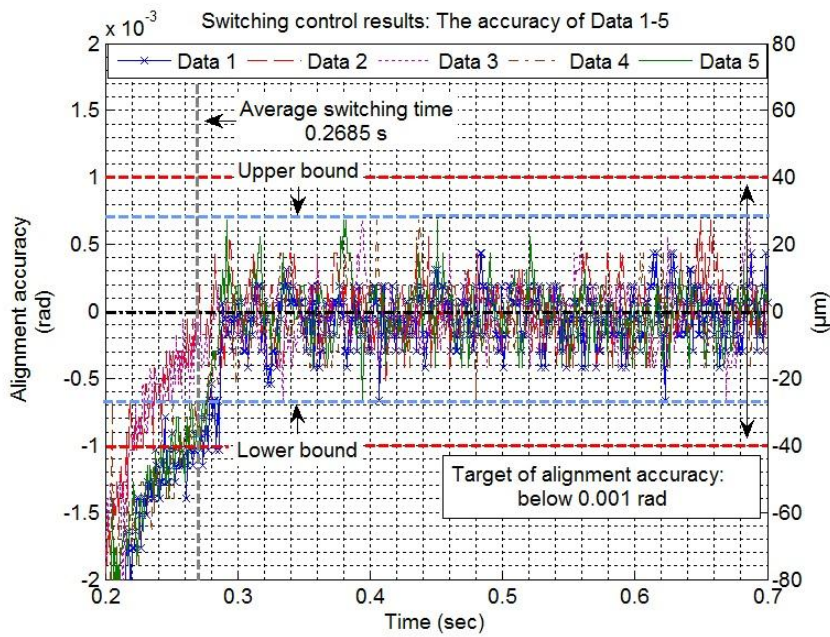


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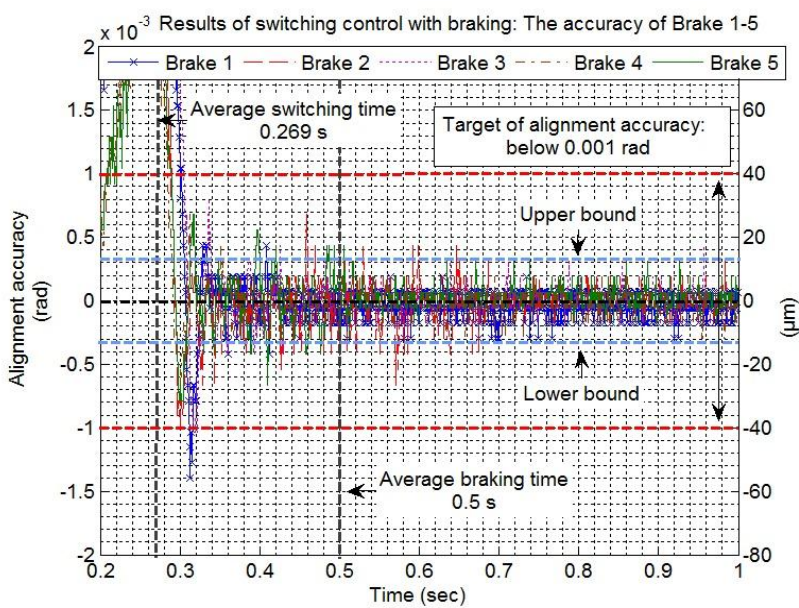
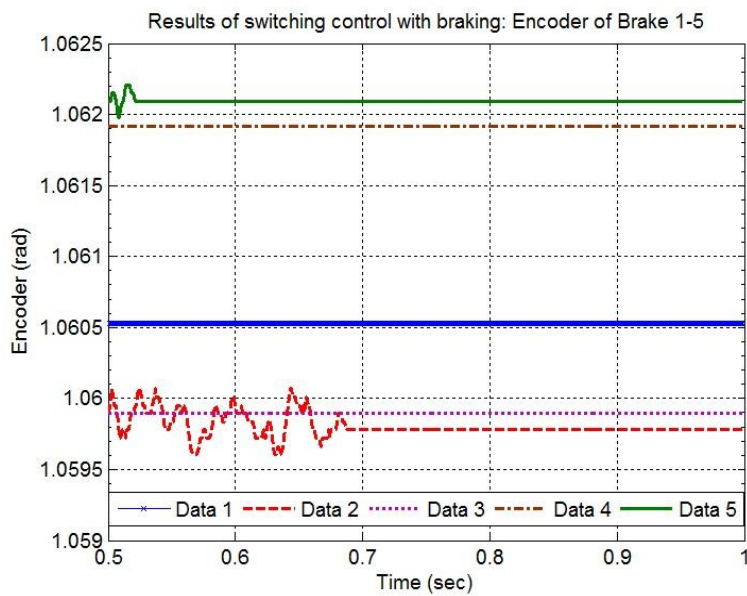
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4.2 Experimental results





	Brake 1	Brake 2	Brake 3	Brake 4	Brake 5	Average
(mm)						
(rad)		$\times 10^{-4}$	$\times 10^{-4}$	$\times 10^{-4}$	$\times 10^{-4}$	$\times 10^{-4}$



Acknowledgement

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5. Conclusion

