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Interferometric stabilisation of a fibre-based optical computer

Experimental study

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Abstract

Contents

List of Figures

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.

1.1 Reservoir computing

1.2 Existing photonics reservoir computers

Chapter 2

Photonics reservoir computer with wavelength-multiplexed neurons

Chapter 3

Stabilization of the reservoir

3.1 Toy-cavity

3.2 Reservoir computer cavity

Chapter 4

Results

Chapter 5

Conclusion