

Fast Polarization Manipulation

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Research Proposal

Under the supervision of

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Abstract

The generation of a pair of entangled photons from the biexciton-exciton cascade is complicated by the presence of fine structure splitting (FSS) that leads to the degradation of the degree of entanglement. Many methods were implemented to overcome the problem with varying degrees of success, but the problem continues to persist.

This research proposal aims to take a different approach to the problem by implementing a scheme for the restoration of the degree of entanglement of the photon pairs by fast polarization manipulation.

This scheme can be potentially used as a method for fast photon rerouting in integrated photonics.

[1]

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Chapter 1

Introduction

1.1 Section

Chapter 2

Preliminary Results

Chapter 3

The Research Proposal

Bibliography

- [1] Simone Varo, Gediminas Juska, and Emanuele Pelucchi. “An intuitive protocol for polarization-entanglement restoral of quantum dot photon sources with non-vanishing fine-structure splitting”. In: *Scientific Reports* 2022 12:1 12 (Mar. 2022), pp. 1–8.

References

Appendices

Appendix I

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Appendix 2

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