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Interferometric stabilisation of a fibre-based optical computer
Experimental study

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Denis Verstraeten

Directeur
Professeur Marc Haelterman

Co-Promoteur
Professeur Serge Massar

Superviseur
Lorenz Butschek

Service
Opera

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Abstract

Acknowledgements

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Chapter 1

Introduction

For the past few years, interest in optical data processing devices has been increasing. Their main advantage over silicon-based computers is that they are intrinsically faster because the information is carried around at nearly the speed of light, which could allow to overcome the limit in processing speed soon to be reached by classical integrated circuit electronics.

This Master thesis tackles the implementation of an optical computer based on reservoir computing.

Chapter 2

Reservoir Computing

Reservoir Computing (RC) is a bio-inspired artificial neural network.

Chapter 3

Optical Reservoir Computer with frequency multiplexed neurons

Chapter 4

Interferometric stabilisation of RC optical resonator

Chapter 5

Results

Chapter 6

Conclusion